ED. URŠKA ŠTREMFEL

# STUDENT (UNDER)ACHIEVEMENT: PERSPECTIVES, APPROACHES, CHALLENGES



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# Content

# Figures and Tables

# Abbreviations and Acronyms



| | |
|---|---|
| CBA | Computer-Based Assessment in PISA |
| CRELL | Centre for Research on Education and Lifelong learning |
| DG EAC | Directorate General for Education and Culture |
| ESLC | European Survey on Language Competences |
| EU | European Union |
| EUROSTAT | Statistical Office of the European Communities |
| EURYDICE | Education Information Network in Europe |
| IEA | International Association for the Evaluation of Educational Achievement |
| ICCS | International Civic and Citizenship Education Study |
| ICT | information and communications technology |
| IQ | intelligence quotient |
| I & U 2010 | European Commission 'Education and Training 2010' work programme |
| I & U 2020 | European Commission 'Education and Training 2020' work programme |
| LFS | Labour Force Survey |
| MESS | Ministry of Education, Science and Sport |
| OECD | Organisation for Economic Cooperation and Development |
| PIRLS | Progress in International Reading Literacy Study |

| | |
|---|---|
| PISA | Programme for International Student Assessment |
| SES | socioeconomic status |
| Council | Council of the European Union |
| TIMSS | Trends in International Mathematics and Science Study |
| TWG | Thematic Working Group |
| UNESCO | United Nations Educational, Scientific and Cultural Organisation |
| UOE | the common UOE (UNESCO-OECD-EUROSTAT) questionnaire |
| LLL | Lifelong Learning |
| USA | United States of America |

# Preface

**Urška Štremfel**



In modern society, student (under)achievement is taking on a new meaning. Rapid social and technological changes are reflected in the development of scientific approaches, which have, in recent decades, been an aid to acquiring new insights, developing new approaches and identifying new challenges of student (under)achievement. Regardless of ideological perspectives on the order of modern societies and the role education plays in them, it is clear that no such thing as an all-encompassing 'magic formula' has yet been invented, one that would enable the high learning achievement of all adolescents who take part in the educational process, in spite of the scientific progress and numerous international and national initiatives. No such magic formula has been found in the scientific monograph *Student (Under)achievement: Perspectives, Approaches, Challenges* either. However, the authors believe that by providing an in-depth insight and by merging some diverse, yet highly complementary approaches, some important compounds have been added to the formula, which will, along with the current approaches, contribute significantly to ensuring a high level of achievement among (Slovenian) adolescents.

The scientific monograph was produced as part of the project *Raising Awareness and Opportunities of Lifelong Learning for Low Achievers*, conducted at the Educational Research Institute between 2013 and 2014. The project is part of the programme 'Lifelong Learning', used by the European Commission to endorse European strategic objectives in education and training in EU member states, whereby particular emphasis is placed on the cooperation of interested stakeholders, experimentation and innovation.

The challenges faced as part of the project were underachieving students in primary and secondary education (i.e. underachieving in terms of interna-

tional comparisons and relevant European benchmarks). In facing the challenges, the focus was mainly on identifying individual factors as well as those related to the family, school and wider social environments, which are associated with student achievement as suggested by the findings of international comparative assessment studies and other education-related studies. In addition to theoretical backgrounds resulting from research work and connecting different sciences, special attention has been devoted to developing approaches whose ultimate goal is oriented towards improving individuals' learning achievement. Simultaneously these approaches are also efficient at addressing all the participants directly or indirectly involved in the educational process (i.e. teachers, adolescents and their parents) at different educational levels and through different content-related and interactive means. The approaches for encouraging students' high learning achievement presented in the monograph may serve as a challenge and encouragement for the professional public, improvement of educational policies and development of the practice of schools (not only in Slovenia) and as a contribution towards the success of both individuals and society as a whole.

# introduction

# Contemporary Perspectives on Student (Under)achievement

**Urška Štremfel, Tina Vršnik Perše, Klaudija Šterman Ivančič, Mojca Štraus**



The meaning of educational outcomes may differ depending on which interpretations of the purpose and objectives of these outcomes it is based. The underlying question is about the basic function of education. According to the traditional public school model, this function was the development of an environment for spreading knowledge, social integration, moulding man in terms of morals, and informing the enlightened citizen. In contrast to this, in recent years another function has been taking centre stage, i.e. the function of production of human capital (Kodelja, Marjanovič Umek and Krek, 2006), as knowledge, skills, competencies and other individuals' qualities of importance for personal, social and economic welfare (OECD, 2001). This definition of the function of education highlights the economic understanding, which is based on the quality of human capital as a factor in economic development, wherein education and knowledge are two fundamental elements of human capital.

The focus on the function of the educational system as the production of human capital in recent years, is reflected in the orientation towards the development of competencies. The components of educational outcomes are not only knowledge and skills, but also various other student characteristics, i.e. learning styles, motivation, attitude, moral and ethical principles, as well as the development of one's personality as a whole (e.g. Lafontaine, 2004; Medveš, 2004; Peschar, 2004; Rychen, 2004; Rychen and Salganik, 2003; Salganik, 2001). To establish an educational system as being successful, it is no longer merely sufficient that youths attend school; of key importance in relation to this is what they have learnt by a certain age and to what level their competencies have been developed. However, this can occur both within school and outside its boundaries.

The perspective on education having the function of production of human capital is characterised by certain pitfalls pointed out by Laval (2005). Resulting from the predominance of efficiency values and education usefulness, school is becoming increasingly subordinate to the interests that are moulding the labour market. This poses a threat of school becoming an organisation for providing services and goods to individuals as consumers, who will make choices in the free market of educational services according to their own judgement. This marginalises the importance of education as a public good and, simultaneously, a fundamental human right, where the state's obligation is to provide all of its citizens with equal opportunities for education (Kodelja, 2005). The educational function of the so-called 'educational system' is likewise marginalised.

There are good reasons for devoting attention to underachievers within education - regardless of how clearly defined underachievement is – on the basis of the social objectives that are to be pursued in accordance with the traditional understanding of education. It is important to look for and understand the background factors of any type of inequalities, and thus improve education-related conditions and circumstances which are consequently beneficial to everyone. The attention devoted to underachievement is also important in relation to the economic understanding of education, as the aforementioned individuals are often in need of additional sources of funding to survive. With the expansion of technology and globalisation, the labour market is changing rapidly and requires more and more well-educated and trained employees who will be able to compete, not only in their domestic labour market, but also in the world labour market. Present-day needs for better educational levels and competencies are strong and, at the same time, growing. It is increasingly difficult for individuals with below-average competencies, and low levels of attained education and competencies, to obtain suitable employment, the reason being that positions of employment have been restructured in such a way that individuals with better education and skills are at an advantage. Such individuals have fewer opportunities for full participation in increasingly complex societies, where increased responsibilities in various areas of life need to be taken on simultaneously; these responsibilities are in relation to career planning, child-rearing, familiarity with the healthcare system and increasingly one's financial future (Šterman Ivančič, 2013). It is more difficult for individuals with low levels of education to obtain employment and they are generally more dependent on welfare services (OECD, 2013). In general, the quality of the educational system, in the sense of students' learning outcomes, is becoming increasingly important for the competitiveness of the economy and success of a country; the outcomes referred to here are cognitive, affective, psychomotor and metacognitive.

In the past, underachievers were often defined in terms of the number of points scored on the intelligent quotient (IQ) scale. According to these definitions, underachievers included individuals with an IQ between 75 and 89 and those who did not achieve satisfactory grades within the regular education system, while students with fewer than 70 points on the IQ scale were considered persons with special needs (Gresham, MacMillan and Bocian, 1996; Kavale, Fuchs and Scruggs, 1994; Epps, Yssledyke and McGue, 1984, summarised from Vanauker-Ergle, 2003).

The concept of underachievers defined in this way was based on the theories of learning and knowledge in use at the time. Today, reference to, and use of, the term 'underachievers' to define specific students is outdated and is no longer used for research purposes.

In accordance with the theories of learning dating back thirty and more years, learning was understood as a linear and sequential process. Accordingly, the entire learning process was described hierarchically. Learning objectives were arranged in a way that called for simple cognitive functions at the beginning and more demanding ones at a later time. Complex understanding was supposed to take place only when basic learning and knowledge had been accumulated (e.g. Bloom, 1956; Gagne, 1974). In this case, higher-order skills were to be used only when basic skills had already been acquired, so students often supposedly did not reach the point when higher-order functions would be included in their teaching. Such a concept implies that when it comes to underachieving students in particular, teachers do not even give them tasks that call for higher-order skills and, understandably, students are consequently not able to acquire this types of knowledge.



Contemporary theories of learning call for a wider definition of learning outcomes and of underachievers; in addition to students' cognitive skills they also take into consideration a number of other characteristics of individual students.

Nye, Hedges and Konstantopoulos (2002) define underachievers as students whose learning outcomes are below the median, or as those whose learning outcomes are below the first achievement quartile. Similarly, Dunne, Otero and Aunio (2013) define underachievers as students whose achievement is within the 15-20% of the lowest achievement of a certain group.

However, there are some studies that deal with this concept in a somewhat broader sense. Proctor and Bartle (2002), for instance, define underachievers as persons who have left (upper-secondary) education without acquiring any sort of qualifications, or these qualifications are at a level that is expected to reduce the students' employment potential.

Tomori (2002, 17) believes learning underachievement is exhibited when 'students fail to complete the basic task within education to such a degree that they are unable to enter further proficiency levels of education, when they

abandon their schooling at a level that is too low for their skills and objective potential, and when they leave the educational process earlier than would be optimal according to their subjective and objective needs'.

Of course, any of these definitions can be accepted, and anyone who fails to achieve the predetermined levels on certain assessment scales can be defined as an underachiever. However, the aim here is to maintain a broader perspective and expand the definition of underachievers. What individuals perceive as underachievement (also) depends on their subjective views. In accordance with their past experience and their own acquired beliefs on what is important, they also evaluate their performance in a certain field, in this particular case within education. What is considered underachievement for one person might be a satisfactory achievement for another.

Whether or not an underachiever is concerned also depends on the context in which this occurrence is observed. If an individual is part of a school where the majority of students are high achievers (in Slovenia this would mean, for instance, the average grade of more than 4 on the scale of 1-5), it is more likely that grade 2 will be understood as underachievement (both in the individual him/herself, as well as teachers, schoolmates and wider society). Another important factor to consider is whether performance is viewed from the perspective of the entire population. There is no doubt that in any school there are students whose performance is extremely low in comparison with the performance of their contemporaries. However, their performance would not necessarily be perceived as low if comparisons were made as part of national examinations or international comparative assessment studies. The so-called 'social comparison processes' or 'evaluations of one's own views, performance or behaviour in comparison with others' are defined by Marsh (1990) in the big-fish-little-pond effect model and the internal/external frame of reference model; by means of these two models he explains that the learning self-concept is positively correlated with students' individual learning outcomes, and negatively with the average student achievement of the school or class in which the student belongs (Pečjak and Košir, 2002).



Study results also reveal that achievement in international comparative assessment studies and students' school grades are not in complete agreement. They indicate that in addition to assessing students' acquired knowledge and skills, teachers often also assess other students' characteristics. Accordingly, analyses of additional questionnaires, used in PISA (2009), indicate teachers often better assess girls and students from socially and economically privileged backgrounds, although they do not demonstrate better knowledge or skills than boys or students from socially and economically less privileged backgrounds (OECD, 2013).

Some researchers have focused their studies on identifying students who could potentially become underachievers. This was done by analysing the fac-

tors that impact whether students are identified as underachievers. Socioeconomic status (SES) is a generally acknowledged risk factor, as is students' immigrant status and gender (cf. Nye, Hedges and Konstantopoulos, 2002); however, it needs to be pointed out that the definition of 'underachievers' can by no means be established on the basis of risk and statistical prediction.

The broadest definition of an underachiever, suggested on the basis of everything stated above, is the definition included in a dictionary (Cambridge Dictionary, 2014): 'someone who is less successful than they should be at school or at work'.

However, the question that also arises in relation to this is what performance is expected in the modern (globalised) world in the first place. It depends on the context of how individuals' performance is evaluated: in what field, and according to which criteria.

In recent decades, international comparative assessment studies have asserted themselves as mechanisms for monitoring the development of educational systems by means of international comparisons of students' educational outcomes at a certain level of education. Hanushek and Woessmann (2008) have, for instance, established that international comparative assessment studies that include data on the quality of learning outcomes point to developing countries falling behind developed countries to a considerably larger degree than perceived by indicators of youths' participation in education, and the number of years of schooling. Among these studies, the data of the Programme for International Student Assessment (PISA), coordinated by the Organisation for Economic Cooperation and Development (OECD), have become an important source of operationalisation of educational objectives around the world. For instance, for the USA, the OECD has prepared an overview of measures from successful countries participating in PISA, based on which it could be possible to identify the background of achievement improvement in countries that have made the most progress in several consecutive PISA cycles (OECD, 2010). The European Union (EU) has included among its educational objectives the data derived directly from PISA, i.e. that by 2020 the share of underachievers (i.e. students who do not reach the basic level (Level 2) of reading, mathematical and scientific literacy in PISA) should be less than 15% (Council of the European Union, 2009). In accordance with the European definition, this monograph is likewise based on the stated definition of underachievement, however, it is expanded through country-specific contexts.



The European Commission (2011) points out that the key issue is underachievement in reading literacy, as levels of reading competency impact individuals' well-being, the state of society and the economic status of countries in the international space (PISA National Report 2006, 2007). In 2011, the European Commission summed up the foundational nature of reading literacy as key to all areas of education and beyond, facilitating participation in the wid-

er context of lifelong learning and contributing to individuals' social integration and personal development. Recently, it endorsed this statement with its enshrinement of communication in the mother tongue (comprising listening, speaking, reading and writing) as the first of eight key competencies which all individuals need for personal fulfilment and development, active citizenship, social inclusion and employment (Šterman Ivančič, 2013). According to some experts (Friedman, 2005; OECD, 2001 in Šterman Ivančič, 2013), the non-economic effects of reading literacy, in the sense of personal welfare and greater social inclusion, are just as important as the effects on the economy or labour market. This means reading literacy skills are not only important for individuals, but for everything individuals know, and know how to do, within a certain economy – quite possibly the most important form of capital. For a number of years, economists have been developing models by means of which they have often shown that the level of reading literacy, and consequently the educational level of people in a certain country, are an indicator of the potential of its growth (Šterman Ivančič, 2013).

An interesting piece of information in relation to this is indicated by the results of PISA 2009 and 2012: in Slovenia 79% of students achieve at least basic reading competence (i.e. they reach Level 2), whereas in OECD countries the percentage of such students is, on average, 82 (Štraus, Šterman Ivančič and Štigl, 2013).



The percentage of achievement at individual levels of reading literacy in Slovenia decreases with higher levels (the higher the level, the lower the percentage), which is also the case at the average level of OECD countries. Based on the PISA 2009 results, it can be established that, on average, the majority of Slovenian 15-year-olds reach Levels 1b (99%) and 1a (94%), followed by Level 2 (79%), while the first large decline in the percentage of achievement is seen – similarly to the average level of OECD countries – in the transition to Level 3 of reading literacy, where, on average, the achievement percentage of Slovenian 15-year-olds decreases by 22 percentage points (57%). In 2012, the decrease in percentage points in the field of reading literacy is even greater, i.e. 27 percentage points (52% of Slovenian 15-year-olds reach Level 3 of reading literacy).

Nowadays, the issue of student (under)achievement at international level takes an important part in discussions about the economic and social development of individual societies. The EU incorporated education and the significance of educational outcomes in the development of European integration in a more significant sense for the first time in 2000, with the slogan 'to become the most competitive and dynamic knowledge-based economy in the world'. In doing so, it pointed the attention of its member states to the importance of decreasing underachievement, in particular with the benchmark which refers to the non-achievement of basic levels of literacy in PISA; member states were thus encouraged to give student (under)achievement further de-

liberation. And how should Slovenia respond within the national environment, when it is established that the achievement of its students, on the comparative achievement scale or in terms of the European benchmark, is below average and when the issue of underachievement is substantiated by numerous projections about the further (economic) development of society?

International reports (OECD, EU) reveal countries endeavour to improve student achievement to a higher level in different ways. However, in spite of the acknowledged social, economic and political significance of student (under)achievement in PISA, it is clear that neither the member states individually, nor together, have succeeded in discovering the 'magic formula' that would enable a reduction in academic underachievement of adolescents within the EU. In spite of some aspirations to search for universal solutions at the EU level, an OECD study (1998) pointed out that the situation of countries with regard to student (under)achievement may be very specific and that each country must thus develop its own strategy of coping with students' low achievements. Unsuitable balance in adopting European agendas and in taking into consideration the specific nature of the national context has already been pointed out by some Slovenian authors (e.g. Štremfel, 2013).



How does this monograph attempt to contribute to the discovery of a 'magic formula' for decreasing adolescents' academic underachievement?

The aim of the monograph *Student (Under)achievement: Perspectives, Approaches, Challenges* is to highlight various indicators that are correlated with student underachievement based on theoretical assumptions, data from international comparative assessment studies and other international and national studies in the field of education. The aim is also to point out some possible approaches and strategies for improving students' learning outcomes on the same basis. The basis for identifying factors and developing approaches was the data from PISA, which represents the central interface between contemporary perspectives on academic (under)achievement. However, a wider approach was adopted simultaneously, one that enables the development of country-specific approaches and perspectives, as well as identifying the open challenges of student achievement within the Slovenian educational space.

In spite of the significance that reaching basic levels of literacy in PISA supposedly has for one's functioning in a modern society, in Slovenia some authors (e.g. Marentič Požarnik, 2002: 48) still point out that this involves a relatively narrow understanding of student achievement. In particular, the views that students functioning below their capabilities, losing motivation for learning and acquiring (permanent, useful) knowledge that is of unsatisfactory quality, are disregarded as also being cases of student underachievement. All of the above indicates that student achievement is not always a reflection of students' intellectual abilities (or their general intelligence for that matter),

but is impacted by a number of other factors (Marentič Požarnik, 2000; Puklek Levpušček and Zupančič, 2009).

PISA results also reveal students' achievement is strongly connected with a number of other factors (such as self-concept and self-regulation in learning), and not merely with students' cognitive abilities. Students' low achievement is thus often connected with emotional and behavioural problems that are exhibited as disruptive behaviour, inappropriate attitude to school, individual teachers or subjects, and high dropout rates (TWG, 2013: 27, 28). Learning and teaching are understood as the processes that encompass both the cognitive and non-cognitive (emotional and social) aspect of individuals' functioning (Zins, Weissberg, Wang and Walberg, 2004).

Starting with underachievers as a consequence of lower intellectual abilities, and continuing with wider-scope definitions, it can be established these are students: (a) who do not receive the necessary encouragement and opportunities on account of cultural and economic deprivation, (b) who do not receive suitable teaching, (c) who have learning difficulties as a consequence of unsuitable interactions between themselves and their learning environment, (d) who have emotional problems (anxiety, low self-confidence), (e) who demonstrate low motivation for learning, (f) who have learning difficulties on account of insufficiently developed learning skills, (g) whose learning environment and the teaching process have not been suitably adjusted, judging from the listed factors (TWG, 2013).



In preparing the monograph, findings of various researchers (e.g. Marentič Požarnik, 2002: 8) have been taken into consideration, i.e. findings stating that on account of closely intertwined factors of student underachievement, one-sided conceptions and measures for improving student achievement even add up to underachievement. In accordance with this, diverse approaches have been developed which are related to a number of areas of the educational process and adolescents' personality (external and internal factors of student underachievement).

Since a number of factors are correlated with students' achievement, in relation to fostering academic achievement it is therefore advisable to devote attention not only to cognitive approaches and improving didactic strategies for assimilating the content of individual subjects, but also to approaches that encompass the non-cognitive aspects of individuals' functioning. This monograph is mostly focused on the latter, i.e. non-cognitive aspects (views, attitude to school, educational aspirations, students' motivation for learning activities) (Bar-Tal, 1978: 150), to which less attention is otherwise dedicated in studies of student underachievement. Although the connection between non-cognitive factors of student achievement and cognitive performance (in knowledge testing) is not direct and simple, numerous researchers are nevertheless convinced that strengthening non-cognitive factors can contribute to better

cognitive performance (including achieving reading, mathematical and scientific literacy assessed by PISA), in particular in underachievers. Some researchers believe the non-cognitive effects of schooling have an even stronger impact on success in future life than the cognitive effects of schooling.[1]

This monograph takes into account that the analyses of the results of international comparative assessment studies (including PISA) provide a significant insight into correlations between factors of the educational system, at school and classroom levels, and student achievement, but affirms that results of international comparative assessment studies alone do not contain any simple and direct policy implications for further development of educational policy and practice. The monograph simultaneously also agrees with authors (Barle Lakota, 2002: 87, 88) stating that 'a comprehensive national programme, by means of which the activities and its operators would be defined, can significantly contribute to greater efficiency of the fight against student underachievement. However, there are also concerns that through formalisation, a number of activities (initiatives, projects etc.), variety of forms and the ability of rapid responsiveness could be lost'. The Thematic Working Group (TWG) report (2013, 32) points out that systematic measures for fostering student achievement can also partly be replaced by teachers taking into consideration the proposed approaches in their everyday work with underachievers. Based on research findings the monograph highlights some suggestions for improvements within individual segments of the educational system. In relation to these, initiatives of the European Commission (2007) on strengthening evidence-based education are followed; evidence-based education highlights close cooperation between researchers, policy makers and stakeholders, and the role of expert data in developing and implementing educational policy and practice. Although a national strategy or programme is no prerequisite for improving students' performance, suitable awareness of all policy decision-makers and everyone involved in the learning process on a daily basis is a predisposition. Researchers can contribute to this awareness through suitably identifying the issue and shedding light on it from different research perspectives. It is essential for all relevant participants to realise that it is possible to reduce the share of underachievers and it is the responsibility of all of us to achieve this. By means of diverse approaches (non-cognitive in particular) that have previously not been scientifically addressed within the Slovenian educational space to a sufficient extent, this monograph fills the gap in this field and



1 In the TWG (2013: 22) report it has been established that in their initial education, upper-secondary school teachers are particularly conscious of the content of the subject they will be teaching, however, they are less exposed to education in fields that also encompass students' special (behavioural) characteristics. As teachers they are consequently more capable of recognising and managing students' cognitive deficit, not however students' emotional and social deficit. The TWG report (ibid.) highlights the need for a suitable balance between content-centred familiarity with a subject and general pedagogical approaches for improving student achievement, which teachers are often required to establish during the course of their professional development.

adds 'some important compounds to the magic formula' for fostering the academic achievement of Slovenian adolescents.[2]

The essential common denominator of the various perspectives, approaches and challenges of student (under)achievement presented in this monograph is that they are focused on failure to achieve the European benchmark, which set the goal according to which »/.../ by 2020 the share of 15-year-old underachievers in basic skills (reading, maths and science literacy) at EU level ought to be under 15%.«

In the first part of the monograph, the focus is on understanding student underachievement in modern societies, with the concept of reading literacy at the forefront. In the first chapter, Urška Štremfel positions the academic achievement of Slovenian adolescents within the European context, not only in the sense of (non)achievement of the European benchmark, but mainly by means of a description of modes of governance, through which the EU steers its member states towards achieving strategic EU goals in the field of education. In the second chapter, Mojca Štraus devotes special attention to an in-depth analysis of the various factors associated with Slovenian students' failure to reach the European benchmark in the field of reading literacy. Based on the identified factors, she defines the levers that can be used to improve the reading literacy of underachievers. In the third chapter, Klaudija Šterman Ivančič sheds light on the below-average performance of Slovenian students in reading literacy in terms of motivation for reading and highlights potential sources of encouragement for reading in youths in the context of social changes that refer to the increasingly large amount of electronic texts and the use of information and communications technology (ICT) for educational purposes.



The focus of the second part of the monograph is on attitudes, relationships and emotions as important (non-cognitive) factors of student achievement. In the fourth chapter, Alenka Gril addresses the attitude of Slovenian adolescents to knowledge in relation to academic achievement and proposes some guidelines that could, within the learning process at school, foster intrinsic motivation, interest and positive evaluation of knowledge among adolescents and thus contribute to a higher learning performance. In the fifth chapter, by Tina Vršnik Perše, centre stage is taken by the significance of teachers' professional development oriented towards changes in their subjective conceptions and actions, that may indirectly impact the improvement of teaching practices and consequently better student achievement. In the sixth chapter, Tina Rutar Leban uses analyses of results of various studies to discuss relationships between parenting and teaching styles used for children and ado-

2 Although student underachievement in Slovenia has previously been addressed through numerous individual and joint initiatives, projects and studies, it is beneficial that the European Semester and non-achievement of the European benchmark have again encouraged the devotion of attention to this issue by means of new and diverse perspectives.

lescents and their success within the school environment; she highlights the characteristics of parenting and teaching styles that are associated with adolescents' higher achievement. In the seventh chapter, the focus of Ana Kozina's chapter is on the assumption that students' learning outcomes can be influenced by encouraging students' social and emotional learning and reducing or eliminating their anxiety. She devotes special attention to the positive impacts of the FRIENDS programme on individuals and the school as a whole.

The third part of the monograph presents some other (non-cognitive) approaches to fostering student achievement. In the eighth chapter, Janja Žmavc sheds light on the role and significance of rhetoric and argumentation in contemporary education. She presents them as two (communication) activities that have, from the start, played key roles in successful learning and teaching, yet within Slovenian education they often remain overlooked. In the ninth chapter, Blaž Zupan and Franc Cankar elaborate on how it is possible to contribute to improving adolescents' academic achievement and employability by means of developing the competency of innovation and entrepreneurship. In the tenth chapter, Polona Kelava addresses non-formal and informal learning, and recognition of non-formal and informal knowledge as a means of approaching adolescents with the aim of them regaining their self-confidence, increasing their motivation for school work, and consequently also their academic achievement. Eva Klemenčič analyses the connection between civic knowledge and readiness to actively participate in the immediate and wider social and political community, and its significance for realisation of active citizenship in contemporary society. The concluding part summarises the key points of individual chapters and highlights them as possible implications for further development of educational policies and practices in the fields of fostering academic achievement.



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# 1
# student achievement in modern society

# Academic (Under)achievement of Slovenian Adolescents within a European Context

**Urška Štremfel**

Abstract: *In this paper, academic (under)achievement of Slovenian adolescents is placed within a European context by means of theoretical assumptions regarding the new mode of governance and an analysis of the strategic framework of common European cooperation in education and training. In relation to this, the European Union is, on the one hand, highlighted as an environment wherein an individual member state can, through joint cooperation with other EU member states and institutions, gain a significant comparative insight into the modes, approaches and, last but not least, financial resources for fostering adolescents' academic achievement. On the other hand, the shortcomings of such cooperation are also presented, which are most noticeable from a lack of (scientific) substantiation of certain initiatives of the European Commission and perceived (non)selective adoption of these initiatives within the national educational space. Special attention is devoted to the pursuit of reaching the European benchmark of a reduction in the share of students who fail to reach the basic levels of reading, maths and science literacy in PISA in the Slovenian educational space. This paper thus places the academic (under)achievement of Slovenian adolescents within the framework of common European cooperation in the field of education.*

**Key words**: *European educational space, new mode of governance, European benchmarks, Slovenia*



## Introduction

Throughout the development of the European educational space, the principle of subsidiarity was in use for a very long time, as member states were

not willing to acknowledge the political power of the EU and its impact in a field that is of key importance for the national identity and culture of individual member states. A turning point, in relation to the reinforcement of cooperation, is the Lisbon Strategy, in accordance with which education is, for the first time, recognised as a prerequisite to improving the efficiency of the EU. Due to the nature of education as a policy field over which member states endeavour to maintain sovereignty, and due to a simultaneous awareness of the significance of education for achieving strategic goals of the EU – for which it was first assumed they would be impossible to achieve through inconsistent national educational systems - the open method of coordination (OMC) was defined as a new mode of governance by means of the Lisbon Strategy. This method is based on the mechanisms of the so-called *soft law*, which means that the jurisdictions of the EU are limited to fostering cooperation between member states. Through its declarative purpose, OMC is a mean of achieving greater convergence in pursuing common European objectives and establishes a common European educational space, wherein the previously heterogeneous educational systems have been united in a unified core of lifelong learning (Hingel, 2001; Nòvoa and Lawn, 2002; Alexiadou, 2007; Pépin, 7; Walkenhorst, 2008).



Although cooperation between member states in the field of education is non-mandatory, the OMC instruments contain a number of levers that steer member states towards acting in the direction that has been agreed upon. If member states fail to achieve the agreed objectives, informal pressure is (can be) exerted on them by the EU through the instruments of the aforementioned soft law. Understandably, the response to this pressure is not the same in all member states, and is, on account of the absence of any legally binding norms, all the more dependent on their institutional structures, political culture, relationships between the actors involved and, last but not least, on the results that member states achieve in pursuing the jointly agreed EU objectives (Borrás and Radaelli, 2011; Alexiadou and Lange, 2013).

Common European cooperation in the field of education within the OMC, and its impact on the educational space of Slovenia, is described at the beginning of the paper through theoretical premises of the new mode of governance. In the second part, special attention is devoted to Slovenia's involvement in the pursuit of the European benchmark which addresses the issues concerning adolescents' academic underachievement most directly, i.e. a reduction in the percentage of students who fail to reach the basic level of literacy in PISA (Council of the European Union, 2009). The paper is concluded with deliberations in relation to following the European objectives within the Slovenian educational space to date. Moreover, some recommendations are given based on which the advantages of common European cooperation could, in the author's opinion, be utilised to an even greater extent. However, specific national

approaches in fostering the academic achievement of Slovenian adolescents would nevertheless be preserved. The paper thus provides an important insight into the European and national institutional and conceptual framework of approaches, perspectives and challenges of student (under)achievement that are presented in the later part of the monograph.

## A Theoretical Outline of Common European Cooperation in Education

The dynamic of common European cooperation in the field of education is most clearly described through the way the OMC is viewed in the Lisbon Presidency conclusions, wherein education is, for the first time, acknowledged as having an important role in the development of EU integration (European Council, 2000): 'Implementation of the strategic goal ('to become the most dynamic and competitive knowledge-based economy in the world by 2010', author's note) will be facilitated by applying a new open method of coordination as the means of spreading best practice and achieving greater convergence towards the main EU goals. This method, which is designed to help member states to progressively develop their own policies, involves:



a) fixing guidelines for the Union, combined with specific timetables for achieving the goals that they set in the short, medium and long terms;
b) establishing, where appropriate, quantitative and qualitative indicators and benchmarks against the best in the world, tailored to the needs of different member states and sectors as a means of comparing best practice;[1]
c) translating these European guidelines into national and regional policies by setting specific targets and adopting measures, taking into account national and regional differences;
d) periodic monitoring, evaluation and peer review organised as mutual learning processes.'

In academic writing, the OMC is commonly denoted as a new mode of governance. Some authors (Borrás and Conzelmann, 2007: 7; Warleigh-Lack and Drachenberg, 2011: 1003) believe it is a new form of 'integration through coordination' as the antithesis of coordination through law.[2] It enables Europe-

1 Paragraph 38 points out: 'A fully decentralised approach will be applied in line with the principle of subsidiarity in which the Union, the member states, the regional and local levels, as well as the social partners and civil society, will be actively involved, using variable forms of partnership. A method of benchmarking best practices on managing change will be devised by the European Commission networking with different providers and users, namely the social partners, companies and non-governmental organisations.

2 Coordination has a number of different meanings and is not only limited to the notion of coordination of public policies of individual member states, but, in addition to coordination of policy fields,

an institutions to govern, steer and monitor member states by means of new (non-mandatory) policy instruments (Kooiman, 2003: 3), so they can jointly achieve the set goals through collective resolution of policy problems (Pierre and Peters, 2000).

If governance is viewed as a structure and a process as part of which a multitude of actors solve policy problems in order to achieve common goals, special attention needs to be devoted to the role of goals in steering the participants' activity and behaviour. Sabel and Zeitlin (2010) believe that the new mode of governance within the EU operates on the basis of four mechanisms: (1) setting common goals, (2) autonomy of individual participants in achieving common goals, (3) participants' responsibility in achieving common goals, (4) identification of new issues and opportunities in achieving common goals.

Moving on from the original political science definitions of the new mode of governance in the EU, summarised above, to its definitions from the field of sociology of education, it can be established that it is defined as an output-oriented governance, governance by comparison, governance of problems and, last but not least, governance of knowledge.



Grek (2009) believes that within the so-called *output-oriented governance* the key role is played by data and its management.[3] Data enable governing by means of setting goals, whereby participants' output is steered towards achieving goals. The mechanisms of control and influence of behaviour that take centre stage within the new mode of governance are material and discursive strategies.[4] They are combined with external regulatory mechanisms (indicators and benchmarks), which jointly attempt to steer and reshape the activities of (an individual or collective) actors. By being published, these data represent the instrument of encouragement, judgement and comparison of participants in terms of their output. They thus represent control of the context, yet simultaneously the autonomy of actors operating within the context in relation to how they are going to achieve their goals. This is a system of discipline based on judgement and classification of participants in achieving (jointly defined) goals. Ozga (2003) believes output-oriented governance has, in the field of education, become the key instrument for improving educational systems – improving students' outcomes and increasing the responsibility of individual participants for the outcomes. Its impact is based on fear of being be-

also represents coordination of different levels of governance, coordination of involved actors and coordination of policy instruments.

3 Within the European educational space, data is a scientifically proven fact, acquired by means of comprehensive international comparative assessment studies and collection of statistical data about national educational systems (Stone, 2002; Boswell, 2008; Dedering, 2009: 485).

4 Material strategies include, for instance, financial means of European Structural Funds, and discursive strategies the development of a new, so-called European discourse, which influences remoulding of participants' norms and values.

low average, which is all the greater as a result of increasing competitiveness in the globalised world.[5]

The next aspect of the mode of governance that also emphasises the significance of data in influencing participants' activities and behaviour is *governance by comparison*. Comparisons (commonly shown as an international spectacle of achievement or underachievement on comparative performance scales) strengthen participants' mutual responsibility for achieving common goals, legitimise political actions and thus create a new mode of governance. They mostly encompass a rationalistic approach to policy making, wherein the (assessed) participants are implicitly under pressure to get as close as possible to what is considered 'the best' in accordance with special criteria within a certain context of comparisons. In relation to this, the assumption is brought to the forefront that the most efficient (rationalist approach) and the most suitable (constructivist approach) decisions are taken on the basis of objective data (March and Olsen, 1998). This objectivity within the European educational space is enabled by means of quantitative indicators that guarantee the comparability of educational systems and make it possible for member states to identify and eliminate certain shortcomings of their own educational systems on the basis of mutual comparisons. According to Schludi (2003), international comparisons thus exert a positive pressure on national political actors. Šenberga (2005: 15) believes this is a case of positive pressure that may result in policy improvements at a national level. Some other authors (e.g. Nòvoa and Yariv-Mashal, 2003) point out that in this respect, governance by comparison, not only creates convergence (of goals and outcomes), but may also lead to uniformity of activity and thinking. Others (Radaelli, 2003; Haverland, 2009; Lange and Alexiadou, 2010) even point out that the circumstances as part of which countries overly rely on the objectivity of international comparisons, provide room for political influence of international institutions and (or) certain (influential) member states.



From the perspective of social constructivists, formulation of (mainly transnational) policies represents the *governance of problems*. Transnational policy makers originate from different countries and differ in terms of their experiences, values, norms and beliefs. Common cooperation is only possible if they succeed in achieving a common understanding of the necessity of joint cooperation (Paster, 2005; Bernhard, 2011). The essential process in relation to this is joint identification of the problem, which is a prerequisite for a joint response and cooperation (Hoppe, 2011: 50). Governance, as far a transnational problem resolution is concerned, is when a group of countries recognise a common policy problem and unite their efforts in making plans for its resolu-

5 Recently, a worldwide belief has been noticeable that the results of countries participating in PISA are an indicator of their future economic development (Hanushek and Woessmann, 2010), which clearly shows the attachment of PISA results on the concept 'a knowledge-based economy

tion. This is evident from a collectively developed policy model that deals with the issue in question.

The characteristics of the output-oriented governance, governance by comparison and governance of problems can be described using the common name *governance of knowledge*. As a result of technological progress, the data and findings of scientific analyses have become more widely available than ever before. At the same time, expectations, with regard to transparency and public responsibility of European institutions are increasingly high within the context of increasing democratic deficit in the EU. In order to meet these expectations, knowledge is used as a supporter of the legitimacy and authority of social and political processes in the EU, or in other words, the legitimacy and authority of social and political processes in the EU depend, to a smaller or larger extent, on the legitimacy and authority of the knowledge on which they are based (Ozga, 2011: 220). Accordingly, the new mode of governance in the EU is often understood as the governance of knowledge.

With its apparent objectivity and neutrality (and therewith the pronounced role of experts and expertise), the OMC steers member states towards achieving common EU goals in the field of education. Although these goals are not scientifically substantiated and are politically formulated, they are thoroughly operationalised and quantified by means of indicators and benchmarks, which seemingly cause neutrality and thus enable a unique mode of governance. Indicators and benchmarks (also developed on the basis of the findings of international comparative assessment studies) enable assessment and comparison of the performance of member states (output-oriented governance and governance by comparison) in achieving common (political) EU goals. International comparative achievement scales place EU member states under double pressure (the feeling of their own (un)competitiveness in comparison with the performance of other members states, the feeling of ineffectiveness resulting from (non)achievement of common goals) and thus steers them towards achieving the strategiec goals of the EU (Alexiadou, 2007; Ioannidou, 2007). When member states perceive a policy-related issue (concerning economic uncompetitiveness) based on their ranking on an international comparative achievement scale, the most efficient models for their resolution have often already been developed at an EU level (governance of problems). The presented dynamic enables reinforcement of European cooperation in the field of education in the direction the EU aims for, while its member states follow, endeavouring to maintain their competitiveness in a knowledge-based economy, all the more eagerly in the last few years with the lingering economic crisis (see also Tsarouhas, 2009).

## Framework for European Cooperation in Relation to Adolescents' Academic (Under)achievement

Following an outline of theoretical premises in relation to common European cooperation in the field of education, in specific reference to the OMC in the previous section, mutual EU cooperation and national levels in the field of adolescents' academic (under)achievement will be clearly presented hereafter in terms of essential OMC elements. As previously stated, in the EU, student (under)achievement is addressed most directly by means of the benchmark of 'reduction in the percentage of students who fail to reach the basic level of literacy in PISA'.[6]

### a) Fixing guidelines for the Union combined with specific timetables for achieving the goals set in the short, medium and long terms

Since common European cooperation in the field of education is non-mandatory, no regulations, directives and other binding measures of the so-called *hard law* are found in this field. Accordingly, common guidelines and specific timetables for achieving the EU goals set in the short, medium and long terms are presented in the so-called *strategic documents* and *strategies*. The first significant strategic document, which is aimed at increasing and strengthening the visibility of the educational sector at a European level, and opening up the sector to influences from other fields (economic and social policies), is the Lisbon Strategy. The Lisbon Strategy states that the transition to lifelong learning must also be accompanied by a successful transition to a knowledge-based economy and society. Both the mid-term evaluation (the so-called *Wim Kok Report*) and the final evaluation of the implementation of the Lisbon Strategy indicated that European strategic goals (including in the field of education) were not reached in full by 2010. Accordingly, the Lisbon Strategy was in 2010 upgraded and replaced by the EU 2020 Strategy, wherein education is assigned a significant role in guaranteeing reasonable, sustainable and inclusive EU growth, mainly as part of guiding initiatives *Youth on the Move* and *Agenda for New Skills and Jobs*.

The comprehensive strategies of the EU (Lisbon Strategy and EU 2020) encouraged ministers responsible for education of EU member states to define in more detail the strategic framework for European cooperation as part of the work programmes 'Education and Training 2010' (I & U 2010) and 'Educa-

6 Although the issue of academic (under)achievement is a major component within the common European cooperation in both the 2000-2010 period and the 2010-2020 period, in this paper it is dealt with mostly in relation to the latter. Participation of EU member states during the so-called first decade is only explained to the extent essential for outlining and understanding the dynamic of current cooperation as part of I & U 2020.

tion and Training 2020' (I & U 2020). Four strategic objectives for European cooperation in education and training are set out in I & U 2020: (1) making lifelong learning and mobility a reality, (2) improving the quality and efficiency of education and training, (3) promoting equity, social cohesion and active citizenship, (4) enhancing creativity and innovation, including entrepreneurship, at all levels of education and training.

When I & U 2010 came to an end, the European Commission recognised that not all objectives had been achieved by 2010; one of the reasons for this, identified together with EU member states, was a relatively lengthy period needed to determine rather vague priorities. Accordingly, within the framework of I & U 2020, the European Commission introduced the so-called *European Semesters*, i.e. three-year cycles for which special priorities of common cooperation are defined. In the period between 2012 and 2014, the centre stage in European endeavours was taken by the improvement of basic competencies - reading, maths, science and technological literacies. The 2012 report of the Council of the European Union encourages member states, and the European Commission in particular, to use all their potential and to reinforce common cooperation, which will lead to a decrease in the percentage of underachievers in maths and science (Council of the European Union, 2012). The project that is also placed within the framework of the priorities stated above is *Raising Awareness and Opportunities of Lifelong Learning for Low Achievers*.



In summary, since 2000 the long-term EU goal in relation to student (under)achievement has mainly been focused on reducing the percentage of students who fail to reach the basic levels of reading, maths and science literacy, whereby in the period between 2012 and 2014 special emphasis is placed on decreasing the percentage of underachieving students in maths and science.

## b) Establishing quantitative and qualitative indicators and benchmarks

The EU 2020 strategy, I & U 2020 and the OMC operate in accordance with logic that expects strategic objectives to be defined in more detail by means of goals and subgoals, whereas indicators and benchmarks are an aid to presenting goals as tangible and measurable entities. Of exceptional significance for coherent strategic activities in the field of education in a transnational environment is coherence of information tools and support in decision making, which is provided by the system of indicators and benchmarks.[7] This makes it possible for the European Commission and EU member states to analyse the key policy-related messages in another way, analyse progress at an EU level,

7 Indicators and benchmarks represent the technically most advanced part of the OMC in education and reflect the belief that the educational practice and outcomes of EU member states, or of educational systems, are measurable at a sufficiently high level of objectivity (Alexiadou, 2007).

identify best practice examples in EU member states in relation to the pursuit of achieving their common goals, and compare the activities with these countries (European Commission, 2011).

The most interesting point, in view of the significance that EU 2020 and I & U 2020 attribute to education in relation to achieving smart, inclusive and sustainable EU growth, is in what fields member states reached a consensus about making systematic comparisons of their outcomes, and which of these fields they have highlighted, in terms of benchmarks, as having special strategic importance.[8] Within the framework of I & U 2010, five benchmarks[9] and sixteen indicators[10] were agreed upon, and within the framework of I & U 2020 the following European benchmarks have been highlighted:

Table 1: European benchmarks within the framework of I & U 2020

| By 2020: | Data source |
|---|---|
| - a minimum of 95% of children between the age of four and the age corresponding to the start of compulsory primary school ought to participate in early childhood education. | UOE, Eurostat |
| - the percentage of 15-year-olds who fail to achieve basic levels of reading, maths and science literacy ought to be under 15%. | PISA, OECD |
| - the percentage of individuals who drop out of education or training ought to be under 10%. | EU LFS, Eurostat |
| - a minimum of 40% of people aged between 30 and 40 ought to have tertiary education. | EU LFS, Eurostat |
| - a minimum of 15% of adults, on average, ought to participate in lifelong learning. | EU LFS, Eurostat |

Source: European Commission, 2009

Table 1 indicates that a large part of the statistical data used by the European Commission for establishing and monitoring achievement of European

8 Within the framework of I & U 2010 they were interpreted as benchmarks, whereas in I & U 2020 they are interpreted as European standards or reference values of average European achievement.

9 Reducing the percentage of students who fail to achieve the basic level of literacy in PISA was one of the five benchmarks. The benchmark set by the EU was to decrease this percentage by 20% in comparison with the year 2000. This means that the percentage in 2010 should not have exceeded 17.04%. Results for Slovenia reveal that this benchmark was not achieved. In all other four benchmarks (i.e. percentage of students with completed upper secondary education, percentage of early school leavers, percentage of graduates in mathematics and science, percentage of adults' participation in lifelong learning) Slovenia succeeded in reaching the aforementioned benchmarks, at an above-average level in comparison with the EU (Štremfel, 2013).

10 Participation in preschool education, education of students with special needs, dropouts, *reading, maths and science* literacy, knowledge of foreign languages, civic competencies, competency of learning to learn, completed upper secondary education, professional development of teachers and trainers, college graduates, international student mobility, participation of adults in education, adults' competencies, the level of attained education, funds designated for education (European Commission, 2011).

standards is acquired from international associations and organisations (Eurostat and OECD) and from UOE data collection (UNESCO-OECD-EUROSTAT database). Although this is not immediately evident from Table 1, the European Commission also commonly acquires data for developing its own indicators from the International Association for the Evaluation of Educational Achievement (IEA). A special mission, in relation to developing its own indicators and benchmarks in the field of education within the EU, is assigned to the Centre for Research on Education and Lifelong learning (CRELL). The knowledge and the expertise originating from this common database are the new instrument of governance within the European educational space and a means of steering national educational policies (Ioannidou, 2007). Accordingly, Ozga and Lingard (2007) believe that the new mode of governance in the field of education in the EU is based on data. A significant role in establishing governance by comparison within the EU is also played by the data of international comparative assessment studies. European institutions (the European Commission, Council of the European Union) substantiate the use of data from international comparative assessment studies (as an element of evidence-based policy making) with the need for developing indicators that contribute to the success and effectiveness of national educational systems, whereby this should be done in a clear and intelligible way with indicators being scientifically substantiated. These indicators create opportunities for achieving common strategic goals and EU benchmarks.



Table 1 also indicates that the EU most distinctly addresses the issues in relation to low performance in education by means of the aforementioned benchmark, in accordance with which 'the percentage of 15-year-olds who fail to achieve basic levels of reading, maths and science literacy ought to be under 15% by 2020'.[11]

Since 2000, the data for this EU benchmark has been acquired from PISA,[12] which not only enables the EU to make comparison between member states and establish the trends in the development of individual educational systems, but also a comparison with other world superpowers, such as Japan and the USA. The European standard shows that the European Commission not only devotes attention to countries' average performance in international com-

11 Improvement in reading literacy within the framework of I & U 2010 was one of the thirteen objectives and one of the five benchmarks set by the Council of the European Union in 2003. In accordance with this benchmark it was expected that the percentage of students who fail to reach the basic level of reading literacy in PISA would be decreased by 20% by 2010 in comparison with the year 2000. In the fields of mathematics, science and technology, the benchmark referred to the percentage of graduates in these fields; here, a 15% increase at the EU level was expected in the period between 2000 and 2010.

12 Although there are some other international comparative assessment studies that assess the performance of students (of different ages) in mathematical and scientific literacy (TIMSS) and reading literacy (PIRLS), the European Commission uses the data from these two studies for developing individual indicators only and does not highlight them as a European benchmark.

parative assessment studies, but also focuses on the importance of achieving individual proficiency levels.

Reading, maths and science literacy are, in accordance with the European Reference Framework of Key Competencies (European Parliament and Council of the European Union, 2006), defined as the fundamental key competencies and an important indicator of employability, social inclusion and personal development. The European Commission believes that attention needs to be paid to these from an early age, i.e. at the lowest levels of the educational system (during the course of preschool education and the first three-year period), as they are an important foundation for acquiring all other key competencies (e.g. learning to learn, civic and social competencies, cultural awareness and expression, entrepreneurship and initiative). Dunne et al. (2013) also point out a strong correlation between lack of basic competencies, such as those in maths and science, and early leavers from education and training, and simultaneously define these same competencies as those that contribute to a higher level of employability and fostering innovations.

In emphasising the significance of achieving the basic levels of reading, maths and science literacy, the European Commission even agrees with researchers' findings (e.g. Hanushek and Woessmann, 2010) about countries' ranking on the PISA international comparative achievement scale being an indicator of their future economic development,[13] which, in a period characterised by the economic crisis, is an especially good motive for all participating member states to improve their performance. Simultaneously, this belief is topical in terms of research in view of the presumption of the governance of problems, presented in the first part of the paper.



In relation to this, it is particularly interesting to look into how this most relevant European benchmark in terms of student achievement has been followed within the Slovenian educational space since Slovenia's formal integration into the European educational space in 2004.

## c) Translating European guidelines into national policies and the national framework of student (under)achievement

The OMC does not legally bind EU member states to transfer European guidelines into their national legislation. European guidelines are usually translated into the national reform programmes which pursue European objectives and call for adoption of special means that enable achieving common European objectives at national levels, whereby special national characteristics of individual member states are taken into consideration (López-Santana, 2004: 8).

13 Kodelja (2005: 214) points out causal correlation between students' learning outcomes at school and countries' economic efficiency has not been suitably proven.

Past (though rare and not sufficiently in-depth) research has shown translating the European guidelines into a national context is indicated through different levels of adjustment, i.e. changes in discourse and terminology, adoption of strategic documents, changes in the contents of educational policies and changes in paradigms (Radaelli, 2003). In terms of changes in discourse and terminology, some terms, such as *key competencies* and *literacy* etc.,[14] have gained in meaning within the Slovenian educational space, which occurred under the influence of European integration processes and other types of international cooperation in the field of education. The change in discourse within the Slovenian educational space is also indicated in new definitions, such as that of 'low achievers'.[15] The need for a common and comparable understanding of nationally diverse phenomena at an EU level encourages EU member states to reflect on the previously established national definitions and its remodelling.

The significance of comparisons between the performance of Slovenian students and that of students from other EU member states is highlighted in the updated national legislation and the newly adopted strategic documents in the field of education. It is evident from these documents that the reference point stated for the desired performance of Slovenian students is the performance in the most developed EU member states, which confirms the theoretical assumptions of governance by comparison, as were presented in the first part of the paper.[16] In the White Paper from 1995, special attention was given to Slovenian students achieving internationally comparable performance levels (Ministry of Education, Science and Sport, 1996: 71): 'In Slovenia one of the aims of the updated school system is to enable the achievement of internationally comparable standards at the end of lower secondary education'. In the 2011 White Paper even more attention is devoted to this issue (Ministry of Education, Science and Sport, 2011: 24, 25): 'One of the most significant aims of the Slovenian educational system is to guarantee internationally comparable levels of education for all citizens of Slovenia. At a state level, the means of reaching this goal must be defined clearly, whereby the goal is defined as Slovenian students ranking near the top, or at least in the upper third of performance lev-



14 The statement is derived from the data of an empirical study (Štremfel, 2013).

15 This understanding was mostly developed as part of Slovenia's participation in the EU Thematic Working Group 'Mathematics, Science and Technology'.

16 Analyses of educational reforms in other European countries (see e.g. Grek, 2008) likewise indicate that in developing the strategies for the development of their educational systems, countries rely on the data gathered in international comparative assessment studies and compare the situation within their educational systems with the situation in other countries. Data from international comparisons are an aid to identifying the strongest and weakest points of the national educational system in the light of performance of other systems and also an aid to monitoring their development/progress over a longer time span (Štraus, 2006: 8).

els of students from developed countries, in terms of the quality of the knowledge they demonstrate.'[17]

A high level of literacy is addressed in the Slovenian Strategy of Lifelong Learning (Ministry of Education, Science and Sport, 2007: 14), wherein the following is stated as part of one of the goals: 'An increase in investments is necessary to create stimulative conditions for achieving a higher level of literacy of all citizens than the current level which is one of the lowest in Europe.'

An improvement in the level of reading literacy is, in the most direct way, addressed in The National Strategy for Development of Literacy (Ministry of Education, Science and Sport, 2006: 5, 6): 'The Government of the Republic of Slovenia has set itself the goal of devoting special attention to improving the literacy of the entire population of Slovenia to a level comparable to that of the most developed EU countries. /…/ The reason for the development of the national strategy are the findings of international studies, which have revealed an inadequate level of literacy in Slovenian pupils in lower secondary education, and adults, and also pointed out the necessity of a systematic approach to this field and of development initiatives'.

Although the fundamental documents of the EU (Treaties and development strategies) point out that the power of the EU in the field of education is limited to fostering cooperation among its member states (as part of the OMC), some authors (e.g. Grek, 2008, 2009) state that the EU has also interfered, to a greater extent, in the content of national educational policies with the 'Recommendation of the European Parliament and of the Council of 18 December 2006 on key competences for lifelong learning'. In Slovenia, the most recent content changes in the curricula could likewise be attributed to the influence of the EU. To be specific, the National Education Institute of the Republic of Slovenia (2011) has named the definition of key competencies in accordance with the European Reference Framework, and the definition of different types of literacy, as the most essential elements of the updated curricula from the year 2011. In the report on the progress towards common European objectives, the Ministry of Education, Science and Sport (2009) highlighted that the key competencies are to be introduced into the Slovenian educational space by means of measures adopted at a national level and at a school level. The essential measure at a national level is mostly related to the adoption of new curricula, extensive teacher training, teachers' cooperation with other key actors in the field, and development of new teaching materials.

An observation of the European Commission (2011) about Slovenia is interesting when describing the integration of European guidelines into national educational policies: that Slovenia (like most other member states) has, in its

17 Although this does not directly imply the significance of reducing the percentage of underachievers, practice from some other countries (see OECD, 2010) has indicated that measures aimed at improving the performance levels of these underachieving students have contributed to an improvement in the average performance on international comparative scales.

strategic documents, not (yet) established a national benchmark for reducing the percentage of underachieving students. According to the European Commission this could contribute to a stronger commitment of national actors to achieving this goal. Study findings (Štremfel, 20013) have indicated that the new mode of governance of the EU towards achieving common goals not only calls upon the member states, but also upon individual key actors, which gives reason to infer that establishing a national benchmark does not hold particular significance. Results of the same empirical study (ibid.) have confirmed that even though the actors (policy makers, experts, stakeholders) within the Slovenian educational space are, according to their own judgement, not adequately familiar with the European benchmarks, they nevertheless feel responsible for achieving them. This reflects what has also been pointed out in theoretical assumptions: fear about being below average (governance by comparison) and the feeling of responsibility in achieving the common goals (output-oriented governance), which the new mode of governance causes in the involved key actors. This also confirms the assumption that the new mode of governance steers the activities and behaviour of the actors from afar, which results in second thoughts about the (non)selective adoption of European objectives and guidelines in the national educational space. However, this is not necessarily evident from the content of national documents, but from altered beliefs of the actors involved.



The final aspect of the OMC impact also needs to be mentioned, one that relates to the paradigm shift in the national educational space. A shift from a knowledge-based society to a knowledge-based economy has (through its emphasising the effectiveness of educational systems in guaranteeing economic growth) resulted in the focus of education in Slovenia also being on the assessment of outcomes and setting new quality management standards. These are clearly noticeable from the increasing number of evaluations of educational programmes and institutions (Kos Kecojević and Gaber, 2011). Some authors (e.g. Biesta, 2007; Cort, 2010) believe that a shift to an outcome-based education is closely connected to the concept of evidence-based policy making. Findings of the aforementioned study on the adoption of European agendas in the Slovenian educational space (Štremfel, 2013) confirm that the development of evidence-based education in Slovenia has been prompted by Slovenia's participation in European integrations, and that the development of the concept in Slovenia is evident from an increasingly wide scope of external assessment of knowledge and educational studies. Some authors (e.g. Kodelja, 2005: 221) point out that in spite of the perceived increase in participation in the aforementioned studies, some countries (Slovenia included) are still facing an inadequately perfected institutional structure for processing and interpreting the data from these studies. In accordance with the theoretical assumption of governance of problems, the author of this paper adds that increas-

ing participation in international comparative assessment studies enables a wider identification of weaknesses and shortcomings of the national educational system. However, the inadequately perfected institutional structure for processing and interpreting data from these studies does not suffice for country-specific solutions for the perceived policy-related issues to be developed.

### d) Periodic monitoring, evaluation and peer review organised as mutual learning processes

When member states perceive a policy-related problem in regard to their ranking on the international comparative achievement scale, they can improve their performance on the basis of comparisons with other participating countries. They can also get some ideas about national educational reforms through an institutionalised process of mutual learning at an EU level. An essential organisational structure that ensures the process of mutual learning of member states within the OMC, is that of Thematic Working Groups (TWGs), established in the key areas of common European cooperation in the field of education.[18] As part of peer learning, the participants try to identify the factors that improve the development of educational policies and factors that provide for successful implementation of educational reforms. TWGs include representatives of individual member states (in accordance with a European Commission recommendation two representatives from each country, i.e. an official and an expert in a specific field), a European Commission representative, an independent international expert and representatives of various European associations and agencies. TWGs hold regular meetings and also convene during the so-called 'peer learning activities' (PLAs). The most visible impact of their work is noticeable in the development of European guidelines and adoption of acquired lessons in national educational policies. However, doubt is raised in relation to this about the actual transferability of acquired lessons from other countries into a national context and about the means of performing peer learning, as it is often criticised for taking place in an overly bureaucratic manner and for not representing a learning process as part of which participants would get an in-depth insight into the practices of other countries (Schattenmann, 2006: 21).



The issue of low performance in education and adolescents' academic (under)achievement is indirectly dealt with by several TWGs at an EU level, most directly by the 'Maths, Science and Technology' TWG.[19] Its main purpose is to

18 The following Thematic Working Groups operate within I & U 2020: Early School Leaving; Early Childhood Education and Care; Mathematics, Science and Technology; Teacher Professional Development; Modernisation of Higher Education; Quality in Adult Learning; Financing Adult Learning; Teachers in Vocational Education and Training.

19 As part of I & U 2010 the issue of low-achieving students or underachieving students was also addressed by the cluster on Key Competencies. Its aim was to achieve a shift within countries from

organise peer learning activities and thus provide member states with support in developing and implementing their own policies to improve attainment levels and students' attitudes to maths, science and technology. The TWG commenced its work in November 2010 and organised five meetings and four PLAs. Specific priority areas of the group include: (a) provision of learning support for low achievers, (b) identifying low achievers, (c) research into the impact of enquiry-based science education on low achievers, (d) a quality improvement system for low achieving schools, (e) management of transitions from one level to another for low achievers, (f) the use of ICT in maths, science and technology. The TWG ended its activities in the first half of 2013 and prepared a report, wherein various approaches and initiatives were highlighted for dealing with low achievement at the level of national educational policies and practices. The approaches are based on best practice examples from participating countries and study findings from this field. Slovenia has likewise appointed its TWG representative – an official, who liaises with national experts from the relevant field. The representative agrees with participants of other TWGs (see Štremfel, 2013: 310–314) about participation in the group being an invaluable professional experience. At the same time the representative points out that the newly acquired ideas are difficult to apply within a national context, the reason being the inadequately perfected institutional structure of transferring knowledge and ideas from the European into the national educational space. Consequently, new ideas are mainly implemented in new projects, and much less so in the policy-making process at a national level.



Regular progress reports about member states, and their achieving the I & U 2020 objectives, draws attention both within the national policy process and at a European level. For national actors these progress reports represent a special task with timetables for submitting reports, which then provide feedback on following European guidelines and achieving European objectives. Two kinds of reports are distinguished, i.e. annual quantitative reports comparing countries' performance based on statistical data, and three-year qualitative reports (upon completion of each European Semester), wherein countries provide a description of their national measures and endeavours in a certain field, based on a report structure previously prepared by the European Commission. Periodic monitoring and assessment data foster comparisons

teaching centred solely on knowledge to a wider competence-oriented approach that devotes more attention to acquiring competencies and skills. A lot of attention was devoted to cross-curricular competencies, such as social and civic competencies, entrepreneurship, learning to learn, digital and cultural competencies. As part of its mutual learning activities, the cluster focused on the presence of key competencies in the curricula of member states, as well as actual and desired changes in the didactic material that enables development of key competencies. Special attention was also devoted to identifying the key competencies and effective policies that improve reading, maths and science literacy as part of compulsory education. While the 'Key Competencies' cluster within I & U 2020 is no longer active, the mandate of the 'Maths, Science and Technology' cluster has, in transition from I & U 2010 to I & U 2020, been taken over by the TWG with the same name.

and learning policy-related lessons between member states. However, mutual comparisons (in particular in relation to quantitative reports) may also result in some subtle 'blaming and shaming' of low achieving member states. On the basis of these quantitative and qualitative reports, the European Commission and the Council of the European Union prepare an evaluation of the situation in terms of reaching individual objectives at an EU level and highlight the most and least successful member states. As part of I & U 2020, the European Commission also prepares an analysis of the achievement of common European goals for each member state individually. Based on the analysis results and the situation in a member state, the Commission gives recommendations about the fields on which a state should focus its endeavours in the subsequent period. For Slovenia, the report (European Commission, 2012: 54), for instance, points out that in relation to low achievement in reading literacy, reforms need to be reinforced that will contribute to the improvement in the performance levels of Slovenian students.

Figure 1 presents Slovenia's performance in meeting the European benchmark of 'reducing the share of students who fail to achieve the basic level of literacy in PISA', in comparison with the EU average.



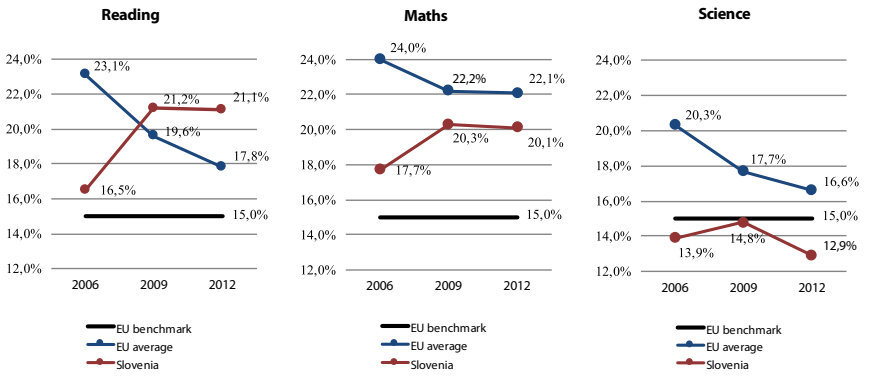


Figure 1: Slovenia's performance in meeting the European benchmark of 'students who fail to achieve the basic level of literacy in PISA'
Source: European Commission, 2013

The figure shows Slovenia meets the European benchmark in the field of scientific literacy, but fails to do so in the fields of reading and maths literacy. The share of Slovenian 15-year-olds who fail to reach the basic level in reading and maths literacy in PISA increased in 2009 in comparison with 2006; and in 2012 it remained at a level comparable with that of 2009. On the other hand, data about the average in member states indicates an upward trend in per-

formance between 2006 and 2012, thereby getting nearer to the European benchmark in all three literacy fields: reading, maths and science.

## Conclusion

In the paper it has been demonstrated that there is no shortage of opportunities for common European cooperation for Slovenia on its path to fostering academic achievement of Slovenian adolescents, but also that Slovenia meets certain limitations. Conclusions are presented below, taking into account what has been stated above as a basis for solving the perceived policy-related issue of academic (under)achievement of Slovenian adolescents within a European context.

The development trends in modern societies dictate that the development of national educational systems cannot be conceived without international comparative insights. In the process, the EU constitutes the institutional framework, as part of which member states are (based on mutual comparisons, transfer of best practice examples, European funds etc.) able to significantly strengthen their national endeavours for reaching adolescents' academic achievement and other common goals in the field of education (Alexiadou, 2007).



The success of the new mode of governance of the EU is based of the ability to develop a definition of legitimate, or clever and suitable, policies and the common public good based on an inclusive and deliberate policy making. However, developing non-contradictory and homogeneous definitions of the public good (and objectives) has also, in modern societies, become unattainable, in view of the wide social, political and economic diversity within the EU (Borrás and Conzelmann, 2007).

Analyses (e.g. Cort, 2010) indicate that meeting common EU goals has become attainable due to these objectives being substantiated by means of expert data. Steering the activity of the key actors towards achieving common goals on the basis of expert knowledge has become a unique mode of governance in the EU, which enables gradual penetration of European agendas in the national educational space, commonly even without identifying the national actors. The aforementioned non-selective adoption of European agendas slowly, yet efficiently, limits the sovereignty of member states in developing and implementing their national educational policies.

With awareness of the stated assumptions, it is of key importance to take a critical look at the transfer of European guidelines into the national educational space, and to endeavour to take into account the expert knowledge (developed at an EU level) at a national level in accordance with neopositivist and critically rationalistic forms of *speaking truth to power*, and not in line with the

interpretative and neopragmatist form of (neoliberal, author's note) *making sense together* (Hoppe, 2011: 55). The role of national actors (including experts) is, in the author's opinion, to judge what expert data (developed at an EU level) and proposals for resolving the perceived policy problem are to be considered as legitimate in implementing changes and improvements into the national system (Wiseman, 2010: 9). Appropriate use of expert data, which can be acquired from international comparative assessment studies and other studies at an EU level, can guarantee that any special national characteristics and the quality of the educational system are preserved, and distances us from reckless acceptance of their neoliberal assumptions (Grek, 2008). This awareness enables the establishment of a suitable ratio between utilising the potentials of the OMC, which have in Slovenia so far not been fully exploited, and avoiding blind steerability in using expert data, which has been developed as part of the OMC process and been pointed out by a number of authors. A critical reflection of the new mode of governance in the EU in the field of educational policies, highlights the significance of thorough consideration in following its goals and instruments of governance. It seems that developing unique solutions for the policy problem of academic underachievement of Slovenian adolescents (perceived on the basis of international comparisons of performance of Slovenian 15-year olds in PISA and non-achievement of the relevant European benchmark) can, in a certain segment, also significantly contribute to preserving special features and sovereignty of the national educational system.



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# Low Reading Achievement in PISA 2009

**Mojca Štraus**

Abstract: *When results of PISA 2009 were published, showing that Slovenian 15-year-old students' reading literacy achievement was lower than the OECD average as well as the EU average (OECD, 2010a), questions were raised in Slovenia about students' (non-)achievement in reading literacy. Reading literacy was highlighted since, in contrast, the achievements in scientific and mathematical literacies were above average. The central issue addressed in this paper are the differences that can be observed in how student background factors relate to their achievement, in particular when this is observed in groups of low-, medium- and higher-achieving students respectively. Such observations of differences can give an insight into how low-achieving students differ from others and therefore into the possible levers that could be used to foster improvement in reading for these particular students and, consequently, for all of them. Findings about such differences may provide an important starting point for further work for all students. Analyses are presented for the population of students in Year 1 of their upper-secondary educational programmes for which PISA 2009 data were collected.*
**Key words**: *PISA, reading literacy, low achievement*



## Introduction

As defined in the basic starting points of PISA 2009 (OECD, 2009), reading literacy includes a wide range of cognitive competencies, from basic decoding, to knowledge of words, grammar and larger linguistic and textual structures and features, to knowledge about the world. It also includes the awareness of, and ability to use, a variety of appropriate strategies when processing texts.

Metacognitive competencies are activated when readers think about, monitor and adjust their reading activity for a particular goal. PISA defines reading literacy as understanding, using, reflecting on and engaging with written texts, in order to achieve one's goals, to develop one's knowledge and potential and to participate in society. The PISA definition of literacy is broader than the usual definition of reading and writing skills, i.e. literacy is understood as increasing from low to higher literacy and not as a quality that an individual either has or does not have. The basic level of reading literacy is the ability to search for a piece, or several pieces, of information by drawing (simple) conclusions and considering different information-related criteria, identifying the main idea of a text, understanding associations or formulating the meaning within a limited text section when the piece of information may not be given perfectly clearly, making comparisons based on one text characteristic, or relating pieces of information from the text to one's own knowledge and experiences (ibid.). In summary, low-achieving students in PISA (below Level 2) have difficulties locating basic information according to the search criteria, comparing information based on a single characteristic, formulating the meaning of a clearly structured text and relating the content of the text with other pieces of information from their own experience or beliefs.



It needs to be acknowledged that, in general, there is no straightforward or simple answer to the question about the definition of low achievement and measures to improve it. PISA itself has also been subject to criticism (Bonderup Dohn, 2007; Murphy, 2010; Sjoeberg, 2012; Topping et al., 2003), however, the fact that it attracts a lot of international attention makes it an important basis for assessing student achievement and searching for means of improving the quality of the educational system. Data about the Slovenian 15-year-old students' (non-)achievement of basic levels of literacy in the fields of reading, mathematics and science, and comparisons with their peers from other countries, are known from international and national PISA reports (e.g. OECD, 2007; OECD, 2010a; OECD, 2013). Basic results of these comparisons for Slovenian 15-year-old students are presented in Table 2.

Table 2: A comparison between the achievement of Slovenian 15-year-old students and the OECD average and levels achieved in PISA assessments to date

| READING | SVN average (s. e.) * | OECD average (s. e.) | Difference (s. e.) | Percentage of students who do not achieve Level 2 (s. e.) | Percentage of students who achieve Levels 2 or 3 (s. e.) | Percentage of students who achieve a minimum of Level 4 (s. e.) |
|---|---|---|---|---|---|---|
| PISA 2006 | 494 (1.0) | 489 (0.5) | 5 (1,1) ▲ | 16.5 (0.6) | 56.3 (0.8) | 27.2 (0.7) |
| PISA 2009 | 483 (1.0) | 494 (0.5) | –11 (1,1) ▼ | 21.2 (0.6) | 54.9 (0.9) | 23.9 (0.7) |
| PISA 2012 | 481 (1.2) | 497 (0.5) | –15 (1,3) ▼ | 21.1 (0.7) | 55.6 (1.0) | 23.3 (0.7) |

*Standard errors (s.e.) for the calculated estimates based on samples of students are indicated in brackets.

| MATHEMATICS | SVN average (s. e.) | OECD average (s. e.) | Difference (s. e.) | Percentage of students who do not achieve Level 2 (s. e.) | Percentage of students who achieve Levels 2 or 3 (s. e.) | Percentage of students who achieve a minimum of Level 4 (s. e.) |
|---|---|---|---|---|---|---|
| PISA 2006 | 504 (1.0) | 494 (0.5) | 10 (1,1) ▲ | 17.7 (0.7) | 49.5 (1.0) | 32.6 (0.6) |
| PISA 2009 | 501 (1.2) | 495 (0.5) | 6 (1,2) ▲ | 20.3 (0.5) | 46.4 (0.8) | 33.2 (0.8) |
| PISA 2012 | 501 (1.2) | 494 (0.5) | 7 (1,2) ▲ | 20.1 (0.6) | 47.5 (1.0) | 32.4 (0.8) |

*Standard errors (s.e.) for the calculated estimates based on samples of students are indicated in brackets.

| SCIENCE | SVN average (s. e.) | OECD average (s. e.) | Difference (s. e.) | Percentage of students who do not achieve Level 2 (s. e.) | Percentage of students who achieve Levels 2 or 3 (s. e.) | Percentage of students who achieve a minimum of Level 4 (s. e.) |
|---|---|---|---|---|---|---|
| PISA 2006 | 519 (1.1) | 498 (0.5) | 21 (1,2) ▲ | 13.9 (0.6) | 50.7 (1.0) | 35.4 (0.8) |
| PISA 2009 | 512 (1.1) | 501 (0.5) | 11 (1,2) ▲ | 14.8 (0,5) | 52.4 (0.9) | 32.9 (0.9) |
| PISA 2012 | 514 (1.3) | 501 (0.5) | 13 (1,2) ▲ | 12.9 (0,6) | 54.6 (0.9) | 32.6 (0.7) |

*Standard errors (s.e.) for the calculated estimates based on samples of students are indicated in brackets.

Table 2 reveals that mathematics and science achievement in Slovenia are above the OECD average, whereas reading literacy achievement is below the average of the OECD countries in 2009 and 2012. The table also shows the percentage of low-achieving Slovenian 15-year-old students, i.e. students who do not achieve basic competence levels in reading, mathematics and science. In view of the under-average achievement in reading literacy in comparison with the other two subjects, one might expect the percentage of 15-year-old students with low outcomes to be considerably greater for reading literacy than for mathematical and scientific literacies. Although it is evident that the percentage of low-achieving students is the highest for reading literacy, it is, however, also evident that in 2009 and 2012 the percentage of 15-year-olds with low achievement in mathematics is relatively high (approximately 20%). This highlights a possible need for concern about low achievement in mathematics as well.

Hereafter in this paper, PISA data about low achievement in Slovenia will be analysed in more detail, with the aim of determining the factors that are associated with (low) achievement. Factors influencing the achievement are in PISA investigated in more detail in the cycle where most of the tasks are focused on a certain field; data on reading factors, for instance, were collected as part of PISA 2009. As data on factors associated with the three domains are not available in every cycle, the focus of this paper will be limited to one domain only, i.e. reading. This field seems to be the logical choice as the relative achievement in reading of Slovenian 15-year-old students in international comparisons is the lowest. On the other hand, in spite of an exponential growth of modern technology reading remains a fundamental competency, which gives access to an ever increasing amount of information. The 2009 data enables research of a wide selection of reading-related factors, hence this data will be used. Since the PISA assessment in 2012 revealed that the results in Slovenia had not changed considerably in the period before that, it may be concluded that the general findings based on the 2009 data will most likely remain relevant at least for the coming few years.



Achievement in reading is impacted by – or in other words is related to – a number of factors (e.g. Kotte, Lietz and Martinez Lopez, 2005; Row, 1995). These factors can originate in students' home or school environments, or in their opinions and points of view. Some factors covered by PISA 2009 stem from students' current school environment. In Slovenia, this is a school environment which students have generally only been part of for a few months – over 90% of 15-year-olds in Slovenia are in Year 1 of upper secondary school (Statistical Office of the Republic of Slovenia, 2014a, 2014b). As such, the PISA data describe the present situation of these students, but much less so the conditions that existed when students' reading was being developed. Accordingly, the focus of this paper will be limited to those factors measured in PISA

which pertain to students' background of reading from a longer period prior to PISA assessment. Such factors are, for instance, enjoyment of reading, diversity of reading material, students' reports on the usefulness of various reading strategies in learning and similar. A more detailed description of these factors will be given below.

Research into the associations between background factors and achievement, for instance achievement in reading literacy in PISA, is usually based on the assumption that the associations along the entire span of achievement are linear. Based on this assumption, the extent to which individual factors contribute to the average achievement is then investigated (with other factors being controlled). In this paper, the question of linearity along the entire span of achievement will be somewhat expanded, i.e. possible differences in associations between different factors and reading achievement will be investigated in terms of whether low or high achievement is involved. The reason for this focus is the aim to provide a clearer picture of how the associations between the background factors and achievement differ between groups of students, with a special focus on low-achieving students. The research question is therefore for which background factors measured in PISA 2009 there are differences in their association with reading achievement when low achievement is considered in comparison with higher achievement.



By participating in PISA 2009, it was the first time Slovenia was able to obtain detailed information about the reading of Slovenian 15-year-olds in comparison with their peers from around the world. Internationally comparable data on various reading-related factors was also acquired simultaneously. As previously stated, the results published in 2010 revealed a below-average achievement in comparison with achievement in OECD, which was confirmed by the results collected in 2012. Determining the differences in the associations referred to in the aforementioned research question will be an aid to understanding how students learn and what the differences are between them; it will also provide an important basis for planning pedagogic approaches in the future and the scope of thinking about some possible steps for improving achievement by means of school work.

Students' current year-group is of more importance than their age when looking for starting points for planning pedagogic approaches; teaching approaches are developed based on the curricula prepared for individual years. As previously stated, the majority of Slovenian 15-year-olds are in Year 1 of upper secondary schools. Accordingly, PISA 2009 data for Slovenia, which includes a representative sample of all students of Year 1 of upper secondary schools, will be used to address the aforementioned research questions. In addition to the sample of 15-year-olds based on which international comparisons in PISA 2009 were made, Slovenia also included an additional sample of Year 1 students who were, during the course of the assessment, not aged 15. By

means of this, data was acquired from which it will be possible to derive factors about the achievement and other related factors for the entire population of Year 1 of upper secondary schools (of those educational programmes that include 15-year-olds). A more detailed description of this sample will be given below.

PISA and other studies (e.g. PIRLS; Mullis et al., 2012) have, throughout the years, shown statistically significant differences between female and male students. As a result, it is essential to verify comparisons in this paper separately by genders, as there are probably also significant differences in reading-related factors between these two groups.

Naturally, even the widest range of factors in an analysis will not include all possibilities in relation to an issue as complex as the development of knowledge and competencies under the different conditions in which students live and learn. Although the development of knowledge and competencies not only takes place in schools and as part of other types of formal learning, but also outside the boundaries of the school environment and as part of one's family ties, peers and a wider society, the educational system nevertheless remains the primary mechanism based on which endeavours are made to improve youths' literacy levels. This is achieved through setting goals, standards of knowledge and the use of appropriate didactic approaches and strategies. In this sense, results of studies like PISA can partly also be viewed as outcomes that are significantly influenced by the educational system.



## Data and Methodology Description

As previously mentioned, an analysis of factors related to (low) achievement in reading will be made for the population of all female and male students of Year 1 of upper secondary schools. In addition to the sample of 15-year-olds, based on which international comparisons were made, an additional sample of Year 1 students who were during the course of the assessment not aged 15 was additionally included in PISA 2009 by Slovenia.

## Sample Characteristics

Table 3 shows basic information about the sample for the population of Year 1 upper secondary educational programmes in Slovenia that include 15-year-olds. This is the basic target population in this paper and since this is the upper secondary level of education, the population will be referred to as *Year 1 students*. On average, Year 1 students achieved fewer score points (472 score points, Table 3) in the PISA 2009 reading literacy test than 15-year-olds (483 score points, Table 2). This was to be expected since the additionally included

students, i.e. those not aged 15, are generally older and make progress in terms of educational levels at a somewhat slower pace, which is also related to averagely lower achievement.

As this study is interested in the differences in associations between factors and achievement, in terms of whether low-achieving or higher-achieving students are dealt with, three groups have been formed within the target population; the low-achievement group includes students with achievement below Level 2 on the PISA reading literacy scale, the basic-achievement group students with Levels 2 or 3 on the PISA reading literacy scale and the higher-achievement group students with achievement at a minimum of Level 4 of PISA reading literacy. As previously stated, reading achievement also reveals large gender differences; in various types of reading tests, female students at different ages deliver a higher achievement than male students. This is also noticeable from different group structures of low, basic and higher achievement by gender in Table 3. It therefore makes sense to also separate analyses in this paper by gender. The minimum number of sample (male or female) students that were examined in analyses, divided into individual subgroups by achievement and by gender, was 295, which is still an adequate sample size for drawing logical conclusions. The analysis of missing values showed no bias in these groups.



Table 3: Basic characteristic of the analysis sample

| | N (sample) | N (population) | Percentage within total population (s. e.) * | Percentage of female students within the group (s. e.) | Percentage of male students within the group | Average reading achievement in PISA 2009 |
|---|---|---|---|---|---|---|
| PISA 2009 | 7,483 | 20,879 | 100 | 48 (0.3) | 51 (0.3) | 472 (0.7) |
| Low achievement (does not achieve Level 2) | 2,705 | 5,313 | 25 (0.5) | 28 (0.7) | 72 (0.7) | 353 (3.3) |
| Basic achievement (Level 2 or 3 achieved) | 3,724 | 11,088 | 53 (0.7) | 51 (0.7) | 49 (0.7) | 483 (1.1) |
| Higher achievement (a minimum of Level 4 achieved) | 1,054 | 4,478 | 21 (0.5) | 66 (1.3) | 34 (1.3) | 588 (4.8) |

*Standard errors (s.e.) for the calculated estimates based on samples of students are indicated in brackets.

## Statistical Indices

In PISA 2009, background data was collected in accordance with assessment frameworks (OECD, 2009). The following indices were significant for the analysis in this paper: *index of economic, social and cultural status (ESCS),* students' reports on the usefulness of strategies for writing a summary - *the index of summarising (METASUM),* students' reports on the usefulness of strategies for understanding and memorizing a text - *the index of understanding and remembering (UNDREM),* frequency of use of control strategies when studying - *index of use of control strategies (CSTRAT),* frequency of use of elaboration as a learning strategy - *index of use of elaboration strategies (ELAB),* frequency of use of memorization as a learning strategy when studying - *index of memorization strategies (MEMOR), index of diversity of reading materials (DIVREAD), index of enjoyment of reading (JOYREAD),* frequency of the use of libraries - *index of the use of libraries (LIBUSE),* frequency of online reading activities - *index of online reading activities (ONLNREAD),* frequency of computer use at home for schoolwork - *index of computer use at home for schoolwork (HOMSCH),* frequency of computer use at home for leisure/entertainment - *index of computer use at home for leisure* (ENTUSE). Items related to these indices and internationally comparable values are available in international reports of PISA 2009 (OECD, 2010b, 2010c, 2010d).[1]



For the analysis in this paper, the above indices were standardised for the target population, which means each index has an average value of 0 and a standard deviation of 1 for the population of students of Year 1 of upper secondary schools in Slovenia. This also enables direct comparisons between values of different indices and their associations with achievements within the target population.

## Statistical Analyses[2]

Two approaches were used for the analysis of associations between reading-related factors and achievement in low, basic, and higher-achievement groups. The first approach is a calculation of mean index values by gender and

1 Based on the data collected, indices were constructed in the database on interval scales, with an OECD mean of 0 and standard deviation of 1 (in computing the mean and standard deviation, an equal weight was given to each of the participating countries) (OECD, 2012b). Negative values of the index in the international database do not imply that students responded negatively to the underlying question, but rather that they responded less positively (or more negatively) than the average response across OECD countries. Likewise, positive values imply more positive (or less negative) responses than the average response in OECD countries.

2 SPSS 21.0 predictive analytics software package was used for the analyses, with the addition of the Replicates Module, which enabled calculations of statistical parameters and their population estimates with standard errors with the use of suitable sample weights and all five plausible values of achievement in PISA 2009 database.

by low, basic, and higher-achievement groups. Since standardised values are the basis, the means of all indices in the entire target population equal o, and comparisons of means of indices by groups show differences between these groups. The significance of differences was tested by means of the t-test between individual pairs.

The second approach is a correlation analysis between indices and reading achievement for the total population by gender, and for individual groups by gender and by achievement. The correlation indicates the direction and strength of the association between the factor and achievement, which is used to determine whether a factor is significant for reading development. However, caution is needed in making interpretations, as this is not necessarily a direct causal relationship; for instance, a strong correlation may originate from a third factor, which, in the background is correlated with both the discussed index and achievement, or this may be a case of reverse causality where achievement impacts the factor. At the same time, correlations are bivariate, which neither gives a picture about the correlations between the factors themselves, nor consequently about partial correlations between individual factors and achievement in reading with others being controlled. Some of the factors discussed are relatively highly correlated (e.g. the bivariate correlation between the index of *usefulness of strategies for writing a summary* and the index of *usefulness of strategies for understanding and memorising a text* is 0.46), which means it is not possible to make a clear distinction when it comes to the correlations between an individual factor and reading achievement. An analysis of the correlation, or the effect, of individual factors and control of others could be performed by means of a regression analysis or use of structured models. However, stability of various models would have to be verified by accounting for all, or a smaller number of, factors with a different sequence of the analysis of the effect of one factor and control of previous ones. However, this would be too demanding for the scope of this paper. The correlation analysis will, in spite of the aforementioned limitations, suffice for discussion on the question about possible differences in the associations between factors and achievement in reading by gender and achievement groups.



It should also be pointed out, and taken into consideration when interpreting the results, that the indices have been developed from students' answers to questions in the questionnaire and not from any independent observations or any other types of measurements. This means that the answers and thereby also observations about correlations with achievement depend on the way students understand and then answer the questions.

## Results

In addition to comparing students' achievement between different countries, the basic goals of international studies, such as PISA, include an attempt at describing the associations between achievement and the background factors, among which those that can be addressed by educational policies are sought to possibly aid in improving achievement. The research question in this paper is about these associations, more specifically whether these associations differ in relation to different levels of achievement, i.e. low achievement, basic achievement and higher achievement. Analysis results are presented in three figures. Figure 2 presents results of the correlation analysis by gender, Figure 3 shows results of the analysis of index' values by gender and by groups of low, basic and higher achievement, and Figure 4 shows the results of a more in-depth correlation analysis by gender and achievement groups. Individual results are explained in more detail below.

In Figure 2, correlation coefficients with reading achievement in PISA 2009 are given for the observed reading-related factors (indices) by gender. They indicate that out of twelve factors (indices), eight are positively correlated with reading achievement, three negatively, while one, i.e *the use of libraries*, does not correlate with reading achievement. In addition to the *index of economic, social and cultural status* (joint correlation with reading achievement is 0.41,[3] 0.45 for female students and 0.42 for male students), two other indices are highly correlated with reading achievement for both genders: *the index of summarising* (joint correlation is 0.46) and the *index of understanding and memorising a text* (joint correlation is 0.40). For all these indices the correlation is somewhat higher in female students, however, the difference in correlation between genders is only significant for *the index of summarising.* Also, in female students the *index of enjoyment of reading* (joint correlation 0.40, in female students 0.41) correlates highly with reading achievement whereas in male students the correlation is lower (0.27).



In a relative sense, there is a moderately positive correlation between reading achievement and the indices of *online reading activities* (joint correlation is 0.14), *diversity of reading materials* (joint correlation is 0.25) and *use of control strategies* (joint correlation is 0.26). The correlation of the index of *online reading activities* is significantly higher in male students than female students. Relatively, the most negative correlation with reading achievement is observed for the index of *memorisation strategies* (joint correlation is –0.15); this correlation is significantly stronger in female students (–0.22 in female students and –0.14 in male students). Other correlations are relatively lower.

3 Correlations of indices with reading achievement for the whole population of Year 1 students are calculated separately and are presented in the appendix. The values of indices in Figure 3 and correlations in Figure 4 are likewise presented in the appendix.

The next step in analysing associations between factors (indices) and achievement is an overview of index values by groups of low, basic and higher achievement. This gives a rough picture of the differences between the three groups for each individual gender. The results are presented in Figure 3. As previously stated, the analysis included index values standardised to the population of female and male students of Year 1 of upper secondary school, which means the total average in the entire population equals 0 for each index. Indices can thus be compared in terms of values by individual achievement groups.

At first glance, Figure 3 indicates that index values differ both between factors and genders and in terms of achievement groups. The results correspond to the differences in correlations between genders in Figure 2; the means of indices positively correlated with reading achievement are generally on the increase by achievement groups and decrease for negatively correlated indices. Only in weak correlations, there is oscillation of mean values by groups (e.g. the index of *computer use at home for schoolwork* and the index of *use of elaboration strategies* in female students). Similarly, differences can be perceived at first glance in correlations between indices and reading achievement when they are discussed within individual groups of low, basic and higher achievement (e.g. the index of *enjoyment of reading*, Figure 4). A feature of some of the factors can be observed in relation to this, i.e. that their associations with reading achievement differ between individual groups, hence their role in respect of achievement improvement needs to be examined separately by individual groups.



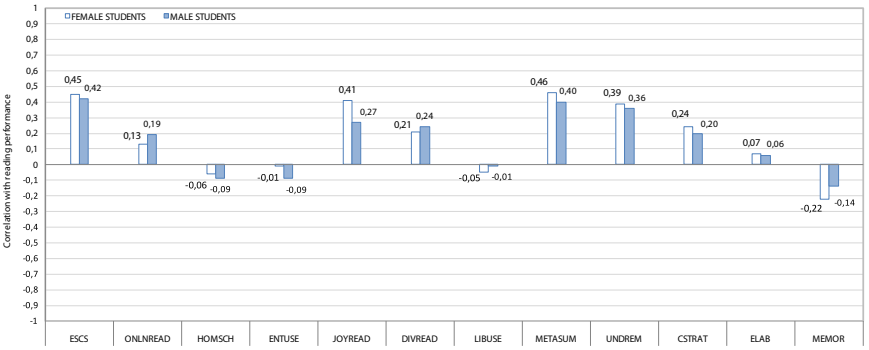


Figure 2: Bivariate correlation coefficients of indices by gender

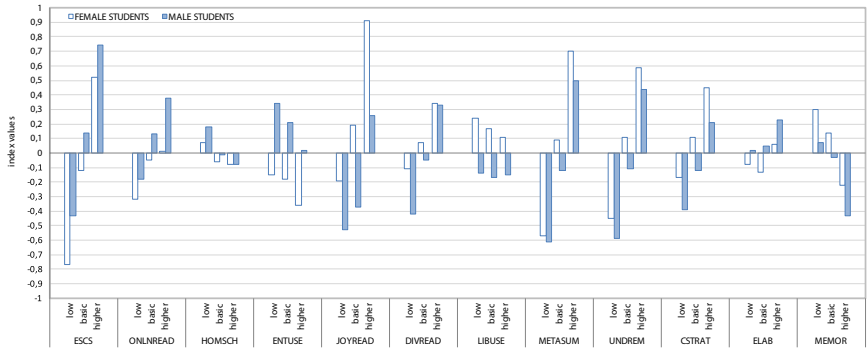


Figure 3: Mean values of indices by gender by achievement groups

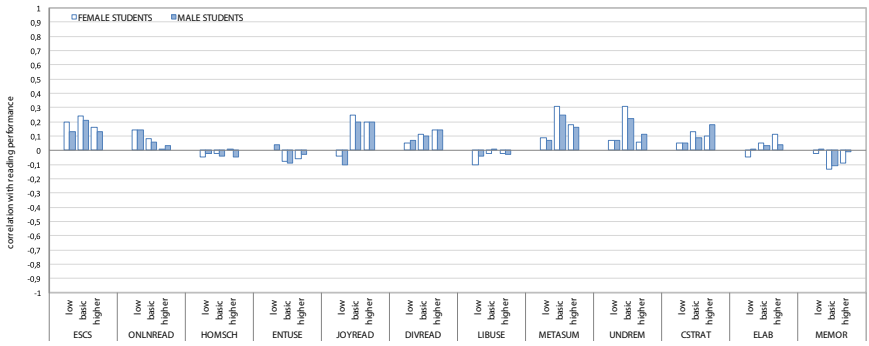


Figure 4: Bivariate correlation coefficients of indices by gender by achievement groups

Following are some more considerable differences in associations between indices and reading achievement as presented in Figures 2 to 4. The correlation of the index of *economic, social and cultural status* in Figure 2 is among the higher ones for both genders, while the mean index values by achievement groups differ between genders. In all three groups, the mean index value is lower for female students than male students. However, this comes as no surprise considering the low-achievement group consists of almost three-quarters of male students (72%, Table 2) and only one-quarter of female students (28%). This explains the greater difference in values of the index of *economic, social and cultural status* between students in this group and thereby greater similarity of the mean of this index to the common mean (which equals 0). A similar explanation can be given for lower mean values of the index of *economic, social and cultural status* for female students in the higher-achievement

group; this group consists of two thirds of female students (66%, Table 2) and their mean of values of the index of *economic, social and cultural status* is more similar to the common population mean (which equals 0). Correlations of this index by groups of low, basic and higher achievement are relatively similar (Figure 4).[4]

As previously established, the following two indices have a strong positive correlation with reading achievement: *the index of summarising* and *the index of understanding and remembering*. Figure 3 indicates that the mean values in both indices by groups of low, basic and higher achievement are higher in female students. Of note is that the difference in these means between genders is lowest in the low-achievement group. This indicates that in terms of these values the differences are greater between higher-achieving students than low-achieving students. This is further confirmed with an analysis of correlations with reading achievement by groups of low, basic and higher achievement in Figure 4. Both indices have a similar pattern of correlations by achievement groups, with correlations at their lowest (and not significantly different from 0) for both female and male students in the low-achievement group. Both data – the low mean values of indices in low-achievement groups and low correlations with reading achievement – indicate poor familiarity of the aforementioned strategies in these female and male students. The question that arises at this point is whether improving familiarity with, and use of, these strategies by these students specifically would foster improved achievement. What is most encouraging here is that familiarity with, and the use of, strategies can be improved by means of planned and systematic integration of these strategies into school work.



The index of *enjoyment of reading* is characterised by vast differences both in terms of gender and achievement groups. In the group of female students with higher-achievement, this index has (relatively speaking) by far the highest value among all indices (0.91), whereas for higher-achieving male students, i.e. students who achieve a minimum of Level 4 on the PISA scale, this index is relatively low (0.26). The greater part of similarly large differences in reading achievement, possibly also originates from this difference. This index is also characterised by the lowest, although still relatively large, difference between genders in the low-achievement group. This probably means both male and female students can gain a lot through being given more encouragement for, and enjoyment of, reading. In relation to this index, a peculiarity in the low-achieving groups is also highlighted, i.e. correlations of this index with reading achievement by achievement groups are positive (and relatively – considering other indices – high) only in the last two groups. For the groups of low-achieving female and male students the correlations are negative (the

4 Mean index values (Figure 2) and the values of correlation coefficients by groups (Figure 3) are presented in the appendix.

correlation for low-achieving female students does not differ significantly from 0). This may be the result of a generally more negative attitude to reading in this group. Individuals who are poor readers, but nevertheless achieve somewhat better, on average, report less enjoyment of reading than individuals who are extremely poor readers. This may originate from the struggle in overcoming basic obstacles in reading, related to either reading technique or familiarity with, and use of, the aforementioned strategies. It is important to be aware that the initial steps in overcoming the obstacles may first even slightly increase reluctance to read in these female and male students (and quite possibly in younger students with similar difficulties), before a connection between the enjoyment of reading and improved reading competencies is revealed. Only when basic reading-related obstacles have been overcome, will they be able to develop a more positive attitude to reading, will read more and consequently improve their reading achievement.

The index of *enjoyment of reading materials* is strongly correlated with the index *of diversity of reading materials* (the correlation between the two is 0.44), which is also indicated in Figure 3, with the pattern of mean values of these two indices by achievement groups. The mean values of the index *of diversity of reading materials* increase by groups from low to higher achievement. It seems low-achieving students stick to few, or only one, type of reading material. The analysis of direct answers in items of this index indicates that as many as 45% of students in this group report that they read magazines and newspapers only. Figure 3 also shows that the difference between genders for this index is the highest for the low-achievement group and lowest for the higher-achievement group. This indicates that in comparison with male students, low-achieving female students report choosing more diverse reading materials, while for the higher-achievement group no such gender difference is noticeable – both higher-achieving female and male students opt for diverse reading materials. The possibility of encouraging diversity of reading materials, in particular in low-achieving students, may also be perceived.



Based on the indices, it is possible to establish that female students report more frequent visits to the library than male students, regardless of the achievement group (the index *of the use of libraries*). However, the correlation between the index *of the use of libraries* with reading achievement is neutral, only in low-achieving female students is it actually negative. The achievement of female students from this group who reported that they used the library more frequently was, on average, lower than the achievement of female students from the same group who reported less frequent library visits. However, this correlation is still relatively weak.

An additional area for investigation is the more or less frequent use of learning strategies when studying, reported by students participating in PISA 2009. The differences between achievement groups, and between genders for

the values of the index *of use of control strategies,* are indicated in the same direction as for the index *of summarising* and the index *of understanding and remembering*, whereby the differences between genders are similar in all achievement groups. This indicates that, in general, male students use control strategies when studying less frequently than female students, regardless of whether this is in relation to male or female students whose reading achievement is less or more successful. High-achieving female students use these strategies to the largest extent among all groups. In comparison with other factors, the value of the index *of use of control strategies* in higher-achieving female students is likewise relatively high, following the values of *the index of enjoyment of reading, the index of summarising, the index of understanding and remembering* and *the index of economic, social and cultural status*. In accordance with reports by this group of female students, other indices have lower values. Correlations between the index *of use of control strategies* and reading achievement are positive and similar for all achievement groups; this correlation is again somewhat lower (and not statistically different from 0) in the low-achievement group, which may again result from lack of familiarity with these strategies and the possibilities of their use for learning.



In comparison with control strategies, elaboration as a learning strategy seems more neutral, judging by the low correlation in the population (Figure 3). An overview of index values by achievement groups indicates that male students report relatively more frequent use of these strategies than female students, in particular higher-achieving male students. Correlations of this index within achievement groups are neutral (do not differ statistically from 0). These results may also point to a lack of familiarity with these strategies in female and male students, possibly in those whose achievement is low in particular; attempts could be made to overcome this by adapting teaching approaches.

As previously established, *frequency of use of memorisation as a learning strategy when studying* is negatively correlated with achievement. This means that the reading achievement of female and male students who report more frequent use of this strategy is, on average, lower. Mean index values by achievement groups indicate that low-achieving female students report the most frequent use of this strategy in learning (index value is 0.30) and higher-achieving male students the least frequent use (index value is –0,43). However, the correlation between this strategy and achievement in the low-achievement group is neutral both for female and for male students (does not differ significantly from 0), which could be interpreted as positive in the sense that the frequency of use of the strategy – maybe on account of the absence of others – is at least partly helpful in studying (or does not do any harm).

Another area for research is the correlation between computer use and reading achievement. In general it holds true for both genders that the index *of computer use at home for leisure* as well as the index *of computer use at home*

*for schoolwork* are not correlated with achievement, however, there are some noticeable gender differences in mean values of these indices by achievement groups. Male students in particular report (relatively) more frequent computer use for leisure, especially low-achieving students (mean index value is 0.34). The least frequent computer use for leisure is reported by higher-achieving female students (mean index value is –0.36). More frequent computer use for schoolwork is reported by low-achieving male students only, while computers are used for schoolwork least frequently by higher-achieving male and female students. The correlations of this index by achievement groups are neutral for both genders. In contrast to these two factors, *the frequency of online reading activities* is *(*moderately) positively correlated with reading achievement especially in male students (correlations for female and male students are 0.13 and 0.19 respectively) and male students report a higher frequency of reading activities of this kind. The students who engage in online reading activities most frequently are those with higher achievement. However, the correlation between the frequency of online reading and reading achievement turns out to be relatively more significant only in groups of low-achieving female and male students. This may result from the correlation of this index with the *economic, social and cultural status* (the correlation between these two indices is 0.20 and is the highest of all correlations between the index *of economic, social and cultural status* and other indices).



## Discussion

The research question addressed in this paper was whether any differences could be observed in correlations between background factors and reading achievement when female and male students with different achievement levels are considered separately. The question was addressed using the PISA 2009 database, which enables investigating reading achievement and reading-related factors. In terms of their achievement, Slovenian female and male students of Year 1 of upper secondary schools were divided into low-achievement, basic-achievement and higher-achievement groups; associations between factors and achievement were then examined by these groups. Several points were presented in the results section: a comparison between (bivariate) correlations of individual indices and reading achievement by gender, index values for these factors by gender and by achievement groups and, last but not least, comparisons of (bivariate) correlations of individual indices with reading achievement by gender and achievement groups.

The analyses revealed not only that background factors differ between genders, but also that the differences are more distinct when different achievement groups are compared. Correlations between background factors and

reading achievement are generally similar for both genders in spite of considerable differences between genders in terms of achievement. It is interesting that the largest difference between correlations by gender is indicated in the index *of enjoyment of reading* (as previously stated the correlation in female students is 0.41 and in male students 0.27). This is also reflected in the values of the index *of enjoyment of reading* in different achievement groups – the index value in higher-achieving female students is also the highest in terms of comparison with other indices. For this index, as well as some others, for instance the index *of summarising* and the index *of understanding and remembering,* the differences are noticeable not only in index values by achievement groups, but also in differences in correlations between these indices and reading achievement in the aforementioned groups. Lower correlations or even neutrality of the indices *of summarising, understanding and remembering* and *use of control strategies* in relation to reading achievement in low-achieving students may indicate a lack of familiarity with these strategies and their usefulness. Accordingly, attempts could be made to improve students' reading competencies by means of practical work in accordance with these strategies, as at least the first step towards improvement.



As part of basic PISA 2009 data analyses, it was established that the largest difference in reading achievement exists between 15-year-olds who report that they do not read for enjoyment at all (in Slovenia, the percentage of students who report that they do not read for enjoyment and who achieved 438 score points in the PISA 2009 reading literacy test is 41) and those who devote at least some of their time (30 minutes daily or less) to reading for enjoyment (in Slovenia, 34% of students report that they read for a maximum of 30 minutes daily for enjoyment, and have achieved 496 score points in the PISA 2009 reading literacy test). It is therefore important to encourage students to take up reading, especially low-achievers. In doing so, the use of rather simple texts that are of interest for the reader can prove helpful, for instance texts from magazines, which is to be followed by a gradual introduction of more demanding reading materials at a later time. The data and the analysis revealed that both low-achieving female and male students reported less time spent reading, less joy of reading, less reading of fiction and less diverse reading materials. However, although reading of simpler texts may not lead to the highest levels of reading competencies, they can nevertheless be an important element on the path to developing basic reading competency, integration of reading into everyday work and also encouragement for enjoyment in reading.

Data on computer use for leisure and schoolwork, and especially that on various online reading activities which more male than female students report, provide a basis for deliberations about encouraging enjoyment of reading and the consequent improvement in reading competencies by means of modern technology. Understandably, such approaches need to be planned and suita-

bly carried out for the desired effect to be produced. Puklek Levpušček et al. (2012) have established that the activities of searching for information on the internet may have a positive correlation with reading achievement, providing they are not exaggerated.

In all countries participating in PISA, it was revealed that students with good reading competence are those who are well acquainted with the most efficient reading and learning strategies for achieving various learning objectives and that they read a wide spectrum of diverse reading materials for their own pleasure (OECD, 2010b). In order to become efficient at learning, students need to understand what to learn and how to achieve their learning objectives. To do so, they also need a spectrum of cognitive and metacognitive strategies for data processing that can aid them in effective learning. Analysis results have revealed that the use of reading and learning strategies can prove effective only when students recognise which of the strategies is suitable for use in individual situations.

While *the frequency of use of elaboration as a learning strategy* in association with reading achievement seems neutral, another comparison proves to be interesting, i.e. a comparison between *the frequency of use of control strategies when studying* and *the frequency of strategies for memorising a text*. For both of these strategies, female students report more frequent use in learning than male students. However, the frequency of use of the first strategy has a positive correlation with reading achievement, and the frequency of use of the second strategy has a negative correlation. In relation to low-achieving students it therefore may be advisable to provide conditions for more frequent use of control strategies, which could replace a possibly exaggerated use of strategies for memorising a text, and thus indirectly produce beneficial effects for their reading competencies.



A rather simple correlation analysis was used for analysis purposes in this paper, which sufficed for basic findings about correlations of various factors with reading achievement, and the differences in these correlations between female and male students with low, basic and higher reading achievement. In doing so, no presumptions about the causal relations were made, i.e. whether a factor impacts achievement or possibly vice versa - that achievement impacts the factor, or that they might even be connected in some other way. Further studies could attempt to acquire more in-depth findings in relation to this by means of preparing and testing regression and structural modelling. Alternatively, additional findings might be contributed through analyses of correlations with achievement in PISA 2009 reading subscales, which have been named *accessing and retrieving information, integrating and interpreting texts* and *reflecting on… and evaluating texts*. Moreover, new observations could in a similar way be revealed by comparing statistical correlations of the factors examined between individual countries.

## Conclusion

Reading competencies are important for successful participation in adult life (OECD, 2012a). Modern societies need adults who can read and understand texts and thus become active participants in all processes and activities within their environment. For this reason, one of the principal purposes of education in modern societies is to ensure students have developed competencies of reading with understanding no later than by the time they complete compulsory education. It comes as no surprise that larger proportions of youths with low reading competencies bring about significant consequences for the economic and social development of society. Countries with larger proportions of students who do not reach basic levels of literacy in domains such as mathematics, science and reading, will more likely fall behind in terms of their progress on account of the proportions of adults with inadequate competencies that are essential in a modern society and at work (see e.g. Hanushek and Woessmann, 2008, 2010; OECD, 2001).

However, the main aim of comparisons of educational systems is not to establish which systems are better or worse; rather an awareness about how other educational systems operate which provides an opportunity to learn more about our own systems and appreciate the different means that can lead to good results. The primary hypothesis in this paper is that the analysis of data on reading achievement, and the background reading-related factors by groups of female and male students in terms of different achievement levels, can also produce findings about how students learn and the different means of how they achieve, or could achieve, higher reading competencies.



On the basis of the analyses made in this paper, it is possible to establish, or probably confirm, the general perception that the associations between factors and reading achievement vary by groups with different levels of achievement. In low-achieving students it is possible to observe some areas - described by means of the examined factors – in relation to which students could perhaps be supported in their endeavours to develop reading competencies. The paper examined reading-related factors that are developed over a longer period of time such as: the economic, social and cultural status, students' reports on the usefulness of strategies for writing a summary, students' reports on the usefulness of strategies for understanding and memorising a text; frequency of the uses of: control strategies when studying, elaboration as a learning strategy, memorisation as a learning strategy when studying, diversity of reading materials, enjoyment of reading; frequency of the uses of libraries, online reading activities, computer use at home for schoolwork and computer use at home for leisure/entertainment.

Results of the analysis lead to the conclusion that low-achieving students are less familiar with reading strategies, which is encouraging, as attempts can

be made to try and compensate for this and develop these strategies through students' work along with work at school. It is probably also logical to conclude that the enjoyment of reading, which is reported by low-achieving students to a considerably lower degree than by others, is not strongly correlated with reading achievement of these students. Before enjoyment for reading can be developed basic obstacles in reading need to be overcome. Endeavours to improve the levels of reading competencies must therefore include careful consideration of students' varying interests as well as their initial competence.

Students who make reading part of their daily lives develop their reading competence through practice, which in turn improves their self-confidence and engagement for even more reading. High reading competencies are a result of persistent practice and engagement, which is closely related to high motivation for reading and learning. As stated by Puklek Levpušček at al. (2013), some wider-scale activities are also needed in order to encourage the social context of reading as a desired activity within peer groups based on various motivational strategies.



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## Appendix

Correlations between indices and standard errors (for male and female students combined)

| | CORRELATION | READING PERFORMANCE | ESCS | ONLNREAD | HOMSCH | ENTUSE | JOYREAD | DIVREAD | LIBUSE | METASUM | UNDREM | CSTRAT | ELAB | MEMOR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | READING PERFORMANCE | 1 | 0,41 | 0,14 | -0,09 | -0,16 | 0,4 | 0,25 | 0,02 | 0,46 | 0,4 | 0,26 | 0,04 | -0,15 |
| | ESCS | 0,012 | 1 | 0,2 | 0,09 | 0,07 | 0,17 | 0,15 | -0,002 | 0,2 | 0,16 | 0,16 | 0,13 | -0,08 |
| | ONLNREAD | 0,013 | 0,013 | 1 | 0,33 | 0,45 | 0,05 | 0,26 | 0,09 | 0,03 | 0,03 | 0,18 | 0,18 | 0,1 |
| | HOMSCH | 0,014 | 0,014 | 0,015 | 1 | 0,36 | 0,06 | 0,17 | 0,23 | -0,06 | -0,04 | 0,16 | 0,23 | 0,15 |
| | ENTUSE | 0,013 | 0,015 | 0,015 | 0,015 | 1 | -0,19 | 0,03 | -0,02 | -0,14 | -0,14 | -0,04 | 0,06 | 0,07 |
| | JOYREAD | 0,012 | 0,015 | 0,015 | 0,016 | 0,013 | 1 | 0,45 | 0,35 | 0,27 | 0,27 | 0,31 | 0,17 | 0,05 |
| S.E. | DIVREAD | 0,014 | 0,014 | 0,022 | 0,015 | 0,015 | 0,011 | 1 | 0,33 | 0,15 | 0,15 | 0,27 | 0,22 | 0,13 |
| | LIBUSE | 0,014 | 0,013 | 0,017 | 0,015 | 0,018 | 0,012 | 0,015 | 1 | 0,06 | 0,1 | 0,22 | 0,19 | 0,16 |
| | METASUM | 0,013 | 0,014 | 0,012 | 0,014 | 0,013 | 0,012 | 0,015 | 0,016 | 1 | 0,46 | 0,17 | 0,02 | -0,14 |
| | UNDREM | 0,012 | 0,013 | 0,014 | 0,016 | 0,013 | 0,012 | 0,014 | 0,015 | 0,012 | 1 | 0,22 | 0,05 | -0,08 |
| | CSTRAT | 0,013 | 0,014 | 0,015 | 0,013 | 0,015 | 0,014 | 0,016 | 0,015 | 0,013 | 0,013 | 1 | 0,57 | 0,45 |
| | ELAB | 0,015 | 0,014 | 0,013 | 0,014 | 0,015 | 0,015 | 0,015 | 0,015 | 0,013 | 0,014 | 0,013 | 1 | 0,34 |
| | MEMOR | 0,016 | 0,013 | 0,015 | 0,014 | 0,016 | 0,017 | 0,017 | 0,015 | 0,017 | 0,016 | 0,015 | 0,016 | 1 |

Correlation with reading performance by gender (Figure 2)

| | female students | | male students | |
|---|---|---|---|---|
| | correlation | s.e. | correlation | s.e. |
| ESCS | 0,45 | 0,019 | 0,42 | 0,015 |
| ONLNREAD | 0,13 | 0,021 | 0,19 | 0,02 |
| HOMSCH | -0,06 | 0,02 | -0,09 | 0,019 |
| ENTUSE | -0,11 | 0,019 | -0,09 | 0,02 |
| JOYREAD | 0,41 | 0,018 | 0,27 | 0,017 |
| DIVREAD | 0,21 | 0,022 | 0,24 | 0,018 |
| LIBUSE | -0,05 | 0,02 | -0,01 | 0,019 |
| METASUM | 0,46 | 0,018 | 0,4 | 0,018 |
| UNDREM | 0,39 | 0,018 | 0,36 | 0,016 |
| CSTRAT | 0,24 | 0,02 | 0,2 | 0,018 |
| ELAB | 0,07 | 0,021 | 0,06 | 0,02 |
| MEMOR | -0,22 | 0,02 | -0,14 | 0,022 |



Correlation with reading performance by performance groups and by gender (Figure 4)

| | LOW PERFORMANCE | | | | BASIC PERFORMANCE | | | | HIGHER PERFORMANCE | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | female students | | male students | | female students | | male students | | female students | | male students | |
| | correlation | s.e. | correlation | s.e. | correlation | s.e. | correlation | s.e. | correlation | s.e. | correlation | s.e. |
| ESCS | 0,2 | 0,056 | 0,13 | 0,033 | 0,24 | 0,036 | 0,21 | 0,041 | 0,16 | 0,054 | 0,13 | 0,084 |
| ONLN-READ | 0,14 | 0,057 | 0,14 | 0,034 | 0,08 | 0,033 | 0,06 | 0,038 | 0,01 | 0,048 | 0,03 | 0,082 |
| HOMSCH | -0,05 | 0,06 | -0,02 | 0,039 | -0,02 | 0,042 | -0,04 | 0,036 | 0,01 | 0,061 | -0,05 | 0,095 |
| ENTUSE | 0 | 0,058 | 0,04 | 0,032 | -0,08 | 0,035 | -0,09 | 0,031 | -0,06 | 0,056 | -0,03 | 0,07 |
| JOYREAD | -0,04 | 0,049 | -0,1 | 0,033 | 0,25 | 0,031 | 0,2 | 0,037 | 0,2 | 0,045 | 0,2 | 0,079 |
| DIVREAD | 0,05 | 0,064 | 0,07 | 0,031 | 0,11 | 0,031 | 0,1 | 0,036 | 0,14 | 0,05 | 0,14 | 0,089 |
| LIBUSE | -0,1 | 0,059 | -0,04 | 0,035 | -0,02 | 0,037 | 0,01 | 0,033 | -0,02 | 0,058 | -0,03 | 0,075 |
| METASUM | 0,09 | 0,064 | 0,07 | 0,038 | 0,31 | 0,031 | 0,25 | 0,029 | 0,18 | 0,066 | 0,16 | 0,07 |
| UNDREM | 0,07 | 0,061 | 0,07 | 0,035 | 0,31 | 0,031 | 0,22 | 0,033 | 0,06 | 0,062 | 0,11 | 0,079 |
| CSTRAT | 0,05 | 0,059 | 0,05 | 0,031 | 0,13 | 0,036 | 0,09 | 0,031 | 0,1 | 0,058 | 0,18 | 0,077 |
| ELAB | -0,05 | 0,072 | 0,01 | 0,034 | 0,05 | 0,04 | 0,03 | 0,032 | 0,11 | 0,056 | 0,04 | 0,084 |
| MEMOR | -0,02 | 0,059 | 0,01 | 0,033 | -0,13 | 0,037 | -0,11 | 0,034 | -0,09 | 0,052 | -0,01 | 0,073 |

Mean index values by performance groups and by gender (Figure 3)

| | | ESCS | | ONLNREAD | | HOMSCH | | ENTUSE | | JOYREAD | | DIVREAD | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| performance group | gender | mean | s.e. | mean | s.e. | mean | s.e. | mean | s.e. | mean | s.e. | mean | s.e. |
| low performance | female students | -.77 | .031 | -.32 | .011 | .07 | .029 | -.15 | .029 | -.19 | .014 | -.11 | .023 |
| low performance | male students | -.43 | .014 | -.18 | .012 | .18 | .021 | .34 | .019 | -.53 | .008 | -.42 | .011 |
| basic performance | female students | -.12 | .013 | -.05 | .003 | -.06 | .010 | -.18 | .002 | .19 | .004 | .07 | .007 |
| basic performance | male students | .14 | .011 | .13 | .018 | -.01 | .020 | .21 | .017 | -.37 | .011 | -.05 | .010 |
| higher performance | female students | .52 | .009 | .01 | .007 | -.08 | .026 | -.36 | .008 | .91 | .017 | .34 | .009 |
| higher performance | male students | .74 | .040 | .38 | .057 | -.08 | .040 | .02 | .014 | .26 | .041 | .33 | .036 |

| | | LIBUSE | | METASUM | | UNDREM | | CSTRAT | | ELAB | | MEMOR | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| performance group | gender | mean | s.e. | mean | s.e. | mean | s.e. | mean | s.e. | mean | s.e. | mean | s.e. |
| low performance | female students | .24 | .031 | -.57 | .027 | -.45 | .022 | -.17 | .032 | -.08 | .039 | .30 | .021 |
| low performance | male students | -.14 | .011 | -.61 | .008 | -.59 | .008 | -.39 | .009 | .02 | .012 | .07 | .012 |
| basic performance | female students | .17 | .007 | .09 | .008 | .11 | .007 | .11 | .014 | -.13 | .011 | .14 | .007 |
| basic performance | male students | -.17 | .008 | -.12 | .010 | -.11 | .016 | -.12 | .012 | .05 | .011 | -.03 | .008 |
| higher performance | female students | .11 | .013 | .70 | .013 | .59 | .010 | .45 | .010 | .05 | .015 | -.22 | .014 |
| higher performance | male students | -.15 | .013 | .50 | .017 | .44 | .037 | .21 | .028 | .23 | .021 | -.43 | .018 |

# Reading Literacy and Motivation in the Context of Social Changes

**Klaudija Šterman Ivančič**

Abstract: *Reading literacy is a foundational skill which enables individuals to function efficiently in different areas of life: personal, educational, professional and social. Based on PISA 2009 results, the paper gives an in-depth analysis of reading competencies of Slovenian adolescents and reading-related motivational factors, and presents results from an international perspective. The findings indicate Slovenian 15-year-old students lack reading competencies, in particular at higher levels of reading literacy; on average, they are less motivated to read than their peers in OECD and EU countries and there are also significant differences in reading performance in terms of their gender and the educational programmes of which they are part. Moreover, the paper also deals with social changes which are constantly transforming the concept of reading literacy, with the focus on the need to read increasing volumes of digital texts and the use of information and communications technology (ICT) for educational purposes. In PISA 2009, 15-year old Slovenian students reported, on average, that ICT was widely available and was frequently, and additionally, used for learning purposes. They also expressed feelings of competency and motivation for working with digital content. It has been established that these materials and the technology, if used appropriately, can be a potential source of encouragement for reading in young people, including readers with low achievement in reading tests. The paper also deals in more detail with changes in reading competencies which are required from young people for this type of reading and which are of key importance for adolescents' integration into a wider society and the future labour market.*

**Key words**: *PISA 2009, reading literacy, motivation to read, reading competencies, motivation to read digital texts*

## Reading Literacy and Motivation in the Context of Social Changes and International Indicators

### Reading Literacy and Competencies in the Context of Social Changes

We live in a rapidly changing world, where both the quantity and type of printed and also digital materials are increasing and where more and more people are expected to use these materials in new and sometimes more complex ways. It is now generally accepted that reading literacy evolves along with changes in society and culture. Twenty years ago, the reading literacy skills needed for individual growth, economic participation in society and civic duties, were different from those of today; and it is very likely that in 20 years' time they will change further still. The ability to access, understand and reflect on all kinds of information is essential if individuals are to be able to participate fully in our knowledge-based society (Šterman Ivančič, 2013).

The concept of reading literacy, as defined by PISA 2009, is expanded and encompasses more than merely the ability to read. It is a lifelong concept and not only takes place at school during the course of formal learning, but also in everyday situations, while one communicates with family, peers and the wider community. Mainly however, reading literacy is about the efficient use of reading abilities and competencies in concrete life situations. PISA defines reading literacy as understanding, using, reflecting on and engaging with written texts, in order to develop one's potential and knowledge to actively participate in society. The fundamental reading competencies that were assessed in PISA 2009 are as follows: *access and retrieve information, integrate and interpret texts and reflect and evaluate*.



Retrieving information explicitly refers to selecting a specific item of information included in the text, whereas accessing information describes the longer process of identifying it, i.e. getting to the information space where the required information is located. Some life situations may require merely identifying information in an information space where the information is immediately visible, while in some other cases (especially in digital texts) a longer path is needed to access the required information (the key item of information is hiding in one of the subpages of a certain website) (Šterman Ivančič, 2013).

Interpreting the content refers to logical understanding; that is to say, a reader must recognise in what way items of information are organised in the text. To be able to do so the reader needs to show that he or she understands the connection between one part of the text and another. Interpreting involves both integrating and making sense of what the reader has read from something that is not stated. In this context, the reader is identifying the underlying assumptions and contents and is able to make conclusions about the message by reading between the lines. Both integrating and interpreting

are important in forming a broad understanding of the text, when the reader grasps the text as a coherent whole. Both of these two processes are also involved in developing an interpretation, where individuals develop a deeper understanding of what they have read. Integrating and interpreting are thus in continuous interaction (ibid).

Reflecting on and evaluating the content of a text requires readers to connect information in a text to knowledge previously gained from outside sources. Readers must also assess the claims made in the text against their own knowledge of the world. They are often asked to articulate and defend their own points of view. To do so they must be able to understand what is said and intended in the text. They must then analyse that mental representation against what they know and believe on the basis of prior information found in other texts. They must call on supporting claims from within the text and contrast them with other sources of information, using both general and specific knowledge, and show the ability to reason abstractly (Repež and Štraus, 2007).

Reading literacy is therefore an important component of our daily lives. Successful retrieval of information, a broad understanding and efficient integrating and interpreting in different everyday real-life situations, as well as reflecting on and critically evaluating information are competencies that are also the foundation of academic achievement in other areas of learning and school lessons. These are of key importance in young individuals' active participation in peer and wider societies and their efficient integration in the future labour market.



## Achieving Basic Levels of Reading Literacy in Slovenia

The PISA 2009 reading literacy scale is divided into seven levels, with Level 1b being the lowest level of reading literacy and Level 6 the highest. In Slovenia, the two highest levels of reading literacy (Levels 5 and 6) are achieved by 5 and 0.3% of students respectively, which is below the average for OECD countries (8% and 0.8%) (OECD, 2010). Students that are placed into reading literacy Levels 5 and 6 at the average level of OECD countries are ranked among the top readers. These students excel in any type of texts, including those that are unfamiliar, regardless of the text content or form. They are able to retrieve information in the text, they exhibit a deep understanding and are efficient at identifying information that is relevant to the solution of a certain problem. An important competency that distinguishes these readers from others is that they can think outside familiar and defined concepts, even when information given in the text is in contrast to what was expected. They are also able to decipher the hidden meaning of a text and discern its essence, and are at the same time able to adopt a critical stance on the content and the understanding that goes beyond the text with defined boundaries. So they are able to ab-

sorb something new and also re-evaluate it at the given moment. In contrast, students who are classified into Levels 1a or 1b of the reading literacy scale are successful in identifying only information given explicitly, in short simple texts, with both the content and the text format familiar to them. They are able to identify simple connections between two items of information in a text where an item of information is repeated and no other equivalent is given that might mislead them. They also manage to successfully identify the dominant idea of a well-known topic and identify the associations between given pieces of information and their own everyday experiences.

The basic level, which is according to PISA defined as some sort of a boundary that enables young people to actively participate in society and lead a productive life, is Level 2 on the reading literacy scale. In Slovenia this level is, on average, achieved by 79% of all students compared to 81% of their peers in OECD countries. Students whose reading competencies are demonstrated to be at this level are able to retrieve and identify a piece of information that meets different criteria, compare it to other given pieces of information, interpret the meaning of a clearly indicated section of the text and find connections between the content of the text and their personal, everyday experiences. Tasks at this level of reading literacy usually require students to identify one or more parts of a piece of information, which are sometimes not given perfectly clearly, and in doing so students must consider several different criteria. A task may also require a student to identify the main idea of the text, understand associations within the text, formulate the meaning of a designated text section where the piece of information may not be given perfectly clearly, draw simple conclusions and compare information in terms of different criteria.



In Slovenia, the performance percentage at individual levels of reading literacy decreases in line with higher levels, similarly to the average level of OECD countries. On average, the majority of 15-year-old students reach Levels 1b (99%) and 1a (94%), followed by Level 2 (79 %), and the first sharp decrease in the performance percentage and a deviation from the OECD average is perceived in the transition to Level 3 of reading literacy. Here, on average, the performance percentage of Slovenian 15-year-old students drops by slightly less than 22 percentage points (57%). A similar decrease is likewise perceived in all subscales of reading literacy, based on which the performance percentage in three basic reading literacy competencies in PISA is established (i.e. access and retrieve information, integrate and interpret the text, reflect on and evaluate the content of the text).

In the field of reading literacy there are also significant differences in terms of gender, with girls being at a great advantage. In the PISA 2009 reading literacy test, Slovenian female students on average scored 511 points and male

students as many as 55 points less (i.e. 456 points).[1] The difference between boys and girls in Slovenia is thus bigger than that of OECD (39 points) and EU (42 points) countries. Basic reading competencies (Level 2 of reading literacy) are exhibited by 89% of Slovenian female students and 69% of male students. OECD (2010) data also indicates Slovenian girls are considerably more motivated to read printed texts[2] than boys.

These gender differences, and the drop in the performance percentage at higher levels of reading literacy in Slovenia, are by no means negligible and are analysed and described in more detail in the paper hereafter. Students who are within the PISA 2009 concept, defined as low-achieving students, are those who reach the basic level of reading literacy (Level 2) or less in the PISA 2009 reading test. In relation to this the author is particularly interested in the data that might indicate the means to improve reading results and the motivation for boys to read.

## Outcomes of 15-year old Slovenian Students at Individual Levels of Reading Competencies



The results of Slovenian students within subscales (OECD, 2010) that describe different levels of each individual reading competency correspond to the achieved levels of reading literacy. Tables 4, 5 and 6 below reveal Slovenian students are most successful in completing tasks where they are required to access and retrieve information, followed by integrating and interpreting a text. They have the most difficulty with tasks where they are required to reflect on the content of a text and evaluate it. In a similar fashion to the average level of OECD countries, the percentage of successfully completed tasks for Slovenian students is likewise at its highest for tasks at Levels 1b, 1a and 2; the first considerable drop in the performance percentage is noticeable in the transition to Level 3, with the drop increasing all the way to Level 6, which is the case for all three aforementioned reading competencies. Since the focus of this paper is on students who are underachievers in reading, the attention in the paper hereafter will mostly be directed to those achieving lower levels of reading competencies (Levels 1a, 1b, as well as 2 and 3).

1 The difference of 55 score points equals approximately three quarters of the reading literacy level.

2 The term *printed text* refers to the text of tasks which students did as part of the paper-and-pencil tests. As distinguishing between these types of task texts and the text of computerised tasks is important, the terms printed texts and digital texts will be used hereafter.

Table 4: The percentage of students successful in completing tasks at a specific level of the *access and retrieve information* reading competency

| | Level 1b | Level 1a | Level 2 | Level 3 | Level 4 | Level 5 | Level 6 |
|---|---|---|---|---|---|---|---|
| Slovenia (percentage of students) | 98.1 | 92.6 | 79.8 | 56.5 | 27.9 | 6.6 | 0.4 |
| OECD average (percentage of students) | 98.0 | 93.0 | 80.4 | 57.9 | 30.4 | 9.5 | 1.4 |

At all levels of the *access and retrieve information* reading competency, Slovenian students reach the average (only at Level 1b) or are below the average of OECD countries. The higher the level, the greater the variance. In PISA 2009, Slovenian students were most successful in completing tasks at Levels 1b and 1a, where they were required to look for one or several explicit pieces of information on the basis of either identically worded or synonymous information, with no big or important distractors included in the text. At Level 2, students are required to find a piece of information which is to meet several different criteria, and in doing so must take into consideration similarly equivalent information included in the text as distractors. Both in Slovenia and at the average level of OECD countries, this level of the *access and retrieve information* reading competency is achieved by 80% of students. The next level (Level 3), where students are required to look for, and identify, several pieces of information simultaneously, with each meeting several criteria, combining them and considering any distractors, is achieved on average by a mere 56% of Slovenian students and 58% of students from OECD countries.



Table 5: The percentage of students successful in completing tasks at a specific level of the *Integrate and interpret* reading competency

| | Level 1b | Level 1a | Level 2 | Level 3 | Level 4 | Level 5 | Level 6 |
|---|---|---|---|---|---|---|---|
| Slovenia (percentage of students) | 99.7 | 95.2 | 80.2 | 55.0 | 25.8 | 5.8 | 0.4 |
| OECD average (percentage of students) | 98.9 | 94.3 | 80.7 | 56.6 | 28.4 | 8.3 | 1.1 |

When it comes to the *Integrate and interpret* reading competency, Slovenian students are at all levels, likewise, below the average achievement of their peers from OECD countries. A considerable drop in the performance percentage is again evident in the transition between Levels 2 and 3, while the lowest percentage of students achieve the highest levels of this competency (Levels 5

and 6). One hundred (100) and ninety-five (95)% of Slovenian students successfully complete tasks where integrating and interpreting is required from them at the lowest levels. Tasks of this kind require students to identify the main idea of the text (the idea is rather simple and may be stated more than once) or the author's aim as part of a well-known topic in the text, with key information clearly marked. Tasks at Level 2 of integrating and interpreting require students to identify the main idea behind the text, understand relationships between characters, formulate the meaning of a shorter, pre-specified part of the text, with the key information clearly marked; in doing so students also have to draw some simple conclusions. In Slovenia, this level is on average achieved by 80% and in OECD countries by 81% of students. Tasks at Level 3 differ from tasks at Level 2 in that in order to identify the main idea of the text at Level 3 students must integrate different parts of the text, understand relationships in the text and formulate the meaning of a certain word or phrase independently. In the process they need to compare, categorise and contrast information and also take into consideration several different criteria and equivalent pieces of information that are incorrect. In Slovenia, Level 3 of the *Integrate and interpret* competency is on average reached by 25% fewer students (55%) than Level 2. The average level in OECD countries is similar: Level 3 is achieved by 57% of students, i.e. 2% more than in Slovenia.



Table 6: The percentage of students successful in completing tasks at a specific level of the *Reflect and evaluate* reading competency

| | Level 1b | Level 1a | Level 2 | Level 3 | Level 4 | Level 5 | Level 6 |
|---|---|---|---|---|---|---|---|
| Slovenia (percentage of students) | 97.7 | 90.1 | 73.2 | 49 | 21.8 | 4.8 | 0.4 |
| OECD average (percentage of students) | 98.4 | 93.5 | 80.7 | 57.7 | 29.5 | 8.8 | 1.2 |

PISA 2009 tasks which required students to reflect on a text and evaluate its content turned out to be the most difficult for the majority of Slovenian students, in particular at higher levels of this specific competency. At lower levels (Levels 1b and 1a) of reflecting on the text and evaluating it, students have to make very simple associations between information in the text and their own general knowledge related to everyday situations. In Slovenia these two levels are on average achieved by the highest percentage of 15-year-old students (100% and 90%), however, the percentage is still below the OECD countries' average (98% and 93%). Tasks at Level 2, which, in Slovenia, is on average reached by 73% of students (and 81% of students in OECD countries), require students to make comparisons and associations between the text and some other gen-

eral knowledge they possess, and to explain a certain aspect of the text based on their own personal experience or knowledge. This level of the *reflect and evaluate* competency is achieved by 17 percentage points fewer students in Slovenia than the previous lower levels, while the difference in the transition to Level 3 is 24 percentage points (Level 3 of this competency is, in Slovenia, on average achieved by less than half of students, i.e. 49%). To successfully complete a task at Level 3, students are required to make associations or comparisons and explain or evaluate a certain aspect of the text. In doing so, they must demonstrate a clear understanding of the text and point out in what way the text is associated with everyday life or even less familiar topics. At the average level of OECD countries, such tasks are successfully completed by almost 9% more students than in Slovenia (49% vs. 58%).

On average, Slovenian students are successful in deciphering information clearly stated in a familiar text, comparing individual ones by taking into account several criteria, understanding relationships between characters in the text and drawing simple conclusions. However, only a small proportion of students are able to deal with various (including less familiar) text formats and contents, make inferences about the meaning of the text that is not clearly indicated, reflect on it, evaluate it and interpret it outside of given information and text boundaries and relate their conclusions with personal experiences. But does this really suffice for a society which is supposed to be based on knowledge and where young people are supposed to be active and co-shape it as competent participants? Will they be able to respond to increasingly demanding requirements and conditions in the labour market in this way?



In order to be able to better explain the aforementioned reading-related results, there is a need to focus on the background factors contributing to the situation. One of the significant factors of reading literacy, which is studied in more detail in the PISA 2009 international report, is student reading motivation, which will be described and analysed in the paper hereafter. The author's aim is to find out in which way motivation to read different texts is correlated with reading outcomes in Slovenia and what are the areas that are – based on the PISA 2009 results - worth strengthening in the sense of developing young people's interest in reading.

## Reading Motivation

### Motivation to Read as an Important Factor of Reading Outcomes

In PISA 2009, reading motivation is defined by means of indices[3] of reading for enjoyment, the enjoyment of reading activities and diversity of reading mate-

3 An index is a value that has an OECD mean of 0 and a standard deviation of 1. Accordingly, a positive index value for Slovenia means Slovenian students on average evaluated the items that consti-

rials. In the survey, the term *reading engagement*, which is based on the concept of Self-Determination (Ryan and Deci, 2000), is often used instead of *reading motivation*. Guthrie et al. (in Puklek Levpušček et al., 2012b) define engaged readers as those who are motivated, who read because they are attracted to reading, who value reading, who have beliefs, goals and values which make them participate in different social interactions around reading, and who are successful in achieving their educational, professional, personal and social goals.

Such readers possess well-formed interests and various topics or types of reading material (interest); they value being in control of their reading, and self-initiate reading activities (autonomy); they rely on a social network to extend their competencies and share their knowledge and experience (social disposition); and they read frequently and widely (behaviour) (ibid). Results of past PISA (2000) test cycles also confirm engaged readers possess well-formed interests and favourite topics or types of reading material (interest); they value being in control of their reading, and self-initiate reading activities (autonomy); they rely on a social network to extend their competencies and share their knowledge and experience with others (social disposition); they read frequently and widely (behaviour) (Šterman Ivančič, 2013).



Numerous studies (Brown et al., 1983; Flavell and Wellman, 1977; Schneider, 1989, 1999; Schneider and Pressley, 1997, in Šterman Ivančič, 2013) also suggest that there is a strong correlation between reading engagement and reading performance. However, the concept of reading literacy not only encompasses reading engagement, but also attitude to reading and behaviour. Contemporary studies suggest these elements are of key importance for a good reading performance (Guthrie and Wigfield, 2000; McKenna et al., 1995, in Šterman Ivančič, 2013) and that in both adults and youths there is a correlation between reading habits and reading performance (Campbell et al., 1997; Guthrie and Wigfield, 2000; OECD and STATCAN, 2000, in Šterman Ivančič, 2013).

Results from PISA 2000 show that, in every participating country, students' levels of reading engagement were positively and significantly correlated with their reading proficiencies. In fact, engagement in reading had the largest median correlation with achievement, exceeding even the median correlation between reading literacy and socio-economic status (OECD, 2002).

At the lowest levels of reading engagement, as defined in PISA 2009, students spend little time reading for enjoyment or interest, read a narrow range of texts, and have little motivation to read either independently or in a social context. On the other hand, highly engaged readers spend substantial amounts of time reading for enjoyment. They read a wide variety of texts in both print and digital media, consider reading to be valuable and interesting

tute a certain index more positively in comparison with their peers in OECD countries and vice versa. Statistically significant index values are listed in the paper hereafter.

by nature; they also acknowledge the significant role it plays in their social relations (ibid).

PISA 2009 and 2012 questions, which pertain to individual reading engagement, are placed among the questions related to reading motivation (interest, autonomy and social interaction) and reading habits, in both printed and digital forms. Questions related to the learning environment in connection with learning engagement are included in the context of questions pertaining to classroom activities.

## Motivation of 15-year-old Slovenian Students for Reading

In relation to PISA 2009, motivational factors of reading literacy in Slovenia were analysed as part of secondary analyses and the evaluation study entitled '*Motivational Factors in Education of Young People and Adults' (Motivacijski dejavniki v izobraževanju mladine in odraslih)*. Outlines of some of the results of both studies relevant for this paper are pointed out below.[4]



In PISA 2009, reading motivation is defined by means of the indices of reading for enjoyment, the enjoyment of reading activities and diversity of reading materials. Results of secondary analyses (Puklek Levpušček et al., 2012b) indicate 15-year-old Slovenian students who read more for their own enjoyment achieve better scores in reading literacy tests (the mean reading literacy test score of students who do not read for pleasure is 446 points, whereas the score of students who read for enjoyment is 509). However, reading scores do not increase in proportion to the amount of time students invest in reading. Moreover, it is important that young people accept reading as an activity that they like doing in their free time and that they also devote some of their daily time to this sort of reading (i.e. leisure reading).

Results also indicate that 15-year-old Slovenian students are on average less fond of reading than turned out to be the case in OECD countries. For instance, just over half of Slovenian students reported they read only to get the information that they need and that they read only if they have to. One third of students believe reading is a waste of time, but only slightly more than a fifth of students report reading is one of their favourite hobbies. In comparison with the average of OECD countries, there are fewer students who say they feel happy if they receive a book as a present and also to a smaller extent that they enjoy going to a bookstore or a library. Among students who rank in the bottom quarter with their results on the index of enjoyment of reading activities, the reading score is 98 points lower than among students who rank in the top quarter of results for this index (445 against 543 points). Another impor-

4 For more on relevant results see the monographs *Factors of Reading Literacy in PISA 2009* (*Dejavniki bralne pismenosti v raziskavi PISA 2009*) (Puklek Levpušček et al., 2012b) and *Motivational Factors in Education of Young People and Adults* (*Motivacijski dejavniki v izobraževanju mladine in odraslih*) (Puklek Levpušček and Šterman Ivančič, 2013).

tant piece of information is that students who read for enjoyment, and who find reading to be an important part of their free time, may, in terms of reading literacy, get ahead of their peers who dislike reading, or do it only when they have to, by two school years or more (Puklek Levpušček et al., 2012b).

Students' diversity of reading material is also a significant factor in predicting their reading engagement and consequently their reading outcomes. Results of secondary analyses indicate Slovenian students who read a greater variety of reading material, and thus come across different styles of writing, score on average 26 points more in the reading literacy test than students who read materials that are less diverse. The highest reading scores are achieved by students who read fiction and non-fiction books. This means reading of longer and more complex texts is related to a greater reading competency. The fact that gives reason for concern in relation to this is that the percentage of Slovenian students who often read fiction is considerably lower than the average in OECD countries (ibid).

At the OECD average level, there are less than 10% of students who read a variety of different reading materials (fiction and comic books in addition to those previously mentioned), whilst in Slovenia it is approximately 3%. In comparison with the average in OECD countries, Slovenian students read less fiction and other reading materials, with the exception of comic books, although it is students with the highest levels of reading scores that are in this group. The reading scores of the highest-performing students in Slovenia differ from the reading scores of students who read less or do not opt for diversity in their reading materials, the difference being 94 points (546 against 450), which puts the former higher on the reading literacy scale by more than one level. With respect to the reading material, the differences are biggest between students who often read fiction and students who do it occasionally or never (538 against 476 points) (ibid: 51).



Among their peers at the OECD country level, Slovenian students thus stand out in terms of how frequently they read magazines and newspapers, but read less fiction.

In relation to reading engagement, differences are also noticeable in terms of gender. In Slovenia (similarly to the average in OECD countries), the share of students who read for enjoyment is greater in female students (75%) than male students (46%). Also, girls enjoy reading to a much larger extent than boys (the difference is 25 percentage points; at the OECD average level 21 percentage points). There are also differences between boys and girls in terms of the reading material. Boys read newspapers and comic books regularly to a greater extent than girls, whereas girls spend more time reading fiction and magazines (Puklek Levpušček et al., 2012b).

Differences in reading engagement are also noticeable among educational programmes in Slovenia. Results indicate engaged and deep readers are

mostly general upper secondary school (*gimnazija*) students. In technical upper secondary schools (*strokovna gimnazija*) and 4-year technical (vocational) secondary programmes, the majority of students are non-engaged readers with average learning and metacognitive strategies,[5] whereas in 3-year vocational (upper) secondary education the predominant number of students are non-engaged readers with poor learning and metacognitive strategies. The problem for students who are not being educated at general upper secondary school programmes seems to be their lack of reading engagement (ibid).

Reading motivation is also a highly important factor of reading literacy in Slovenia. When it comes to 15-year-old Slovenian students, this is an area that would be worth strengthening, however not only in general upper secondary school programmes, but also in short-term and secondary vocational programmes and in relation to boys who are on average not overly fond of reading. A solution to this problem is by no means unambiguous. However, it is the author's belief that a potential source of reading motivation is a greater adjustment of reading to current social circumstances and the needs and activities in which adolescents are interested and that they feel close to. For this reason the focus of the paper hereafter is on young people's motivation for reading digital texts and the use of information and communications technology for educational purposes.



## Digital texts as a Source of Stimulation in Reading?

### Changes in Understanding of Reading Literacy

Good reading literacy in today's world is not only of key importance for discovering the world in printed and also digital texts, which are becoming an increasingly important part of students' and adults' reading material. In 2007, almost 1.5 billion people, or one fifth of the world population, did some reading on the internet (International Telecommunications Union, 2009). The most dramatic increase in internet use has occurred in the last five years. However, there are considerable differences in the speed of its growth in individual countries (World Bank, 2007). These differences are not only geographically-related, but also socially and economically. In all countries of the world, internet use is closely and positively associated with socio-economic status and educa-

5 Learning strategies within the context of PISA 2009 refer to the memorisation strategies (memorising a text), elaboration strategies (understanding information better by relating it to previously acquired knowledge) and control strategies (deciphering the most important points and how they are organised, knowing which concepts they have not understood, looking for similarities and differences between concepts etc.). Metacognitive strategies within the context of PISA 2009 refer to students' being aware of the usability and usefulness of reading strategies, such as text comprehension, memorisation and summarisation strategies. Meta-cognitive and learning strategies are thus closely associated. At the same time there is also interest in finding out to what extent students use memorisation strategies and which of them they evaluate as useful.

tion (Sweets and Meates, 2004). However, computer use is not limited only to a specific social or economic group. *The Adult Literacy and Life Skills Survey* (OECD and STATCAN, 2005) examined computer use in different occupations in seven countries and regions. While computers at work are most intensely used by professionals, such as scientists and IT specialists, they are also used by office workers and employees who deal with customers. Computer use is thus more and more often required for all kinds of different professions. Outside of the work environment, in people's private, social and civic lives, computer technology likewise occupies an increasingly important role. Access to information from a computer connected to the internet is becoming the norm for anyone who aims to be well informed and integrated into society. With individuals assuming greater responsibility for their decisions regarding health, retirement and finances, the aforementioned technology is becoming an increasingly important source of information. People with access to the internet and the ability to use it will most likely also turn out to be informed patients who make decisions about their health care based on the information they have obtained, active citizens who use e-mail to impact the decisions of government officials or mobilise like-minded voters, and members of virtual communities who use online support group instant messaging and forums to communicate with individuals from different social classes, races and generations (Pew Internet and American Life Project, 2005).



Similar skills are largely needed to read both printed and digital texts. However, reading digital texts requires readers to shift their focus and employ new strategies. In looking for information on the internet, one needs to skim large quantities of information and instantly decide how reliable it is. The role of critical thinking in reading literacy is thus greater than ever before (Halpern, 1989; Shetzer and Warschauer, 2000; Warschauer, 1999). Warschauer arrives at the conclusion that the 'digital gap' cannot be bridged through obtaining access to the internet only, but also by improving one's abilities to find associations, evaluate and communicate information.

Efficient reading of digital texts is thus turning into a competency that will sooner or later become a requisite for active participation of young individuals in both the field of learning and future employment.

## Digital Reading Literacy and PISA 2009 Competencies

Sixteen OECD member states and three partner countries participated in the computer-based assessment (CBA) of PISA 2009.[6] The digital survey is set out in more detail in the OECD international report *Pisa 2009 Results: Students*

6 The order of the following participating countries is in accordance with their performance in the digital reading literacy test: South Korea, New Zealand, Australia, Japan, Hong Kong, Iceland, Sweden, Ireland, Belgium, Norway, France, Macao, Denmark, Spain, Hungary, Poland, Austria, Chile and Colombia.

*On Line (Volume VI),* based on which information will be presented hereafter. In 2009, Slovenia had not yet taken part in this computer-based assessment, which means that no results in relation to digital reading outcomes and achieving the aforementioned competencies are available for Slovenia at this point. However, information related to students' reading activities on the internet, internet use for fun and school assignments, attitudes to computer-based work and performance in completing different computerized tasks have, in Slovenia, been collected since 2006; judging from results of the countries that have already participated in computer-based assessments this has proven to be an important factor in predicting scores in digital reading literacy tests.

The digital environment, and consequently also the texts, present users with new challenges and call for different competencies than printed texts. As one can discern from tables 7 and 8 below, the fundamental difference between printed and digital texts in PISA is that digital texts make it possible for readers to interact with the content they are reading and change it (electronic mail, text messages); through their educational content they are thus brought closer to the activities in which 15-year-olds often engage in their daily lives. Another considerable difference is the amount of information. When it comes to digital texts, students deal with hypertexts and can thus simultaneously access several texts (websites) and pieces of information, composed by different authors and appearing in different formats. This makes digital texts in certain respects more demanding in terms of the competencies of accessing and retrieving information, integrating and interpreting the text and evaluating it. Being able to efficiently access and retrieve information, classify and select it is of vital importance especially with such a large quantity of information and availability of different texts within the scope of a certain issue. In order to be able to successfully interpret a certain piece of information, students must first infer the connection between texts from different sources, which is also the case in printed texts. Most importantly they are also required to judge the credibility of a large amount of information and evaluate it critically.

Table 7: Differences between printed and digital texts in PISA 2009

| | Paper-and-pencil text types | Digital texts |
|---|---|---|
| Environment | Static, linear texts where it is **not possible for the reader to change the content.** | Two types of computer environment:<br>**1. Various types of websites** (local, informative, educational), the reader is merely a recipient and does not change the content;<br>**2. Digital messages** where the reader can also independently **change the content.** |
| Text format | The main categories of text format are **continuous and non-continuous**, the reader has access to **a single text at a particular time**. | **3. Hypertexts** (texts that contain a number of hyperlinks); the reader can simultaneously access **several texts** composed by different authors and appearing in different formats.<br>4. Emphasized competencies of accessing and **retrieving information, classifying and selecting them.** |
| Text type | Prevalent text types:<br>– argumentation,<br>– description,<br>– exposition and<br>– **narration**. | Prevalent text types:<br>– argumentation,<br>– description,<br>– exposition and<br>– **Transactional text**s, such as e-mails and text messages. |



Table 8: Differences in required reading competencies in printed and digital texts

| | Paper-and-pencil text types | Digital texts |
|---|---|---|
| Access and retrieve | Accessing and retrieving information in a concrete, static space, information is presented in a certain sequence. | Accessing and retrieving information in a more abstract space, readers constructs their own sequences of information; **the abilities to access and retrieve, select and sort information are more prominent than in print reading.** |
| Integrate and interpret | Inferring the connection between one part of the text and another<br>Forming a summary of the main idea<br>Identifying the distinction between principal and subordinate information<br>Comparing and contrasting information<br>Understanding figurative language:<br>- **The focus is on a single piece of stimulus.** | The same competencies are required, the main difference lies in what needs to be integrated:<br>– **work with multiple texts at the same time, sometimes in different formats.** |

| | Paper-and-pencil text types | Digital texts |
|---|---|---|
| Reflect and evaluate | **Predicting** what will be useful and relevant in the remaining part of the text<br>**Critical evaluation of the content**<br>**Relating** to personal experiences and other areas of life. | In addition to what was mentioned before the reader is also required to **judge the credibility of the content** (important with the amount of available information), which is an important element of evaluating digital texts. |

## Motivation for Reading Digital Texts at the International Level and in Slovenia

Results in relation to motivation for reading digital texts in 19 countries that participated in the computer-based assessment indicate a highly significant and positive correlation between motivation for reading printed texts and students' performance in the digital reading test. Enjoyment of reading printed texts is thus highly positively correlated with students' performance in this test. The index of enjoyment of reading digital texts can, along with control of other variables, explain 14% of the variation in digital reading performance, which is less than in print reading tests (20%). The difference between the students who reported that they enjoyed reading digital texts (the top quarter of the index) and students who enjoyed it to a lesser degree (the bottom quarter of the index) is 88 score points, on average, on the digital reading scale.[7] In most of the participating countries, there are no gender differences in terms of the correlation between enjoyment of reading and the digital reading test scores (OECD, 2011).



The diversity of printed materials students read has, in all participating countries, likewise turned out to be significant in explaining digital reading test scores, however, it is far from being as significant as the enjoyment of reading. The index of diversity of reading material (printed material) can on average explain 6% of variation in digital reading performance, which is 1% less than in the print reading test. Fifteen-year old students from participating countries who reported that they frequently read diverse material, in comparison with students who reported that they did so infrequently, on average achieved 53 score points more on the digital reading scale than their peers. As was previously the case, there were again no significant gender differences regarding the relationship between diversity of reading material and digital reading performance (ibid).

Online reading activity, its frequency and time spent doing it is also an important indicator of students' motivation for reading digital texts; relevant in-

7 The scales of print and digital reading scores were constructed with the same mean (499) and standard deviation (90), to allow valid comparisons of reading performance in specific countries for both reading media.

formation is also available for other OECD countries, not only for the countries participating in computer-based assessment. In all countries participating in PISA 2009 it was established the most common activity in which 15-year-old students engaged was participating in online chats (75%), which took place several times weekly. This top activity was followed by reading their e-mail (64%) and searching for information online (51%). Results also indicate that there are no gender differences in relation to using the internet for enjoyment of reading (ibid).

There are, however, gender differences in online reading practices. At the average level of OECD countries, boys use the internet to search for information to a larger extent than girls (index value 0.03 against –0.03), whereas girls are on average more frequently involved in online social activities (index value 0.04 against –0.04). And in what way is this related to digital reading proficiency? In each of the 19 countries that took part in the PISA 2009 computer-based assessment, it was established that 15-year-old students who frequently use the internet to search for information on average perform better in digital reading tests. On average, the percentage of explained variation in the digital reading score is 7.5%. Students from the participating countries, who are in the top quarter in terms of this index, on average achieve 60 score points more in digital literacy tests than students in the bottom quarter (463 score points against 523 score points). In 14 out of 19 participating countries, there are no significant gender differences with regard to the association between using the internet to search for information and digital reading performance. In New Zealand, Australia, Belgium, Japan and Poland, it was established the correlation was stronger for boys than for girls (ibid).



Students from 19 countries that participated in the computer-based assessment (excluding Slovenia for the time being) who, on average, prefer reading printed texts and frequently read diverse reading material, also perform better in digital reading literacy tests and no gender differences are noticeable here. Higher scores in digital reading tests are also attributed to the enjoyment of reading online and a number or reading activities. On average, there are no differences between boys and girls in terms of online reading for enjoyment, unlike the outcome of the case for print reading. They also use the internet more frequently to search for information, which has proved to be one of significant indicators of better performance in the digital reading literacy test. What supports the assumption about boys' greater motivation for reading digital texts is that in all of the 19 participating countries the difference in boys' and girls' performance has been reduced. The mean difference between boys' and girls' scores for OECD countries participating in the digital test is 24 score points, girls still ahead of boys, while the mean difference in the paper-and-pencil test scores between genders is 38 score points. In digital lit-

eracy tests, girls from participating countries on average achieved 7 points less than in paper-based tests, whereas boys scored 7 points more.

Data about the use of ICT and the internet for the purposes of reading collected as part of PISA 2009 in Slovenia, correspond to the presented results of countries participating in the computer-based assessment. As mentioned at the beginning of this chapter, certain data concerning the access to, and use of, ICT by 15-year-old Slovenian students have been collected as part of PISA since 2006. In PISA this has, amongst other things, been described by means of the index of online reading activities. This was also discussed as part of PISA 2009 secondary analyses (Puklek Levpušček et al., 2012b), while data on the accessibility and use of ICT was in more detail analysed as part of the evaluation study entitled *Motivational Factors in Education of Young People and Adults* (*Motivacija v izobraževanju mladine in odraslih*) (Puklek Levpušček et al., 2012a).

Results of secondary analyses and evaluation studies indicate another thing that generally goes hand in hand with increased frequency of engaging in various online reading activities in Slovenia (i.e. using e-mail, participating in online chat rooms, reading online news, using online dictionaries and encyclopaedias, participating in online forums, searching for information): improved scores in print reading tests. This result is in contrast to the widespread belief that excessive reading on the internet is related to lower competency in reading printed material. On average, 15-year-old Slovenian students use a computer at home for school assignments and online reading more frequently than their peers in OECD countries (Puklek Levpušček et al., 2012a, 2012b).



It is also noticeable that there are no essential differences in the frequency of online reading between boys and girls in Slovenia, there are, however, differences in the purpose of online reading. Girls use the internet to a greater extent as a means of communication (reading e-mail, participating in online chat rooms), while boys use it to search for information and read the news, which is in a way an encouraging piece of news in terms of improving boys' motivation for reading.

Likewise the results of ICT use for the purposes of online reading in Slovenian 15-year-olds are encouraging, although there are certain differences between different educational programmes.

The frequency of online reading in three educational programmes (general upper secondary schools (*splošna gimnazija*), technical upper secondary schools (*strokovna gimnazija*) and secondary vocational education and training) is above the OECD average. This relates to reading e-mails, using online chat rooms, reading online news, using dictionaries, searching for online information, participating in online forums. Most frequent online readers are students of both types of upper secondary schools, while students of vocational schools are least frequent online readers (although still within the OECD average range). The use of ICT and the internet for enjoyment by students of vari-

ous educational programmes is likewise above the average (a comparison of index values with the OECD average; 0.24, 0.46, 0.55 and 0.59 against 0.00). Simultaneously students of all educational programmes (a comparison with the OECD average) reported being highly efficient and able to do high-level ICT tasks, such as editing digital photographs, using spreadsheets, creating presentations and creating multi-media and other types of presentations. In relation to the perceived ICT-related self-efficacy, it is students of technical upper secondary schools (0.30) and secondary vocational education and training (0.32) who stand out the most. The attitude towards computers adopted by students of all educational programmes is above-average positive, in particular by students in technical upper secondary schools and students in secondary vocational education and training (Puklek Levpušček and Šterman Ivančič, 2013: 103).

Puklek Levpušček et al. conclude that students of the first year of all educational programmes do engage in activities related to computers and the internet to a considerable extent; they have inner motivation for doing so and they exhibit a considerable degree of competency in working with ICT (ibid).

The presented data is encouraging, in particular in terms of motivating boys to read digital texts, potentially improved reading outcomes in the future and reduced differences in reading outcomes between genders, where girls are in the lead as far printed texts are concerned.



## Conclusion

Reading literacy is ever changing and evolves in parallel with changes in society and culture. It is the foundational skill that makes it possible for one to adapt, be active and create in different areas of life: personal, educational, professional and wider social areas. At the beginning of the paper, the issue of reading literacy of 15-year-old Slovenian students is presented, as indicated by PISA 2009 results. These results suggest the basic level of reading literacy (Level 2), which is supposed to enable individuals to be efficient in their everyday lives and to integrate into the labour market, is in Slovenia achieved by 89% of female students and 69% of male students. On average, Levels 2 or 3 are achieved by 55% of 15-year-olds Slovenians, while the highest reading competencies are achieved by 0.3% of Slovenian students only. All of these results are below the OECD and EU member states' average. A similar picture is revealed by results on reading literacy subscales, which means, on average, 15-year-old Slovenian students achieve Level 3 of reading literacy on the *Access and retrieve information* scale, but merely Level 2 on the *Integrate and interpret information* and *Reflect and evaluate* subscales. This means 15-year-old Slovenian students have difficulty identifying several pieces of information simulta-

neously by considering different criteria, searching for and combining several parts of hidden information, dealing with mixed texts, formulating the meaning of a certain phrase independently, understanding ideas that might be in contrast to what was expected, integrating information from more than a single part of the text, evaluating contrasting information and relating what they have read to different areas of their lives. All of these are competencies that seem to be of immense significance for young individuals to be able to function efficiently in today's society, where one is daily faced with an increasingly large amount of information and responsibilities. In relation to these outcomes, in Slovenia there are also above-average differences (in comparison with OECD and the EU) in reading between boys and girls – on average, boys achieve 55 score points less on the reading literacy scale.

Both at the international level and as part of PISA 2009 secondary analyses in Slovenia, students' motivation for reading turned out to be one of the most significant factors in reading performance. Results of Slovenian students in this field are given below; these results also give reason for concern and in the author's opinion contribute significantly to the presented reading test results.



Motivation-related results indicate that 15-year-old Slovenian students are, on average, less fond of reading than their peers in OECD countries. They get less enjoyment out of it and do not read as much simply for the reason of liking or being interested in it, which proved to be a significant factor in reading performance in PISA. As for reading engagement, some gender differences can also be noticed here. In Slovenia (similarly to the average level of OECD countries), there are more female students (75%) than male students (46%) who read for enjoyment. But differences in reading engagement are also noticeable between educational institutions in Slovenia – results indicate engaged and deep readers are mainly general upper secondary school students. In technical and vocational educational programmes reading engagement is distinctly lower. Another reason for concern is the fact that the percentage of Slovenian students who often read fiction is considerably lower than in OECD countries. What is more, on average, 15-year-old Slovenian students are also less likely to read diverse reading materials. Best reading performance is achieved by students who read fiction and non-fiction books several times a week or a month – the average percentage of such students in Slovenia is 15% and 16% respectively, which is again below the OECD average (31 and 19%).

International and national indicators of reading literacy thus provide a lot of room for improvement of educational policy and practice in Slovenia. The author believes one of the options for encouraging reading in youths is integrating digital texts and the ICT equipment in the educational and learning process. Computer technology plays an increasingly important role in today's world, in one's private, social and civic lives alike. Accessing information from computers connected to the internet is becoming the norm for anyone who

aspires to be well informed and integrated into society and the labour market. In accordance with this the author believes that at a certain point young people's understanding of reading literacy needs to be transformed – namely, reading digital texts is quite possibly an even more common daily practice of today's 15-year-olds than reading printed texts. However, to be able to read digital texts efficiently, one is required to possess new capabilities and competencies, and - most of all - good skills of critical evaluation.

In view of the facts mentioned above, which are encouraging in terms of the interest in reading digital texts in boys and also students of vocational programmes, the author believes one of the means of increasing motivation for reading (of printed texts also) is integrating (but by no means replacing) digital texts and ICT into the learning and teaching process. Students need to be encouraged to read diverse reading materials (in terms of also using different media), while the content should be adapted to 15-year-olds. Some consideration should by all means be given to different approaches to defining and developing reading literacy in the present day, as well as to digital reading material and its efficient integration into the teaching and learning process, and most of all to teachers' competencies and their professional development in this field. In Slovenia, some projects aimed at the development of various types of literacy on the basis of ICT have already been carried out, mostly in primary/lower secondary schools. Teachers who participated in the project *I Am Reading and Creating – I Am Learning* (*Berem in ustvarjam – se učim*) reported that the greatest advantage of teaching and learning different types of literacy (including reading literacy) by means of digital texts and ICT was facilitated multidisciplinary integration and team work enabled by the ICT through the internet, as well as encouraged creativity, critical thinking, learning to learn (inserting tips into digital text as you go and the learning support are facilitated and much easier here) and facilitated cooperation with parents, who are given direct access to online content and a space where they and their children can create together (Lubšina Novak, 2010). Integrating ICT into the teaching and learning process thus facilitates cooperation with others (including teachers) outside of the boundaries of the traditional didactic space and the school timetable. As pointed out by Graveson in the panel discussion as part of the *SIRikt 2012* project (SIRikt, 2012), accepting digitalisation opens doors for students on their way to individualisation and an individual learning style and, most of all, it awakens their passion. However, the most important question is whether national bodies will come to see the potential of this immense cultural transformation. Liljana Kač of the The National Education Institute of The Republic of Slovenia adds that the use of technology in learning and teaching enables more differentiated and diverse lessons and is thus better adapted to students' interests and needs. Of course, it is important for digital textbook material to be well structured, both in terms of its content and didactic elements.

It needs to include tips for teaching strategies and provide learning assistance in several places. It must be interactive and enable students' active participation in acquiring knowledge. It needs to allow different ways of completing tasks and provide instant and final feedback on one's learning progress. And the teacher's role in the process is to show students what and why something is worth knowing and how to learn it.

Cotič et al. (2011) point out - among other things - certain shortcomings in the use of digital texts and ICT in the learning and teaching process. When it comes to digital texts, competencies of critical reading and evaluating the content of a text are of even greater importance for the reader. Namely, certain differences in the communication between the author and the reader can be seen here. The author no longer has the possibility of controlling the reader's choices, which makes the reader responsible for the meaning and understanding of the content. Another reason for concern is that the pictorial and spatial focus of digital texts might result in cursory reading and more associative ways of processing texts, while hypertexts will encourage skimming through texts and an illusion of the reader's freedom.



The use of digital texts and ICT in the learning and teaching process is in a sense an urgent response to social changes, technological progress and consequent young individuals' suitable qualifications in entering a wider scope of social activities and the labour market. The author believes reading digital texts and using ICT can become one of the sources of motivation for reading, especially for students who are less motivated to read and who demonstrate a poorer reading performance - providing it is all carefully planned in terms of didactic and methodological elements and appropriately applied and teachers are suitably trained. Such a deficit is mostly noticeable in secondary vocational education and training and there is no doubt that there is much need for additional research and expert argumentation in this field.

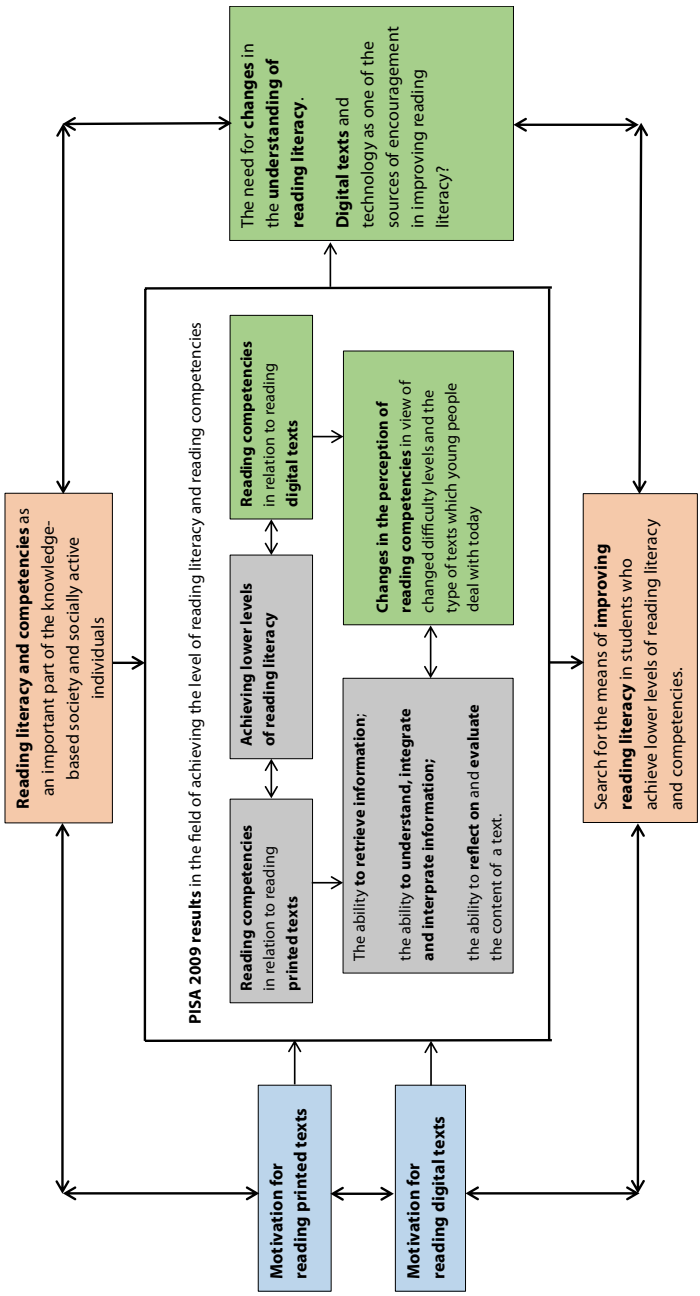


Figure 5: A diagram with key terms used in the paper

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# 2
# attitudes, relationships and emotions as factors in student achievement

# Attitude to Knowledge and Adolescent´s Learning Achievement

**Alenka Gril**



Abstract: *The paper deals with Slovenian adolescents' attitude to knowledge in relation to learning achievement. This attitude is defined as the importance and value of knowledge for an individual and is reflected through the individual's beliefs, views, perceptions, interests, learning motivation and behaviour, all in relation to knowledge and education. The basis for this is the Social Representations Theory, which defines them as socially introduced systems of conceptions, evaluations, beliefs and behaviour, oriented towards socially desired goals in a certain field. Attitude to knowledge can thus be understood as social representations of knowledge co-constructed through communication among members of a social group. In light of this it is presumed that beliefs and conceptions of knowledge, and the value of knowledge and education in a wider society and in school, co-construct adolescents' attitude to knowledge. In the last decade changes in educational policies and curricular documents have been witnessed. These, based on the Treaty of Lisbon, introduce the development of competencies and youths' training for the labour market as the aim of education. The prevailing value orientations of a knowledge society were reflected in an empirical study of the attitude to knowledge adopted by Slovenian students, among whom a pragmatic attitude to knowledge (in one third of the students) and a lack of appreciation of knowledge and education (in more than half of the students) are prevalent. Underachieving students place a negative value on knowledge, however, top-performing students also do not hold education in high regard. TIMSS studies have likewise revealed a decrease in the interest of Year 8 pupils in the last decade, which is negatively correlated with performance. For this reason, the author proposes some possible directions in the learning process at school that could foster intrinsic motivation, in-*

*terest and positive evaluation of knowledge in adolescents and thus contribute to a higher learning performance.*
**Key words**: *attitude to knowledge, knowledge, learning motivation, interest, active classes*

## Introduction

Individuals' attitude to knowledge is defined by the meaning and the value that they assign to it. A positive attitude to knowledge is, for instance, reflected through one's belief that important life goals can be achieved by means of knowledge and also perspectives on how these goals can be suitably achieved. There is an association between individuals' interests in different fields of knowledge and motivation for learning, as well as various forms of knowledge and education-oriented behaviour. Research into the attitude to knowledge is focused on the value individuals attach to knowledge, which can be perceived as standards applied to judge their own behaviour (acquisition and use of knowledge) and achievement of goals in different fields of knowledge, based on which goals are set for the future. In a similar fashion, these evaluation standards are also used in perceiving and evaluating other people's knowledge-related behaviour and in understanding the expectations about the preferred manners of behaviour and achievements in society.



The value of knowledge, and of other objects, is based on fulfilment of one's personal needs and interests, achievement of personal standards, common beliefs about what is preferred, judgements about behaviour and one's own experiences (Higgins, 2007). Individuals' value of knowledge is thus based on their own experiences in relation to efficient learning and demonstration of knowledge, through which they gained recognition from others, i.e. persons of importance to them, or fulfilled their own expectations and important goals. The standards of knowledge evaluation are defined through interpersonal interactions at home and at school, in line with the prevailing social norms, values and models of expected behaviour, which are partly induced by the media.

Beliefs about the value of knowledge within society impact teachers' conceptions, their views and beliefs about knowledge and learning, as well as the roles of teachers and students, which steer teaching methods and the organisation of lessons and are an aid to understanding the standards applied to assessing and rewarding student knowledge (e.g. Stipek, 1996). Lessons are based on curricular objectives and learning content, that also include socially relevant conceptions of knowledge. Achieving expected standards of knowledge in school is thus of paramount importance in determining the value of knowledge for individual students - their views and beliefs about knowledge,

and thereby also their further knowledge-oriented behaviour, i.e. learning and motivation for learning.

Individuals' views and beliefs about knowledge and learning, and their attitude to knowledge, is not only shaped on the basis of school experiences, but is also influenced by beliefs about the value and significance of knowledge held by other reference groups within children's and adolescents' environment (their school, family, peers, groups participating in free-time activities, social institutions, the media) (Linnenbrink-Garcia and Fredricks, 2008). The value of knowledge is part of an individual's meaning of knowledge in a certain social context. This social context is essential in determining the meaning of phenomena for individuals and suitable explanations, evaluation standards and beliefs about appropriate manners of behaviour towards a certain phenomenon, which are shaped in communication between the members of a group and constitute social representations about an object in a specific social group (Moscovici, 1984). Therefore, the meaning and value of knowledge make up the content of social representations of knowledge related to common beliefs, definitions, value systems and the common practice of a certain society or a group of people. The value of knowledge within a certain society is reflected in individuals' attitude to knowledge, i.e. in their beliefs and views on knowledge, as well as social perceptions of other people's knowledge-related behaviour, in personal interests and learning motivation, their knowledge- and education-related behaviour.



## Attitude to Knowledge and Learning Achievement within the Knowledge Society

The development of modern societies is oriented towards building the 'knowledge society', defined through the concept of a 'knowledge-based economy' (e.g. Treaty of Lisbon, 2000). Within the knowledge society, innovations, new products and information technology development guarantee competitiveness of the economy and social progress. Continuous production of new knowledge is transforming the existing knowledge corpora and this - along with technological innovation - is changing labour market requirements. Likewise, the criteria concerning the suitability of education and knowledge and qualifications (developed competencies) for efficient work in work environments, increasingly pervaded by information technology, is also changing. Guaranteeing competitiveness of the economy calls for greater employee flexibility, adapting to labour market needs and lifelong learning. All of this creates the need for a change in the role and aims of education, which need to be adjusted to the demands of the labour market, the economy and employers (e.g. Memorandum on Lifelong Learning, 2000; 'Education and Training 2010' Work

Programme of EU, 2002), turning into a lifelong process, in particular at an individual level. As is the case with other social subsystems, education and science are, in terms of functionality, also becoming increasingly oriented towards economic development and are subordinate to the economy (Autor, 2013).

Likewise, adjusting to European political-economic strategies, oriented towards creating the so-called 'knowledge society', are national strategic orientations in relation to educational and scientific research policies (Strategy on Lifelong Learning in Slovenia, 2007; Drzna Slovenija (Daring Slovenia), 2012; Resolution on Research and Innovation Strategy of Slovenia 2011-2020). The following changes within education have taken place in Slovenia in the last decade: elementary education (the 9-year primary/lower-secondary school programme was introduced in 2003; Elementary School Act, 2007; The White Paper on Education in the Republic of Slovenia, 2011) and upper secondary education were systematically reformed (Vocational Education Act, 2006; Act, 2007), primary/lower secondary and upper secondary curricula were redesigned (Reformulated primary/lower secondary curricula, 2011; Instruction for Preparing New Upper Secondary Education Programmes, 2010) and higher education also underwent a reform (Bologna Reform of Higher Education Systems in Slovenia, introduced between 2005/2006 and 2009/2010; Resolution on National Programme of Higher Education 2011-2020).



Within education in the new millennium, emphasis is being placed on new aspects, and the aims of education (oriented towards the development of competencies - appropriate for the labour market) have been changed at all levels. The concept of competence is wider than knowledge or the development of subject-specific abilities, which were the aims and objectives of education in the past. In addition to knowledge it also encompasses skills and attitudes (The Key Competencies …, 2002, in Štefanc, 2012: 149). Knowledge in itself is thus no longer the aim of education or an objectively assessable entity guaranteed by one's level of education. During the course of education, an individual needs to acquire suitable skills and develop suitable attitudes about particular subject areas to which specific competencies refer. The significance of knowledge acquisition is thus placed in parallel with one's skills and personal attitudes, whereby their value is equated. In comparison with its past definitions as a fundamental aim of education, knowledge is, in a modern competency-oriented education, decreasing in value. Education focused on competencies gives priority to applied knowledge over basic knowledge, to training of practical skills and procedural knowledge (e.g. the competence of learning to learn) over acquiring content-based knowledge, to appropriate attitudes and readiness for action over the quality of mastering the learning content/knowledge. Achieving educational aims, defined by means of competencies, is becoming increasingly more subjective and individualised (Štefanc, 2012: 148). Changes in individual curricula are likewise increasingly competen-

cy-oriented, the expected results have replaced standards of knowledge (e.g. altered curricula for primary/lower secondary school, 2011). This raises a number of issues in relation to the concrete definitions of learning content in particular curricula and also a subjective assessment of achievement of standards of knowledge and competencies in testing and assessment (Štefanc, 2012: 183). Knowledge and education thus no longer have a formative function within individual development, but an instrumental function with the aim of training for the labour market (Autor, 2013).

The aims of education, centred around gaining competencies, do not remain at the level of education-related political and strategic documents in individual countries, but are also entering the school sphere in a non-formal way and changing the implicit curriculum. Orientation towards achieving 'new' learning goals may change the learning and teaching process, which can in turn - based on the changes in conceptions of knowledge and the standards of knowledge evaluation - also change the results of learning, i.e. knowledge, and result in students adopting a different attitude to knowledge, education and learning. Education centred around acquisition of competencies may lead to a pragmatic value orientation in education and – in view of the emphasis being placed on the applied knowledge - to gaining partial, surface knowledge and procedural knowledge instead of knowledge that is complex and in-depth (Gril et al., 2012). Equating knowledge to skills and personal attitudes, which is anticipated by the concept of competencies, may lead to a decrease in the significance and value of knowledge (ibid.)



With reductions in the number of jobs and a rise in the number of highly educated graduates, personal competencies are increasingly becoming criteria for employment. Changes in the labour market have increased the need for retraining, additional training and lifelong learning. Formal education thus no longer guarantees individuals' competitive advantage and is losing its social value, in a way similar to education losing its former significance and role in society.

## Attitude to Knowledge among Youths in Slovenia

The attitude to knowledge of Slovenian students who are enrolled in upper secondary schools (and have previously completed elementary education), in programmes that are fundamentally defined through 'new' aims of education in a knowledge society, was researched in a study conducted in 2012[1] (Gril et

1 The study sample consisted of 455 students from three types of upper secondary educational programmes (general upper secondary schools – general and professional gymnasiums, professional-technical schools and vocational schools – lower and upper secondary). Sampling was conducted according to the principles of random two-stage cluster sampling (schools were chosen randomly in twelve statistical regions of Slovenia, and within schools, one Year Two or Year Three class was selected randomly). In the analysis, student data was weighted according to propor-

al., 2012). The aim of the study was to find out whether any social changes related to the priorities of the value of knowledge (applied knowledge over basic knowledge, competencies and procedural knowledge over complex, content-based knowledge, and aims of vocational education and lifelong learning over general aims of education, i.e. acquisition of knowledge and understanding) were reflected in students' evaluation of knowledge and education. Research into the attitude to knowledge was based on the Social Representations Theory; students' beliefs and views on knowledge and education were studied, as were motives for learning, knowledge-related behaviour, as well as perceptions of applicability of knowledge and orientation of instructions.

All of the measured constructs mentioned above served as a basis for conclusions about students' attitude to knowledge, wherein the significance and value students attach to knowledge/education are reflected. Study results revealed four types of attitude to knowledge,[2] which differ in terms of students' motivation for education and pragmatic orientation toward education. The differences between the four groups of students in motivation for education were expressed as a combination of views on motives for learning, complex knowledge and aims of lifelong, vocational and general education. The differences between groups in terms of pragmatic orientation were shown in a combination of views on pragmatic knowledge and attainment of high levels of education.



The first type of attitude to knowledge differs from the other three in lack of motivation for education and moderate pragmatic orientation. Students in this group ($N = 71$ or 15.6%) hold no clearly defined views (or the views may be neutral) on motives for learning to gain knowledge (intrinsic motivation), on complex knowledge, lifelong learning and general aims of education; they find motives for learning to gain status (extrinsic motivation) to be unimportant and the aims of vocational education of little importance. Their view on pragmatic knowledge is neutral (but nevertheless evaluated as the most important among the four groups) and they think attainment of a high level of education is not important. This type of attitude to knowledge is characterised mainly by undecided, to moderately negative views, on learning, knowledge and education, with the exception of vocational education, which is evaluat-

tionate representation of all Slovenian students in all three types of secondary educational programmes by gender. Based on this the author infers that the obtained results are representative of the upper secondary student population of Slovenia.

2 According to the responses received on the scales of views on knowledge (complex knowledge, pragmatic knowledge), views on the aims of education (general, vocational, lifelong learning and higher education) and motives for learning (learning for gaining knowledge and learning for gaining a status) students were classified into four groups based on a cluster analysis. Each of the groups of students was characterised by a different type of attitude to knowledge. The differences between the four types of attitude to knowledge were established by means of a discriminant analysis, which has shown that they differ in two dimensions, i.e. motivation for education and pragmatic orientation towards education.

ed as having little importance. In light of the predominant indifference to education, knowledge and motivation, this group was named 'unmotivated'. Students with an unmotivated attitude to knowledge read least frequently and the same goes for attendance of cultural events. They also express no clearly defined views on their own knowledge (the only ones of the four groups) and evaluate knowledge from different areas to have the least practical value in everyday life.

The second type of attitude to knowledge differs from the other three in a moderate lack of motivation for education and rejection of pragmatic orientation. Students in this group ($N = 110$ or 24.2%) evaluate educational aims of lifelong learning and vocational education as 'being of little importance', which, in addition, is the case for general aims of education. They find learning to gain knowledge and complex knowledge to be important, but remain undecided regarding learning motives for gaining a status. They evaluate pragmatic knowledge as unimportant (the least important of all four groups) and their view on attainment of a high level of education is neutral. In comparison with other groups, this groups holds the most adverse view on pragmatic knowledge and less clearly defined views on high levels of education, vocational education and learning to gain status. As such, this groups is characterised by relatively negative views on formal characteristics and pragmatic aspects of education; as for complex knowledge (and knowledge-oriented learning and education) – they find it moderately important (they attach a positive value to it). Based on the attitude to knowledge they have expressed, the students in this group were named 'non-formalists'. They are those who attend cultural events most often and read most frequently. They also assign a positive value on their own knowledge. What they find to have more practical value in everyday life is knowledge from the field of social sciences.



The third type of attitude to knowledge differs from the other three in lack of clearly defined views on motivation for education and pronounced pragmatic orientation. What is of 'little importance' for students in this group ($N = 146$ or 32.1%) are the aims of vocational and general education, motives for learning to gain status and learning to gain knowledge, as well as complex knowledge, and they have a neutral view on lifelong learning. They also express a neutral view on pragmatic knowledge (however, it is the second most important among the four groups). They find it important to attain a high level of education. This group is characterised by undecided, to slightly favourable views, on educational aims and learning, and relatively high support for pragmatic knowledge and the level of formal education. In light of their attitude to knowledge, which reflects a favourable view on useful, practical aspects of education, this group of students was named 'pragmatists'. These students read and attend cultural events less frequently (however, more often than the group of unmotivated students). They evaluate their knowledge in a moder-

ately positive way. What they find most useful is knowledge from the technical field, and least useful knowledge from the field of social sciences.

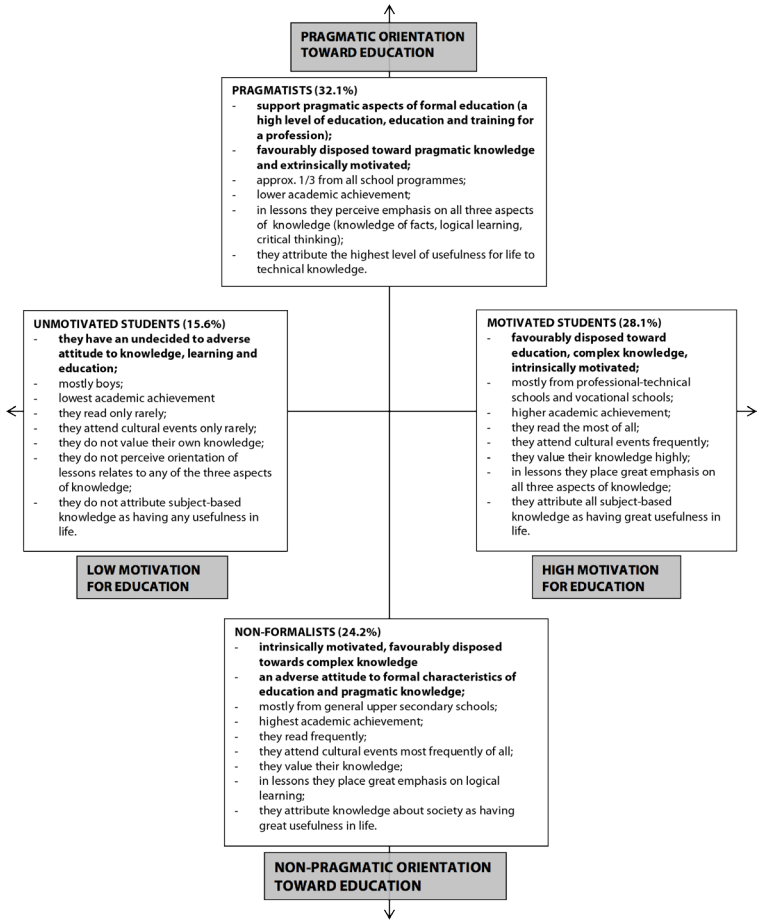


Figure 6: Types of attitude to knowledge of Slovenian students

The fourth type of attitude to knowledge differs from others in pronounced motivation for education and lack of clearly defined pragmatic orientation. In comparison with other groups, this group of students ($N = 128$ or 28.1%) holds the most positive views on all aims of education and learning as well as complex knowledge, and a second view, which is negative and more adverse, of pragmatic knowledge. In light of their positive attitude to learning, knowledge and education and a moderately adverse attitude to pragmatic aspects of education, this group was named 'motivated'. It is students in this group who read and attend cultural events most frequently and also evaluate

their own knowledge in the most positive way. Of all four groups, these students evaluate knowledge from the fields of different sciences as the most important for everyday life.

The unmotivated attitude to knowledge was more commonly expressed by boys, whereas other types of attitude were expressed by both girls and boys equally. In all three types of upper secondary educational programmes, all four types of attitude to knowledge were expressed, however neither equally nor frequently. Among general upper secondary school students the more common type of attitude to knowledge expressed is a non-formal attitude to knowledge rather than that among students of the other two educational programmes. The motivated attitude to knowledge is more common among students of professional-technical schools and vocational schools than general upper secondary school students. The other two types of attitude, i.e. the unmotivated and the pragmatic, are equally common among the students of all three upper secondary school programmes. The least frequently expressed attitude to knowledge was the unmotivated attitude, regardless of the educational programme. The most commonly expressed attitude to knowledge among students of all three programmes (approximately one third) was the pragmatic attitude to knowledge.



The pragmatic attitude to knowledge is exhibited by nearly one third of students, only a quarter of students reject the pragmatic orientation (non-formalists), while others (44%) remain undecided in relation to it (motivated and unmotivated). In the attitude to knowledge, pragmatism was evident in the significance of formal and useful aspects of education (e.g. favourable inclination towards vocational education and attainment of high levels of education), in extrinsic motivation (learning to gain status is important) and in valuation of the usefulness of technical and scientific knowledge (more so than the knowledge about man and society). Results indicate pragmatic orientation is expressed at the expense of the quality of knowledge. Students who believe in the importance of pragmatic knowledge are less intrinsically motivated towards learning and achieving general educational goals (i.e. a wide knowledge from all fields) and are unwilling to participate in lifelong learning. Results also indicate that knowledge in itself holds no value for them, as they do not take a stand on it. It may be concluded that pragmatic orientation leads to a devaluation of knowledge and education. A change in the conception of knowledge in the knowledge society, wherein knowledge is substituted with competencies, is most clearly reflected within this orientation.

A positive value is attached to knowledge by slightly more than one half of students (52%), in the groups of motivated students and non-formalists. The group of pragmatists remains undecided with regard to its value, while unmotivated students assign it a negative value. For almost one half of students the conclusion can be drawn that they do not value knowledge - quality knowl-

edge is relatively unimportant to them and acquiring knowledge through learning does not motivate them. A positive value is assigned to education by slightly more than a quarter of students only, more specifically by those with a motivated attitude to knowledge (28%). More than one half of students remained undecided in relation to the value of education, specifically in the groups of pragmatists and non-formalists (56%). For unmotivated students (16%), education has a negative value, i.e. it is unimportant for them. Almost three-quarters of students do not value education, which is mainly reflected in the insignificance of the general aims of education and lifelong learning, as well as the attainment of high levels of education. Relatively large percentages of students who are either indifferent to knowledge and education or do not value it, may be an indication of changes in the position and importance of knowledge and education within the knowledge society. Competency-oriented education (which serves the economy and adjusts to it) leads to their individualisation (competencies encompass knowledge, skills and personal views and are thus no longer objectively measurable, but are subjectively verifiable) and flexibilisation (e.g. equivalence of various means of education, formal and non-formal during the course of lifelong learning) (Autor, 2013). With this, both knowledge and education are losing their social value. A similar conclusion can be drawn on the basis of media-presented messages about what is happening in national politics and the economy, i.e. that social norms of what is success, a good reputation and power are not necessarily based on knowledge and education (Gril et al., 2012). Simultaneously we are witnessing a weak media portrayal of knowledge, education and successes achieved by means of knowledge. This gives students an indication that knowledge and education do not guarantee employment, neither do they open up opportunities for changing one's social position. What is more, the all-embracing economic crisis in Slovenia and the EU is increasingly limiting accessibility of jobs for young people (and adults) and puts them in a seemingly hopeless position. This can lead young people to believe there is no point in learning and education.



In relation to the type of attitude to knowledge, students are also distinguished in terms of their academic achievement. On average, unmotivated students are the lowest-performing students in this and previous school years, slightly better-performing students are pragmatists, the second best-performing are motivated students and top-performing students are non-formalists. In the current school year, students with a non-formal attitude to knowledge have had a significantly higher learning achievement than students with pragmatic and unmotivated attitudes to knowledge, and students with a motivated attitude to knowledge a significantly higher achievement than unmotivated students. In the previous school year, the groups of non-formalists and motivated students reached a significantly higher learning achievement than students with unmotivated and pragmatic attitudes to knowledge.

The attitude to knowledge of low-performing students indicates they do not value knowledge and education. Higher-performing students do value knowledge and, as for education, they are either indifferent to it (non-formalists, especially general upper secondary school students) or they value it (motivated students, especially students of professional-technical schools and vocational schools). The explanation as to the difference between these two groups of high-performing students may be the fact that in professional and vocational schools their chosen profession is more clearly defined and as they are nearing the end of their schooling, this may have a positive effect on a higher value assigned to education. A higher learning achievement was thus noted in students who valued knowledge and had no pragmatic orientation to education – they rejected pragmatism (the groups of non-formalists and motivated students). A lower learning achievement was reached by students who had a more pragmatic orientation and did not value knowledge (both groups, pragmatists and unmotivated students). A positive correlation is thus indicated between the value of knowledge and learning achievement and a negative correlation between a pragmatic orientation to education and learning achievement. There is no linear correlation between the value of education and learning achievement – even top-performing students (non-formalists) do not value education. Low-performing students are thus no exception in terms of their negative attitude to education. Results indicate a general social devaluation of education and inefficacy of competency-oriented education to spur youths' desire for learning and education (developed throughout one's life) and to present knowledge as a value.



How is this negative attitude to knowledge reflected in students' learning motivation, more specifically in their interest in individual school subjects, which is directly related to learning and learning outcomes in particular fields of knowledge? The significance and value of knowledge, contained in one's attitude to knowledge, are not only reflected through beliefs and views, but (according to the Social Representations Theory) they also steer individuals' behaviour in the direction of set goals. Accordingly, it can be expected that an attitude to knowledge, similar to the one expressed at a more general level of beliefs and views, will also be expressed in relation to learning motivation in specific school subjects.

## Attitude to Knowledge and Student Achievement in Terms of Learning Motivation

The value assigned to knowledge can partly be discerned from one's learning motivation and some of its elements, e.g. intrinsic motivation (Deci and Ryan,

1985), interests (Hidi and Harackiewicz, 2000), the subjective value of tasks and school subjects (Eccless et al., 1998).

Intrinsic motivation refers to personal, psychological reasons for individuals initiating an activity (Deci and Ryan, 1985). People who are intrinsically motivated perceive themselves as initiators of their own actions and do things that will help them achieve their goals or fulfil their needs, whereas extrinsically motivated people are convinced they are participating because they are expecting a reward or punishment, or because they want to please others. For students who are intrinsically motivated it can be assumed that their goal is to acquire knowledge which they find important and valued. Intrinsic motivation is associated with an appropriate difficulty of tasks (Urdan and Turner, 2007) and higher academic achievement (Wigfield and Eccles, 2002). Intrinsic motivation can be derived from the needs for competence and perceived autonomy (Deci and Ryan, 1985), but also from an interest in specific contents or an activity (Renninger, 2000).

Interest can be related to a situation, i.e. short-term, situation-specific attention, oriented towards certain contents, or it can also signify individuals' more long-term orientation and their readiness to participate in a certain activity and their personal interest (Hidi and Harackiewicz, 2000). Personal interest involves emotions associated with a specific field (e.g. I like it, I'm enjoying myself) and value (the significance of a certain field resulting from its usefulness and personal relevance) (Linnenbrink-Garcia and Fredricks, 2008). Adolescents who express a stronger interest in specific content and activity areas evaluate these areas more highly and work on them more intensely (Hidi, 1990). Adolescents who take a greater interest in specific subject fields have better academic achievement in these areas (Wigfield and Eccles, 2002).



Subjective task value (according to the expectancy-value theory, Eccles et al., 1983) is the motive that allows an individual to perform a certain task – individuals perform tasks to which they assign a positive value and avoid those to which they assign a negative value. Task value refers to the perceived task quality, which contributes to an increase or decrease in the likelihood that an individual will choose it. Task value consists of the following four components: 1) intrinsic value - enjoyment or interest (expected satisfaction in performing the task); 2) attainment value - importance for identity or self (a belief that the task needs to be performed well for one's self-image to be validated); 3) utility value - usefulness or relevance (significance of the task in achieving an individuals' long-term goals and extrinsic rewards – immediate or long-term); 4) costs (negative task aspects; how opting for an activity will limit the possibility of engaging in other activities; the proportion of effort to satisfaction in relation to an activity). Subjective task value, i.e. the interest, or a high level of desire for learning, prompts positive emotional experiences, self-respect, control-oriented coping with failure and high learning outcomes and the use of appropri-

ate learning strategies (Linnenbrink-Garcia and Fredricks, 2008). The value that students assign to learning outcomes in specific fields is, in mid-adolescence, most strongly associated with the choice of school subjects, the school and career orientation (Wigfield and Eccles, 2002). Studies show task values are related to the learning plan and the choice of school subjects, as well as participation in sports activities, while learning outcomes in particular subjects are related to the belief in one's own competencies and expectation of success (Eccles et al., 1998).

According to the expectancy-value model (ibid.), educational (and other) choices are directly related to two types of subjective beliefs: expectation of success and significance or the value individuals assign to different possibilities they perceive as accessible. Expectation of success is influenced by perceptions of one's own competencies, such as self-efficacy (Bandura, 1997). Self-efficacy is a belief that one has the ability to complete a task and willingness to make effort in dealing with it (Schunk and Pajares, 2007). Individuals who perceive themselves as competent are more convinced that they will succeed, they control their outcomes, look for challenging tasks and they attribute success to their own competencies, and failures to other factors (Eccles et al., 1998). The greater the perceived self-efficacy, the greater the amount of effort an individual invests in an activity, as well as their persistence and adaptability in difficut situations and consequently the higher the learning outcome (Bandura, 1997; Elliot and Dweck, 2007; Pajares, 1996). High self-efficacy will not impact behaviour unless an individual assigns a positive value to the results of his/her own work or is proud of achieving them (Schunk, 1995).



The expectancy-value model also defines the relation between subjective beliefs and cultural norms and experiences (Eccles et al., 1998). Sociocultural processes, or cultural socialisation, impacts the way members of different cultural groups understand themselves, as well as the goals and values they set in their lives. Experiences in different types of learning environment influence the emotional experiences connected with different activities. Cultures and countries differ in the opportunities they provide for testing different kinds of activities, as well as in the scope of activities that are available and important for individuals belonging to different social groups. Each of these processes supposedly leads to differences in assigned subjective task value among cultural groups and to individual differences within the culture. Sociocultural processes also bring about cultural differences in terms of expectations, perception of one's own abilities and all components of subjective task value. Studies also indicate a correlation between personal values and different choices in the field of education, including the choice of subjects, choice of career, choice of the study programme and participation in sports (ibid.)

In accordance with the expectancy-value model, a study was conducted into the correlation between interests and perceived self-competencies of

Year 8 pupils of three generations in Slovenia and three other European countries (Hungary, Italy and Norway) and their achievements in mathematics and science in TIMSS 1995, 2003 and 2007 (Gril and Rožman, 2013). Time trend analyses have revealed that within a period of twelve years, there is an increase in pupils' perceived self-competencies, which increasingly explains their achievements in mathematics and science, whereas pupils' interest in these subjects is on the decrease, explaining pupils' achievements to an increasingly low degree (or – as was the case in some of the countries – is no longer correlated with it). After the year 2000 (in the last two assessments), the correlation between pupils' interest and achievement turns into a negative, which means that higher-performing pupils express less interest in these subjects. The increase in pupils' perceived self-competencies may be attributed to the changes in curricular objectives, which are, in European countries, oriented toward the development of pupils' competencies (on the basis of international educational political strategies based on the Treaty of Lisbon from 2000). A decrease in the role that interest plays in explaining the achievements, and its negative impacts on mathematics and science knowledge, are in contrast with expectations and theoretical assumptions. They may be a reflection of the social devaluation of knowledge and education or of inappropriately designed lessons in the new curricula.



In international comparative assessment studies, adolescents low personal interest in science and mathematics also shows a low level of significance and value of knowledge for modern generations of young people in Slovenia and some other European countries. Similarly, a low value of knowledge and education has been expressed in Slovenian students' attitude to knowledge at a more general level of views and beliefs. These results undoubtedly call for some consideration of the suitability of school reforms that are supposed to educate and train youths for independent and creative work in a knowledge society and at the same time require in-depth analyses of various factors, including the learning process at school, which contribute to the generation of youths' interest in knowledge.

## Fostering Intrinsic Motivation and an Interest in Learning Outcomes in Lessons

Research into contextual variations in motivation indicate different teaching methods; schools, peers, families and communities foster different motivation in pupils (Anderman and Anderman, 2000; Eccles et al., 1998; Turner and Mayer, 2000). Factors behind lessons that foster intrinsic motivation for learning are associated with the task type, structure of authority and autonomy, reward systems and means of evaluating and assessing knowledge.

Intrinsic motivation and pupil participation are greater in classes where tasks are authentic, allowing students to recognise them as 'their own', so they can co-operate, and exhibit different types of competencies and talents, where tasks allow (Linenbrink-Garcia and Fredricks, 2008). Tasks that involve innovations, doubt, imagination and elements of uncertainty increase intrinsic motivation (Stipek, 1993). Tasks that stimulate students' attention, and are of help to them in giving meaning to personal suitability, encourage situation-based interest, which steers the development of personal interest in the long run (Hidi et al., 2004). Teachers can invoke a situation-related context among students through humour, addition of imaginary elements and task diversity, the use of puzzles and games; they can take students' wishes for socialising into consideration by applying team work; they choose contents that are appealing for most of the students in a class (Urdan and Turner, 2007). Tasks should be moderately difficult and contextualised in relation to students' personal lives and interests.

The structure of authority and autonomy in the classroom is of critical importance to learning motivation, both in terms of value as well as goal orientation (Linenbrink-Garcia and Fredricks, 2008). If students are presented with a choice and a smaller level of extrinsic control, this encourages their need for self-determination, whereby intrinsic motivation is promoted (Deci and Ryan, 1985). Contrary to this, the perception of a high level of control (and of low autonomy) – expressed by means of deadlines, compliance and extrinsic rewards – decreased intrinsic motivation. When teachers allow students more control in the classroom, this tells students that the importance and value of learning lies in participating in an activity, and not in compliance towards the teacher, and exhibiting competencies. Some forms of autonomous support are more appropriate than others: support of cognitive autonomy – students assume control over their learning through practice, such as encouraging multiple problem-solving strategies or accepting different solutions – leads to higher levels of motivation and participation than support of the autonomy in relation to the organisation of the classroom or practices used – when children take part in making decisions about the forms and methods of work done in school lessons (Stefanou et al., 2004).



Within the context of the classroom, some studies (Grolnick and Ryan, 1987; Reeve and Jang, 2006) have revealed that teachers who give their students more independence end up with students who are more curious, more intrinsically motivated, challenge-oriented and more efficient at solving problems. Students whose teacher was more controlling of the learning process, displayed less self-initiative and had more problems with tasks that called for divergent solutions. Based on the effect of students' inclusion, the feeling of connection with social partners has an indirect impact on learning outcomes; connection with others results in a greater interest, enthusiasm and willing-

ness to participate in learning activities, all of which lead to higher learning outcomes (Furrer and Skinner, 2003). Students who perceive that they are accepted and valued by their teachers report a higher level of emotional participation in learning activities, i.e. they experience more joy and a relaxed atmosphere in the classroom (ibid.). Teachers' high expectations about the quality of knowledge and learning outcomes is also important for students' intrinsic motivation (Ryan and Grolnick, 1986).

Peer norms in regard to academic achievement and classroom climate are also significantly correlated with learning motivation and students' learning outcomes. The social context may impact achieving goals, if personal goals are in agreement with other people's goals. Learning outcomes can lead to social acceptance if these outcomes are valued within the peer group. Studies show a consistent positive correlation between prosocial behaviour in the classroom (for instance help, sharing and co-operation, as well as avoidance of disruptive or antisocial behaviour) and acceptance and approval among peers; prosocial behaviour is simultaneously also strongly positively correlated with intellectual achievement, including test scores and performance in knowledge and intelligence tests (Wentzel, 2007). Co-operative classroom behaviour and absence of disruptive behaviour also create a favourable learning climate, which fosters efficient teaching and learning of the learning content. Such social behaviour can directly contribute to learning and mastering tasks as well as learning achievement, and also to social approval (by peers and teachers) and students' acceptance. Perception of peers' expectations about certain types of behaviour may play a central role in students' self-determination of why specific behaviour is important. Students who perceive their peers' high expectations about learning and classroom participation also report that they learn for intrinsic reasons or because it is important to do so (and not to avoid disapproval or get themselves into trouble should they not learn) (ibid.). Peers thus have the possibility to have the most direct impact on whether participation in tasks is important, fun or interesting. Peers who are role models in terms of the feeling of importance or fun in connection with participation in a task, can thus steer others towards developing similar views on the task in question. However, it is friends who have the most powerful impact with regard to this; friendship is characterised by strong emotional ties, which increases the likelihood of friends copying one another's behaviour.



Depending on its form (as encouragement to participation or feedback about achievement/command of something), the practice of evaluation and reward can foster intrinsic motivation (Deci et al., 2001). The focus of feedback given to students should be on individual progress in knowledge and the strategies used rather than on social-comparative or value-based judgements. Assessing knowledge based on a comparison with others always results in a situation where some students are unsuccessful and perform less successful-

ly than their peers; and the experience of failure leads to perceptions of one's lower competencies and also to a decrease in interest for the learning content (Dweck, 2002).

In summary, developing a positive value of knowledge, interest and intrinsic motivation takes place as part of interpersonal interactions in the classroom. Teachers are supposed to enable students' active participation in lessons and their autonomous control over learning (Urdan and Turner, 2007). They need to choose topics and activities that make sense and make it possible for students to discover the importance and practical value of the learning content. Tasks should be moderately difficult, so that students can make progress in their knowledge. Teachers need to provide suitable feedback about students' learning progress and the strategies they have used. They must be very clear in expressing their expectations, pointing out that anyone can learn from what they are taught, and should stress the connection between success and the effort students put in. It is also important for teachers to co-create an inclusive classroom climate, oriented towards participation, support and acceptance, as well as the mutual trust of all students within a class; this will make it possible for students to feel respected, accepted and safe in assuming responsibility for learning.



## Conclusion and Practical Implications

The results of the study on the significance and value of knowledge and education for students reveal a predominantly negative attitude to knowledge and education irrespective of student achievement or education pathway. The author believes educational endeavours should therefore be focused on improving the positive value of knowledge and education in all students, not only those underachieving. To do so it would be necessary to awaken and develop an interest in knowledge in various fields, foster intrinsic motivation for learning and steer the educational process towards achieving and rewarding in-depth, coherent fundamental knowledge (only in potential connection with useful aspects). Giving priority to practical and procedural knowledge over fundamental knowledge may lead to pragmatism, which does not develop any suitable students competencies defined among the educational aims. On account of this, there is not only a decrease in the significance of content-based knowledge, which strengthens the negative value of knowledge and is reflected in negative views on knowledge and an inappropriate attitude of youths to education, but it can also be expected that such lessons will lead to lower levels of command of knowledge or lack of knowledge, judging from the underachievement of students who have in this study expressed a pragmatic attitude to knowledge.

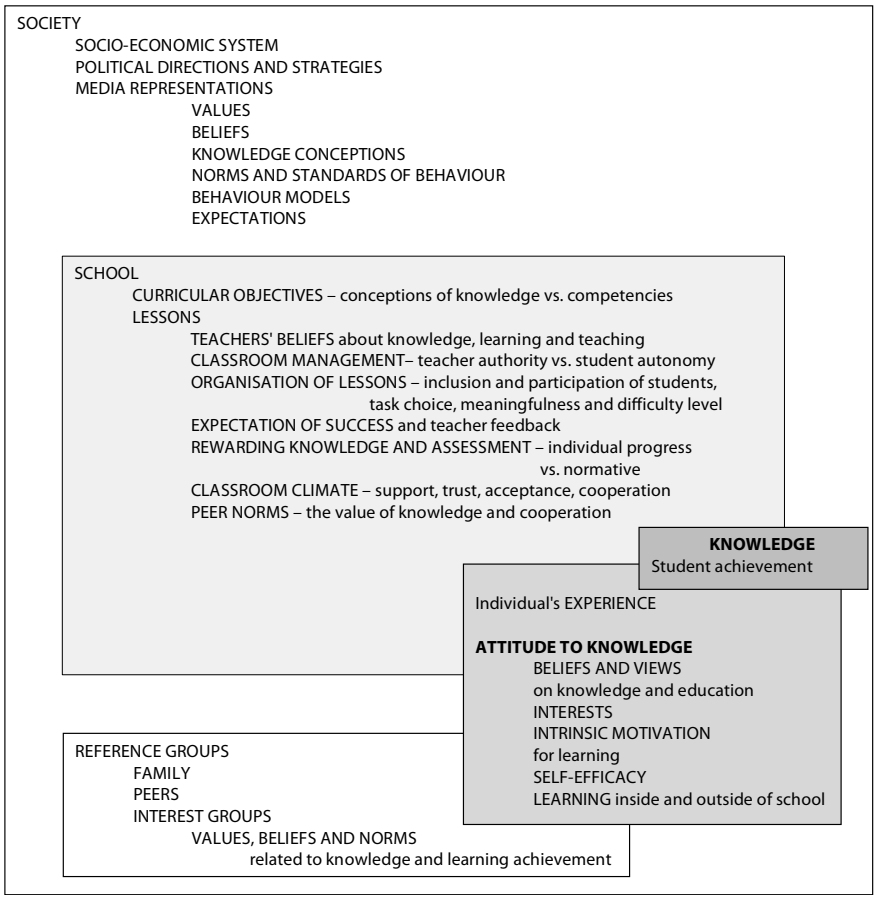


Figure 7: Factors in relation to attitude to knowledge

The results also point out that lack of critical consideration in applying European guidelines at a national level, and their implementation into the Slovenian school sphere, without giving any thought to its specifics, implementation options and potential effects, may lead to changed standards of evaluation of knowledge and education at an individual level and in the general public. Standards of knowledge may be lowered at the expense of strengthening of procedural and practical knowledge and a negative attitude to knowledge and education can be developed, which is contrary to the aims pursued by educational reforms that are supposed to support the economic development of a knowledge society. For this reason, the author believes it is necessary to limit further system-based measures of adjusting the educational system to the (current) requirements of the economy and to take them under

critical consideration of the general and professional public in terms of the role of knowledge and education in the society of the future, with a particular focus on the individual effects of education on children and adolescents. The author believes youths will be able to develop suitable competencies while being trained in the work process (when they are employed) if during the course of education they have acquired a sufficient amount of quality content-based knowledge and have developed a positive attitude to knowledge and internalised knowledge and education as values that are important for one's personal and social progress.

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# Contextualising Teaching (In)effectiveness and Student (Under)achievement

**Tina Vršnik Perše**

Abstract: *Teachers' competencies are one of the key aspects of teaching that can be studied and that are also reflected through the achievement of individual learners. In addition to the teacher's role in the classroom interaction, other factors also affect teachers' attributions for the causes of students' performance. These factors include the teacher's perception of the student's past performance as well as the student's characteristics, including race, social class, end sex and also the structure and organization of subject matter (Clark and Petersen, 1986). Study results, however, show that there is a large discrepancy between how teachers and students perceive teachers' actions in a classroom (e.g. Ivanuš Grmek et al., 2007; Vršnik Perše et al., 2013). The diverging views between the participants of the education system could be one of the factors that can, by altering teachers' subjective views and actions, lead towards changing the teaching practices and thus improving the academic achievement of students. Studies show that the characteristics of teachers' professional development influence their actions, (Gow and Kember, 1994; Schein, 1998) thus, on a systemic level, it makes sense to promote professional development. Teachers' professional development is thereby not limited merely to expanding and acquiring new content and didactical-methodological knowledge, but encompasses a wider area including teaching competencies. These competencies, according to C. Peklaj (2006), include: effective teaching; lifelong learning; management and communication; and examination and assessment. Peklaj moreover includes monitoring the students' progress and wider professional competencies, which also includes the competence to (self)evaluate in its broadest meaning. Facilitating teachers' critical thinking, reflection, self-evaluation, acceptance of changes and altering their practices are among those measures that will be the focus of this paper and that can, within the context of the*

*changing situation in society and notions of knowledge, lead to better teaching practices and also improvement of the academic achievement of all learners.*
**Key words**: *teachers, students, competencies, subjective notions, professional development*

## Introduction

Lifelong learning has become imperative for personal and social advancement within the context of rapid social changes, perception of, and use of, knowledge. It is necessary to be aware that in today's world, knowledge rapidly becomes outdated, making the renewal and acquisition of knowledge the two competencies that can make individuals more resilient, enduring and flexible. This allows them to more successfully address the rapid and frequent changes of living in the modern era. Adults, who are the current holders of knowledge, i.e. those who pass on the knowledge, have grown up and been educated under different circumstances and gained different competencies during that period of their lives than will be required by today's youth in the future. This means that they themselves must first acquire those competencies, with personal and professional development being the central processes required to achieve them. Teachers (as professional holders and passers-on of knowledge) are also part of that generation and their professional development must include acquiring the lifelong learning competence in a manner that can be then passed on to students, especially those who are lacking in any of the areas (economical, social issues, on account of their special needs…) and therefore have a lower chance of successfully integrating into the social life of adults. Apart from rapid changes in knowledge itself, its taxonomy and assessment are also changing. What was once the most highly rated knowledge (e.g. declarative knowledge) can nowadays merely form the basis for acquiring other types of knowledge (e.g. procedural and, in the future, self-regulative knowledge) (cf. Schraw and Reynolds, 2009). One's own view of teaching, knowledge and learning is therefore the area that can be understood as a subjective factor that can be changed by every individual. In terms of education systems and teachers, the view can mainly be amended during the course of teacher professional development. In accordance with the dynamic model of educational effectiveness (Creemers and Kyriakides, 2013), cognitive, affective, psychomotor and meta-cognitive domains of student outcomes can be discerned, which are impacted at various levels (by factors at the level of students, the classroom or teachers, school and the system). Each of the levels should be directly and indirectly linked to student outcomes and the model also facilitates links between its component parts. It is mainly the differences in student outcomes that are to be explained by primary processes at a classroom/teacher level,

however, this model foregoes the impact of those contexts of a teacher's life that are connected to teaching. It has therefore been decided to include them in an upgraded version of the model.[1] The focus here will be on factors at the level of the student and teacher, as this is where the impact of changes on actions can be directly measured. Based on the studied contexts, it is the various types and levels of activities by teachers within a classroom that can be understood as one of the key factors in changing student (perceived) achievement.

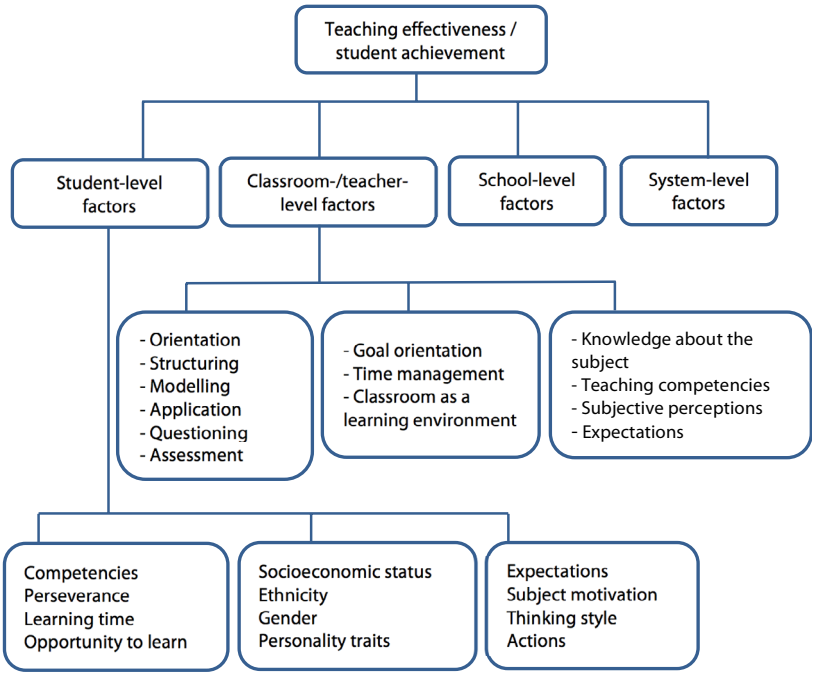


Figure 8: Dynamic model of educational effectiveness (upgrade of the Creemers and Kyriakides model)
Source: Creemers and Kyriakides, 2013

It is thus necessary to think about understanding and altering teachers' activities while teaching, and about aspects related to that. Figure 8 clearly shows various factors that can be changed, both at the level of student and teacher. A teacher, as the person who is directly involved in the education process as a responsible expert, is the "segment" that must be used in changing individual aspects of factors. Changes can only be carried out if teachers actively participate in their professional development.

1 At a classroom/teacher level, the model is upgraded with the following factors: knowledge about the subject, teaching competencies, subjective perceptions, expectations and actions (author's note).

## Teachers' Competencies

Developed competencies are the fundamental conditions in contemporary definitions of what makes effective and high-quality teaching and good teachers. It is impossible to unambiguously define which competencies can be developed to make good teachers and what this concept actually includes. The question of whether a certain competence can be learnt or taught at all, outside of real-life situations in performing an activity, should also not be overlooked. The latter depends mainly on the definition of the word 'competence'.

Another thing to consider are parallel factors that impact teachers' development and thus indirectly their teaching and student outcomes. These could roughly be divided into (1) internal factors (teachers' beliefs, subjective opinions, competencies) and (2) external factors (which include various forms of formal education and knowledge improvements by the teacher, implementation of innovations, changes to the education system as well as informal influences, such as the school environment, parents' influence etc.).

In general, recent decades have seen strong support for the belief that teachers should require in-depth pedagogical knowledge, including notions about teaching and learning, alongside the knowledge of the subject matter taught. The reasons for this belief can also be sought in the raised awareness of the fact that society not only needs educated individuals (in the traditional sense of the phrase, i.e. those who acquired a certain amount of knowledge), but rather competent, active and responsible individuals, as only they will be able to solve future problems that cannot be anticipated today.



From a historical point of view, competencies appeared as a concept in connection with vocational training and were in the past mainly synonymous with professional competencies. According to *Webster's Dictionary* (1913), the origins of the concept of competence date back to 1596. In recent decades, competencies have gradually gained in importance after first being established within the economy. The pioneering work in this area is the 1973 article *Testing for Competence Rather Than for Intelligence* by psychologist David McClelland. McClelland stated that IQ and personality tests do not present an adequate indicator of an individual's potential regarding his/her work efficiency, and proposed that competence assessment be added to the mix (Stoof et al., 2002: 349).

In recent decades the concept of competence has been used in an increasingly wide area and has become deeply entrenched and recognisable in the field of education where it has been present since the 1970s and increasingly more so since the 1990s (cf. Štefanc, 2012). However, like most other matters in the area of education, it is not unambiguously defined and critics of its introduction into the area of general education have also voiced their opinions. The quality of implementing the education process is undoubtedly linked to the

type and sort of knowledge as well as the competencies held, expressed and expected by teachers.[2] In order to perform tasks they meet in their professional life, future teachers must acquire vastly diverging competencies. However, this knowledge cannot be fully acquired during the course of their studies and internships. This is why it is imperative that teachers continue with learning and training throughout their careers.

When defining competencies of teachers, it is possible to refer to five "generic" areas, as outlined by Marentič Požarnik (2007). Marentič Požarnik based these areas on a comparative analysis of competencies of teachers in the Netherlands and in Scotland, and European recommendations (ATEE, 2005). The five areas are:

– Communication and relations;
– Effective teaching;
– Organisation and management;
– Participation in working and social environments;
– Professional development.

Based on recent debates, (see Ivanuš Grmek et al., 2007), a proposal appeared to add two more competencies – generic ICT – and media literacy, one of the cornerstones of modern society's functioning.



In this paper the definition by Peklaj (2006) has been chosen as that which seems the most comprehensive and encapsulates the majority of the topics mentioned herein. Moreover, Peklaj's definition was perfected and analysed through the study and can thus contribute most towards the development and promotion of lifelong learning and personality resilience by students. Peklaj defines five key areas of teachers' competencies:

- Effective teaching (teachers, for instance, display appropriate knowledge and understanding of the subject(s) they teach, are familiar with students' development, teaching rules, individual differences among students, factors that facilitate learning, are aware of pedagogic theory and didactic rules…);
- Lifelong learning (teachers, for instance, use different methods to foster motivation in various areas of teaching, use ICT in teaching, develop information literacy in students…);
- Management and communication (teachers effectively communicate with students and develop positive relationships with them, create an encouraging learning environment, set clear rules for behaviour and discipline in the classroom…);

2 The concept of competence in relation to knowledge will hereby not be defined, nor will the theoretical starting positions be analysed in more detail. They are dealt with more broadly in Štefanc (2012).

- Knowledge examination, assessment and monitoring students' progress (teachers, for instance, create and use suitable assessment criteria, monitor and evaluate student progress in cognitive areas as well as in the areas of adopting learning strategies, learning social skills, reading literacy);
- Wider professional competencies (teachers develop positive relationships with students, believe in their abilities and support them, plan, monitor, evaluate and manage their own professional development…).

The range of dimensions that need to be included in the analysis of the interaction between various influences on the effectiveness of teaching, learning and also evaluation and assessment of knowledge can be noticed through the key teacher competencies defined in such a way. As has already been stated, students' academic achievement is not merely in the domain of students and their de facto knowledge or demonstration of knowledge, but is also influenced by teachers' perceptions of knowledge and students' and teachers' competence in its evaluation.



Based on the above listed five areas of competencies, an instrument (Peklaj, 2006) was developed that allowed researchers to test correlations between perceived teachers' competencies in classroom management and students' outcomes. The analysis has shown that there is no direct correlation between teachers' competencies in class management and student' learning outcomes. All correlations were indirect. The model has also shown that the teachers' classroom management style and encouragement of motivation does have an effect on student motivation and their desired and undesired behaviour and, based on their learning effectiveness and desired behaviour, on learning outcomes. If students perceive a greater teacher's competence in managing the learning process, it has a positive influence on students' motivation and consequently, better learning outcomes. The results were similar both for mathematics and the Slovenian language, in primary as well as in secondary education (Peklaj, 2010). It can therefore be postulated that with regard to competencies linked to teaching, their effects are not unambiguous and direct, as mainly indirect effects have been observed. Mechanical changes of the competencies are, furthermore, impossible and nor do they bring about results that could be quickly measured. Merely changing the competencies of classroom management and teaching will thus not result directly in a change of learning outcomes. It is also necessary to alter other factors, such as subjective views on everything connected to teaching, permanent inclusion in professional development and other factors. When talking about competence development, altering other background factors (such as teacher motivation, social and cultural environment etc.) should also be considered.

Another matter that must not be overlooked is the fact that the competence development process itself, which determines the changes, can be quite complex. Competence development (also for teachers) can be observed at two levels: the level of the organisation (school) and the level of the individual (teacher). Competence development on an organisation level encompasses various measures that are used by an organisation to try and influence the scope of competencies in the internal labour market. It includes measures that relate to progress, formal and informal education and training of employees, and planned changes to the tasks or work organisation (Kock et al., 2008). Competence development at an individual level is focused more on individual and personality competencies, even though they all indirectly relate to job performance. As for the fundamental competencies of individuals, various authors mainly examine communication, personal development, being proactive, social responsibility, reliability, as well as lifelong learning and competence development, which depends mainly on an individual's motivation (also see OECD, 2005).

Only by using a systematic approach to the levels of institution (school) and individuals (teachers) can one hope that teachers' competencies and, in connection with them, subjective conceptions will change in such a way that they could indirectly also impact changes in their teaching and thus be reflected in students' learning outcomes.



While stressing a systematic approach, it is also necessary to point out that competencies are not only altered on purpose. Unintentional events and experiences can also play a role in changes to an individual's competencies as well as his/her individual beliefs (Boytazis, 2006).

Regardless of whether organisational (school in this case) or individual (teacher) competencies and changes to them are being referred to, there are common models in accordance with which these change. Being aware of these models can serve as an aid in planning systematic encouragement of individual competencies. Competence development is not a one-off event but rather a gradual process.

Cherniss and Goleman (2001) thus define the cycle or process of (emotional) competence development as: (1) preparation for change; (2) training or learning; (3) application; (4) knowledge transfer and maintenance; (5) evaluation. They use this cycle to define the acquisition of emotional as well as other competencies at personal and organisational levels. The authors mainly stress the need to focus on identifying an organisation's and the involved individuals' needs; a positive and goal-oriented attitude, motivating the individuals, transfer of the newly-acquired competencies into all spheres of the activity, and an ongoing and final evaluation which provides information about what has been gained and what needs still exist or were created anew.

When analysing the characteristics of competencies, it is obvious that we are not discussing only various competencies and areas that the competencies, linked to education, encompass, but also how these develop and change. Competence development and change take place at two different levels, however all the factors are interconnected. This is why it is almost impossible to talk about a single activity or form of activity that could impact teachers' actions while teaching. In order to change teachers' actions, a direct hypothesis that a specified activity will contribute to cannot simply be made. Rather, it is necessary to suppose that a wide range of various activities are needed, which encompass both personal and professional progress.

## Professional Development

Professional and personal progress can be defined in its widest scope as professional development, which influences the alteration of teachers' actions. Professional development of teachers can, in the narrowest sense, be understood as further education and training, even though it will be defined much more broadly in this paper. The wider context has also been used by other studies which have dealt with this topic. The TALIS (Teaching and Learning International Survey, 2009) study carried out by the OECD, defined professional development as all activities with the aim of developing individuals' (teachers') skills, knowledge and other characteristics that are reflected during teaching. These therefore include teachers' social, emotional and other competencies, which are not directly linked to education and training within the confines of their profession.



In her definition of professional development, Valenčič Zuljan (1999) lists two broader models of teachers' professional development, which branch out from different epistemological points of origin, namely:

- *A traditional perception of the occupation*, which stems from a technical-rational understanding of professional activities and a behaviourist model of teaching and learning. Within this perception teachers are treated as passive objects and have to be forced to undertake development. The initiative for teachers' professional development is thus external. This perception also stresses the need to change teachers, but pays scant attention to teachers' thoughts during the change, their needs, worries etc.
- *A critical-reflective perception of the teaching occupation* is based on an alternative understanding of expertise and a cognitive-constructivist model of teaching and learning, which focuses on qualitative exploration of teachers' cognition and stems from the assumption that it is necessary to understand how teachers think about their actions, and the

actions of students, and unearth the relations between teachers' internal processes and their actions.

In order to successfully implement the desired changes, it is necessary to use the critical-reflective perception of the teaching occupation, where, according to Valenčič Zuljan (ibid.), teachers' professional development is a continuing process of development throughout all periods of their professional career. The characteristics of this model are summarised in the following items (ibid.):

**a)** *A teacher actively shapes and directs his/her development*
A teacher's professional development is a process that originates from within and is based on trust in the teacher.

**b)** *A teacher is a professional with the ability to be critical*
A teacher is an expert who is capable of critical thinking about his/her practical activities and work context. Importance is placed on his/her professional autonomy, which must be based on professional competence and ethics.



**c)** *A teacher's professional development means linking perception with actions.*
A teacher's professional development thus connects his/her perception and actions:

- *Teacher's conceptions:* include recognising, accepting and internalising higher orders of perception of learning and teaching, which take place within a constructivist learning model. Higher perceptions stress the importance of student activities in all phases of the teaching process and entail an increased responsibility in a variety of various teaching methods. A teacher develops alongside the student: students have the chance to take initiative and responsibility for their learning, while teachers professionally develop alongside them by reflecting on, giving meaning to, and transforming their experiences (see Scardamalia and Bereiter, 1989; Kember, 1996). According to Korthagen and Kessels (1999), being aware of the main aspects, connected with our actions, is the key phase of reflection. Thus the teacher must firstly become aware of his/her perceptions regarding learning and teaching and can only afterwards alter his/her subjective conceptions.
- *Teacher's actions:* Scardamalia and Bereiter (1989) point out that accepting higher perceptions regarding teaching, and gaining suitable procedural knowledge and situational perception, give the teacher an ever-increasing flexibility in his/her decision-making and actions, as well as the ability to solve problems at increasingly higher levels.

**d)** *Reflection is the means for a teacher's professional development.*
Schön (1983, 1987) emphasises that the capability to think about actions is an important part of a teacher's professional development. Schön points to the circular conversation with the problem (ibid.): determining and defining a problem, transforming the situation at hand and creating the hypotheses for practical actions.

**e)** *The cognitive-constructivist teaching model is a framework for a teacher's professional development.*
A teacher should see him/herself through the eyes of a student and simultaneously think in a meta-cognitive manner about ways to organise the teaching process, its methods and forms, his/her emotions, as well as analyse these discoveries about him/herself as a student.

**f)** *A teacher's professional development is a lifelong process.*
A teacher's professional development is a lifelong process, which includes continuous learning throughout their entire professional career.



**g)** *A teacher's professional development is a comprehensive growth process.*
The notion of a teacher's professional development has three dimensions (Bell, 1993): social development (developing cooperation amongst teachers), professional development (becoming aware of and making changes to subjective notions, attaining skills, knowledge, competencies), and personal development (becoming aware of and making changes to an individual's own thoughts, feelings, improving self-perceptions) (Bell, 1993). Therefore, it is not a single act and cannot be obtained during formal education only.

**h)** *A teacher's professional development is a process of cooperation and cooperative learning.*
It is very important for professional development that the teacher is not left only on his/her own, but has the possibility of cooperation.

In this segment, teachers' professional development was defined. In summary, and in accordance with Valenčič Zuljan (2001), it is imperative that teachers continue to give meaning to and develop their perceptions and alter their teaching practices as they continue with their lifelong learning. This is a process that pertains to the teachers' fundamental role – teaching – and includes their personal, professional and social dimensions as well as signifying their progress towards critical, independent and accountable decision-making and actions (ibid.). While explaining teachers' professional development therefore no aspect of their lives can be excluded, and the impact of their formal education (including undergraduate and lower levels in which the teacher was enrolled in), must also not be forgotten.

With that in mind, teachers must be given the chance and support to ask themselves why change their actions, what to change, how to change, who to cooperate with and how to evaluate the changes? This can, as also noted by Ažman (2004), only be done in a school, where such questions are also asked by other teachers, management and other stakeholders (parents, counselling service, students), while the wider environment (expert bodies, government) must support and facilitate this.

## Subjective Conceptions

At present, it is impossible to present a unified definition of knowledge or criteria for its evaluation. Apart from the rapid changes to the content and needs for various types of knowledge, the evaluation of knowledge is also influenced by personal views on knowledge itself; learning and teaching; and on the importance of knowledge evaluation. The views of teachers and students regarding learning and teaching are an important factor through which an understanding of what makes successful learning and teaching, and what achievement is, can be reflected.



Numerous researchers have studied personal views of knowledge, teaching and learning in the area of education, which is why many naming schemes appear in this area (see Rutar Leban, 2010). The term subjective conceptions has been chosen for the purposes of this study since it reflects the most wide ranged descriptions used.

Marentič Požarnik (2000) defines subjective or personal conceptions as encompassing individuals' ideas on a topic. These ideas are often coloured by emotions and values, are not completely conscious, clear or logical, but can be of help in one's attempts to understand the world and find one's way in it. Subjective conceptions of learning, knowledge, teaching and the roles of the teacher and students in these processes are especially important in the area of education. The subjective theory is, meanwhile, a system of more interconnected and related notions (e.g. about all the mentioned phenomena).

The question arises as to what shapes and changes subjective conceptions. In the area of education, the highly topical question is whether it would be possible to deliberately act in the direction of altering subjective conceptions and subjective theories and thus effect a change in, for instance, knowledge evaluation and student achievement.

Polak (2008) defines subjective theories of teachers as partially or completely implicit, and relatively permanent unions of several subjective notions from specific areas of pedagogical activities. They are shaped during the acquisition of knowledge, experiences and values within a specific social and educational context. They appear in the form of personal beliefs, ideas or schemes.

These are connected into an internally-linked structure, for which an individual is prepared to constantly seek new arguments and selectively perceive and integrate new information that is cohesive with this structure. Subjective theories guide teachers' pedagogical actions in concrete situations, but are not very often expressed in verbalised form.

Pajares (1992) states that subjective theories are more malleable in the 'early phase of the teaching career', before they become highly resistant to change. They are increasingly less adaptable the more central a "position" they hold in the dimension of the importance of an individual's system of personal beliefs. The more functionally connected they are to other beliefs, the more centrally located they are and the more influence and consequences they have on an individual's other positions, values and actions. This is, of course, valid for all subjective notions, which can be important when an individual is in the role of a professional – a teacher.

In order to alter subjective conceptions of teachers, it would therefore be necessary to ensure acquisition of new knowledge, but even more so new experiences and a (trans)formation of values. A systematic push that would encourage gaining experience, knowledge and values is only possible through facilitating additional professional development, which would include all of these elements. Or even more so, a push towards self-activation of teachers to pursue these.



Polak (1999) lists numerous authors (e.g. Yaxely, 1991; Calderhead, 1993; Hamilton, 1993; Marton, 1994; Zeichner, 1994; Calderhead and Gates, 1995; Bell and Gilbert, 1996; Dipardo, 1999) and emphasises that they have a common belief that changes to an individual's pedagogical approach are necessarily connected to the processes of awareness, reflection and experience-based learning. These processes, without which personal and professional development would not be possible, allow the uncovering and verbalising of personal resistance, fears, negative expectations, pressures and other problems. The causes for such resistance are most often the fear of a new and personally untested pedagogic approach and, only rarely, objections based on expert knowledge.

Another interesting question is to what extent and in what way pedagogical processes (learning, teaching) and their changes connect to those characteristics of teachers that are only rarely discussed within the framework of further education and training, even though they can be understood as part of teachers' professional development (e.g. flexibility and compassion). If professional development is understood in its widest scope, this also includes personal characteristics, competencies and their development. Apart from acquiring knowledge and experience and (trans)forming values in the area of understanding teaching and learning, the notions on learning and teaching most certainly also change during the acquisition of knowledge and experiences, and during the (trans)formation of values, which are not directly linked

to teaching and learning. One must not think of the teaching and learning processes as being automated and changes to them cannot be understood as an automatic, but rather as a complex process.

An educational effect is not arrived at mechanically and directly, but indirectly through complex human interaction, a mix of active and multi-directional relationships between students, teachers and parents, as well as between teachers, counselling and management staff in an educational institution. The so-called 'onion model', which shows the layers of a teacher's personality and places his/her beliefs and notions into one of its deeper layers, is presented as the key model by some authors (Korthahen, 2004; Marentič Požarnik, 2005).


(5) ←… learning **skills**, teaching methods and techniques

(4) ←… **competencies** (wider capabilities)

(3) ←… **notions** (**mental models,** beliefs), e.g. in relation to learning, teaching and knowledge

(2) ←… professional **identity**

(1) ←… (authentic) **personality**

Figure 9: Layers of a teacher's personality: the onion model
Source: Korthahen, 2004; Marentič Požarnik, 2005

The model presupposes that the deepest and hardest-to-reach level regarding changes is (1) the teacher's authentic personality as a unique set of his/her psychological and physical characteristics, followed by (2) the teacher's most general definition of his/her own role – his/her professional identity (in answer to the question: Who am I when I'm teaching and what is my mission in the school?). The layer above that is (3) teacher's perceptions about the various aspects of the education process: his/her mental models, notions about knowledge, teaching, classes. Layer (4) is the layer of competencies, a complex system of knowledge, skills, strategies and routines for their application as well as emotional elements. On the surface are (5) methods, techniques and a teacher's actions. The layers located deeper down influence the layers closer to the surface, but are less accessible to the consciousness and are more dif-

ficult to change. According to this model, a teacher's true personality, professional identity, notions and competencies define his/her teaching strategies and, through that, the quality of his/her teaching. However, the opposite connection also exists, which is also important and cannot be neglected – changes to those layers nearer the surface through reflection can lead to changes in the layers further down.

Understanding each of the individual influences is of key importance in order to increase the effectiveness of reciprocal influences. While keeping in mind that an educational effect is a complex consequence of giving meanings to reciprocal social interactions, it is most certainly necessary to point out the possibilities of how to form and transform one's knowledge about a certain occurrence. Only if teachers remain aware that their own knowledge and actions can be changed, and know the ways in which this can be achieved, can it be expected that they will transfer this knowledge to youths. At the same time, the resilience of youths can only be increased if they are made aware of the possibilities made available through the changing of knowledge.



Korthagen (2004) thus developed a model of core reflection, through which an individual can become aware and improve his/her options for transforming the already acquired knowledge, experience, cognitive structures, feelings, emotions, motivation to learn and an engaged attitude towards work etc. Korthagen and Kessels (1999) describe four phases (the ALACT model[3] for reflection), which are suitable for facilitating and developing an (active) reflective attitude towards one's professional activities and professional development, based on an analysis of one's own practice and cognition that guide an individual's thinking, actions, evaluation and comprehensive activities: 1. action; 2. looking back on the action; 3. awareness of essential aspects; 4. creating alternative methods for action.

(Self)Reflection in such a cyclical form is the activity that directs teachers towards creating new approaches and methods for further actions while analysing their own activities. Teachers' own views of knowledge, learning and teaching can also be of key importance in what teachers report about students (are students successful, how successful they are) and how students perceive this assessment. None of the discussed concepts (e.g. grading or transferring knowledge) can be defined in a limited fashion as part of subjective conceptions, but rather they belong in one of the key competencies of teachers, as was previously stated at the start of this paper.

3 The ALACT model is named after the initial letters of individual phases: 1. *Action*; 2. *Looking back on action*; 3. *Awareness of essential aspects*; 4. *Creating alternative methods of action*. The fourth phase is followed by the fifth, labelled *Trial*, which at the same time functions as phase 1 – Action (Korthagen and Kessels, 1999).

## Evaluating (Learning) Performance

When analysing the importance of knowledge and competencies for effective teaching and learning one must not overlook the possibility of a link between expectations of knowledge (part of subjective conceptions) and knowledge evaluation (also connected with the specific competence of assessing, grading and evaluating knowledge). If an individual is expected to attain a certain level of performance at the end of term, this also involves how the individual's achieved knowledge is evaluated, as numerous researchers have confirmed that one's expectations can influence one's own and others' future results. This has been named a self-fulfilling prophecy (cf. Gomboc, 2011).

Two key approaches exist that are based on the occurrence of the self-fulfilling prophecy and which explain the impact of teachers' expectations on the behaviour of students: The Rosenthal effect and the theory of labelling (Pečjak and Košir, 2002). The Rosenthal effect deals with amplifying positive behaviour, while the labelling theory deals with a typology of unwanted behaviour. Both approaches allow the following conclusions on the impact of teachers' expectations about students' behaviour and outcomes, which represent the dynamics of a self-fulfilling prophecy (ibid.):



- Teachers develop different expectations towards students, based on their learning outcomes, behaviour or other information that they acquire about them (e.g. students' SES, their physical attractiveness, information about students received from other teachers etc.).
- Teachers' positions and their expectations towards the students influence their verbal and non-verbal behaviour towards students.
- Students can perceive that a teacher behaves differently towards individual students.
- Based on a teacher's different attitude towards them, the students become aware that the teacher has a different attitude towards, and expectations from, them. Students adjust their behaviour to the teacher's expectations and in time their learning outcomes (or behaviour) fall in line with the teacher's expectations.

The prominence of this effect is certainly linked to attaining professional knowledge about these occurrences and the development of teaching and knowledge assessment competencies. Parallel to the increase of professional knowledge and competencies in this area, the subjective views on the quality of knowledge that the students are supposed to achieve can also change. This means that the generic competence of learning how to learn is also touched upon.

One of the key points in fostering flexibility, curiosity, resilience, motivation, social competencies and in-depth understanding of knowledge in stu-

dents is, undoubtedly, the grading process, i.e. assessment of students' learning outcomes. The fundamental process here is integrating the assessment of student achievement or learning outcomes in a wider context of the process of learning and teaching. It can also be pointed out within the context of this paper, that the concept of student underachievement is especially important. This paper attempts to analyse it, together with the discrepancies in the conceptions of teachers and students. Integrating the assessment of achievement and learning outcomes throughout the entire teaching and learning process is one of the elements that reduces the part of those students whose low learning outcomes are mainly caused by being unsuccessful at expressing their knowledge. An additional issue also appears due to the differences between the views of teachers and students regarding the learning and teaching process as well as assessment of knowledge and outcomes.

## Divergence between Views of Teachers and Students



Results of various studies have shown the following forms of teacher behaviour towards students from whom higher learning achievement is expected: the teacher asks them a greater number of questions and more difficult ones, gives them more time to answer, interrupts less often when they are answering (Allington, 1980; Good and Brophy, 1995, summarised in Pečjak and Košir, 2002) and in general encourages and smiles at them more often, showing them more warmth through various forms of non-verbal behaviour (Rosenthal, 1987, summarised in Pečjak and Košir, 2002). In contrast, the teacher asks easier questions, gives them less time to answer, waits less time for an answer and provides less encouragement to those students towards whom he/she has lower expectations. Good and Brophy (1995, summarised in Pečjak and Košir, 2002) found that teachers either accepted unsuitable/incorrect answers from such students or criticised them for giving the answers, praised them less often for the same answers than the students from whom they expect more .

Various studies also discovered a connection between teachers' attitude towards specific students and these students' learning achievement, their self-image, acceptance by their peers etc.

Teachers' expectations and the behaviour linked to it can influence student learning outcomes directly or indirectly – during the development phase of children's expectations and motivation. The strength of the indirect impact depends on students' ability to correctly detect and interpret teachers' behaviour (Cugmas, 1995). Past studies have tried and succeeded in proving the impact of a self-fulfilling prophecy or the so called 'Pygmalion effect' (e.g. Rosenthal and Jacobson, 1968). More contemporary research has confirmed that teacher expectations greatly influence students' learning outcomes, however,

it has also discovered the major role played by other background factors, such as motivation, learning habits etc. (cf. Chang, 2011).

An important indicator of individuals' learning outcomes is also their behaviour in the classroom, where analyses have shown significant links between student achievement and negative forms of behaviour in the classroom (Vršnik Perše, Kozina and Rutar Leban, 2011), whereupon a teacher's preference for certain students can act as a mediator between classroom behaviour and student achievement (Pečjak and Košir, 2002).

Regardless of the above – or supplementary to it – an important role is also played by the divergence between the perceptions of teachers and students. Evaluating learning outcomes, regardless of the criteria which was used to define them, inevitably involves one's own conceptions of the outcome for all involved. Regardless of the clarity of the set criteria, there always appears to be a tendency for individuals to understand and interpret them in different ways.

Numerous studies, which compared the opinions of teachers and their students regarding teachers' behaviour while teaching, have also been carried out in Slovenia (Javornik Krečič, 2004, 2008; Ivanuš Grmek et al., 2006; Vršnik Perše et al., 2013). These studies contain interesting conclusions which can, however, be summed up in the finding that immense differences appear between the two sides in their views on the discussion of learning content as well as on the process of learning and teaching.



Since this paper focuses on underachieving students, it is prudent to point mainly to those segments of education where students with such achievement[4] can be found in the greatest number – i.e. vocational education and training programmes. Studies have delved into the process-orientation[5] of teachers in vocational education and training institutions (Vršnik Perše et al., 2013). The results were based on teachers' conceptions of learning and student work as well as their own teaching. They have shown that teachers consistently stated their process-oriented conceptions about student learning and work, about their own teaching, and also saw their methods of passing on knowledge as process-oriented.

Analyses of differences between the answers by teachers and (their) students (ibid.) have also been carried out and have shown statistically significant differences for all (five) factors,[6] which determine the views on the treatment

4 In this case, low outcomes are understood as learning achievement of students within compulsory primary/lower-secondary education.

5 Bolhuis and Voeten (2004) define process-oriented teaching as a teacher's orientation towards triggering students' sensibility for their internal regulation processes (self-regulated learning) through students' active shaping of knowledge in contrast with acquisition of knowledge as a mere reproducible unit, through a teacher's seeking of, allowing for and creating various ways to learn and through a teacher's tolerance for conflicts and uncertainty. The issue of the context in which an individual exists is, of course, also relevant here.

6 The evaluation study *Professional Development of Teachers in Vocational Education and Training* (Vršnik Perše et al., 2013) allowed teachers and students to assess the frequency of various teaching

of new learning content. Similarly to what has already been discovered in previous studies and on different samples (for a sample of teachers in general upper secondary schools see Ivanuš Grmek et al., 2006), teachers in vocational education and training strongly believe that they use process-oriented teaching methods, while their students believe that the same teachers use process-oriented methods somewhat less frequently. Teachers on average stated that their usage of process-oriented methods lies somewhere between "sometimes" and "often" (M = 3.55),[7] while the students on average said that these methods were used "sometimes" (M = 3.18). Statistically significant differences were detected in 9 out of 13 questions. When these questions were joined into factors, statistically significant differences ($p < 0.05$) between teachers and students appeared in all factors (more in Vršnik Perše et al., 2013).

In general it is thus possible to say that students see the teaching methods by teachers as quite traditional, whereas teachers see them as more process-oriented. A significant statistical difference is present between these views. In relation to this, it is not clear what the reasons for these differences are nor, which population assesses what happens within the teaching process more realistically. However, it is clear that teachers, due to their expert and professional disposition, should be the ones to alter their conceptions and actions and thus decrease the divergence between their own and students' views on teaching practice.



The particular focus was on analysing data by various groups of students – those who reported that they had a high learning achievement (i.e. grade-point average) in the past education year (excellent or good) and those who reported that their achievement was low (failing, below average, average). All the factors regarding the treatment of learning content have shown statistically significant ($p < 0.01$) differences between teachers and low-achieving students (MD = 0.766) compared to the difference between teachers and high-achieving students (0.616). However, the differences between the teachers and students were statistically significant for all cases ($p < 0.01$).

Studies (cf. Goddard, 2001) have shown that a more process-oriented treatment of the subject matter taught is connected to the fact that teachers expect a more process-like knowledge from their students, which allows for greater flexibility and resilience. Additional research is needed in order to be

methods on 33 claims. Both groups assessed the frequency (on a scale of 1 = never to 5 = always) of the same ways of treating the contents (teacher and student behaviours during class) and thus allowed for a comparison between them. An exploratory factor analysis discovered that the methods of treated subject matter are classified into five sets: active encouragement of students by the teacher, focus on practical usefulness, use of audio-visual aids, passive role of students and a motivational approach towards the treatment of subject matter.

7 Teachers and students assessed how often they detected the described teacher's behaviour during the lessons for each question (questions were the same for both groups). The frequency of use was assessed on a scale of 1 = never to 5 = always.

able to directly present the links between the process-oriented treatment of the subject matter taught and student achievement.

In focusing on improving the flexibility and resilience of those whose achievement is below their own expectations and the expectations of their environment, it is therefore necessary to also note the encouraging process-oriented activities, connected to the education process. In doing so it is worthwhile centring on providing two-way information and bringing all participants face-to-face, as direct confrontation of various models and active reflections can lead all participants to new discoveries and, consequently, changes in their behaviour.

## Conclusion

In conclusion it needs to be stressed again that the author's research stemmed from the understanding of teachers' conceptions as a personal and implicit construct, which is formed within individuals' personal history as an accumulated collection of all their experiences and discoveries and which functions like a compass in their lives. This is also shown in qualitatively different ways of individuals' understanding, interpreting and activities. Implicit conceptions are important in defining students' outcomes and their improvements as well as bolstering resilience, because studies show that conceptions are linked with a surface approach to learning and transmission teaching on the one hand and with an in-depth approach and activating teaching strategies on the other hand. Of course the importance of other circumstances and explanations, those that impact on the de facto quality of learning and teaching, also has to be stressed. As a guideline, conceptions can therefore be pointed to that encourage independent learning and, in consequence, process-oriented teaching (Bolhuis and Voeten, 2004) or, further down the line, follow an interpretative paradigm, which at the same time forces us to consider the context of each individual (Gettinger and Stoiber, 2009). Through the process of professional development of teachers within the context of reducing the share of students with low learning outcomes, it is necessary to keep stressing the need to advance the entire process of teaching and learning as well as all the phases of the teaching process (including planning, examination, assessment, evaluation…) of each teacher for himself/herself.

This means that much effort will have to be invested in raising the awareness of teachers (as holders of knowledge) of their conceptions about teaching. Professional development will also have to be facilitated, so a more unified understanding of actions during teaching and understanding of expectations by teachers and students is achieved. Unifying the understanding of conceptions and actions will also allow for greater motivation, which is only possi-

ble while considering the context of each individual (teacher and student) and consequently a better understanding of expectations. Greater motivation moreover reduces the probability of undesired student outcomes, which refers to students with outcomes that do not meet the expectations of their environment and their own goals in terms of their abilities and other circumstances.

The factor that can be systematically addressed more than any other during professional development of teachers, and which allows the education process to then be altered, is without doubt updating educational policy. The first and fundamental precondition for changing conceptions and actions and bringing them closer to the conceptions of students is the provision of systemic conditions for professional development. Appropriate incentives, provided for by a system-wide framework of conditions, need to be put in place to increase awareness of a process-oriented teaching practice. While a systemic push to implement such practice is definitely welcome, a successful application also requires strengthening individuals' awareness of the importance of process-oriented teaching and learning and the awareness of different conceptions by teachers and students regarding teaching, learning and achievement.



The fundamental challenge that can contribute to a change in conceptions and actions of students and teachers is the question of whether the education process addresses the needs of all of its participants including teachers. Recognising the needs of those participants in the present and the near future is surely the factor that must come to the attention of education-policy makers and performers.

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# Parenting and Teaching Styles as Support or an Obstacle to Children´s Learning Achievement

**Tina Rutar Leban**

Abstract: *This paper deals with relationships between the teaching and parenting styles encountered by children and adolescents and their performance in a school environment. The focus is on analyses of results obtained in studies that examined the effects of the teaching and parenting styles adopted by parents, teachers and other adults of significance to children in relation to various aspects of children's development. In spite of numerous studies of teaching and parenting styles, relationships between this domain and children's or adolescents' performance remain largely unresearched. A particular focus of the paper is on two models of parenting style highlighted in most of the studies in this field. The main part of the paper presents the results of two studies conducted in Slovenia, as part of which the relationships between styles of upbringing, as experienced by adolescents, and adolescents' performance in two international comparative assessment studies, i.e. PISA 2006 and ESLC 2011, were researched. The results of the analyses conducted (based on Slovenian data) reveal the higher performance of adolescents, in the two aforementioned studies, is related mainly to a higher level of autonomy and adolescents' participation in the process of making important decisions in life, as well as parents' or teachers' demandingness.*

**Key words**: *teaching style, parenting style, performance in school, parents, teachers, students, pupils*



## Styles of Upbringing

A style of upbringing is a compound of socialisation processes used by parents and other adults in relationship with children when bringing them up. The

target group that the paper refers to are adolescents. However, in discussing styles of upbringing it is impossible not to discuss the relationship between children and parents in the first few years of children's lives, when the relationship is developed to a decisive extent. During interaction with children, parents and other adults start using various socialisation processes a when children are approximately two years old and are able to follow demands and directions (Marjanovič Umek and Zupančič, 2004). Socialisation-related demands directed at children increase in amount and multifacetedness in early childhood, and there are considerable differences between parents and other adults in terms of what their demands are like, and in what way they communicate these demands (Marjanovič Umek and Zupančič, 2004).

## Definition of Parenting Styles According to Diane Baumrind's Two Dimensions in Parenting

One of the best known definitions of socialisation processes in parents are the parenting styles by D. Baumrind (1967). Based on her observations of parents interacting with preschool children, Baumrind highlighted two basic dimensions of parenting styles: parental demandingness/undemandingness and parental responsiveness/unresponsiveness. In relation to the dimension of demandingness undemandingness, demanding parents put forward relatively high parental demands and insist on predefined standards of behaviour, whereas undemanding parents do not demand much from their children; and if they do make demands, they are not persistent and mostly do not wish to influence their children. Within the dimension of responsiveness/unresponsiveness, responsive parents are accepting towards their children and are almost always responsive, whereas unresponsive parents mainly reject their children and are seldom responsive. Using combinations of these two parental behaviour dimensions, Baumrind recognised four parenting styles: an authoritarian parenting style - the style of enforcing power (characterised by high demands and unresponsiveness to children's needs, interests, rights), an authoritative parenting style (characterised by a combination of high demands and responsiveness), a permissive parenting style – the style of inefficient control (characterised by low demands and responsiveness) and an uninvolved parenting style (characterised by parents' lack of demands and responsiveness) (Baumrind, 1967).

## Definition of Parenting Styles according to the Three-Dimensional Model by Zoran Milivojević

The theoretical background of the three-dimensional model of parenting originates in the transactional analysis theory. Various authors specialising in the field of transactional analysis have researched children's socialisation within and outside the family (e.g. Biddulph, 1998, 2003; Illsley Clarke and Dawson, 1998; James, 2001). The foundations of the three-dimensional model of parenting styles were developed by Zoran Milivojević et al. (Milivojević, Bilban, Kokelj, Kramberger and Steiner, 2004) as part of his supervision work with education practitioners; the model was later supplemented and adapted in accordance with the results of contemporary developmental psychology studies (Rutar Leban, 2011).

In comparison with the model of parenting styles by D. Baumrind (1971, 1991), who focused on two dimensions of parenting styles (demandingness and responsiveness), the three-dimensional model treats the dimension of responsiveness as two separate dimensions, i.e. the dimension of parents' responsiveness to children's socially acceptable behaviour - the authors call it the dimension of praise and rewards (Milivojević et al., 2004) and the dimension of parents' responsiveness to children's undesirable behaviour - the authors call it the dimension of criticism and punishment (Milivojević et al., 2004). The authors of the three-dimensional model define the dimension of demandingness as goal setting.



### Goal Setting

Setting goals for a child or making demands is one of the fundamental parts of the parenting process (Baumrind, 1997). By setting short-term goals throughout the process of socialisation, parents and other child-rearers lead the child to a long-term goal – acquisition of suitable competencies for an independent life in society. In respect to the dimension of demandingness, the authors of the three-dimensional model highlight the importance of adjusting child-rearers' demandingness towards children based on children's competencies and their development level (Milivojević et al., 2004). In terms of the characteristics of demands put forward by children's parents or other child-rearers, the model provides two standards for determining the suitability of the style of upbringing style in respect of the dimension of demandingness:

- the quality of the presented demand;
- the quantity of the presented demands.

In terms of the quality standard, the demand must be in accordance with children's competencies and their development level and must simultaneous-

ly also pose a challenge and not be set too low. In terms of the quantity standard, the authors emphasise a suitable number of demands that are in accordance with children's competencies and whose number is sufficient for children to successfully develop their abilities. There must not be too many demands, so that an excessive burden is not imposed on children, or too few, so children are not limited, or the development of their competencies hindered.

In relation to the dimension of demandingness, the authors mainly stress the aspect of goals being in line with children's development and their competencies, but fail to mention the aspect of taking into consideration children's temperamental and personality traits. Results of some studies (e.g. Kubicek, Emde and Schmitz, 2001) indicate certain children's temperamental qualities are related to their general cognitive functioning and development of speech. Some authors (e.g. Kagan, 2001; Rothbart, 1981; Thomas and Chess, 1984) include characteristics of children's cognitive functioning - such as attentiveness, persistence and distractibility, which play an important role in children's ability to achieve developmental goals - in the concept of temperament itself. Highly active children are thus often not sufficiently focused on demanding difficult thinking tasks to be able to learn how to complete them successfully.



## Responsiveness to Children's Socially Acceptable Behaviour

In the process of socialisation, child-rearers help children define socially acceptable or unacceptable behaviour by means of their feedback on behaviour, as well as by means of their attitude and behaviour towards children. Positive feedback on behaviour lets children know that they have mastered appropriate behaviour and that this behaviour is acceptable in a wider social context, and also encourages them to repeat this behaviour in the future.

Both in respect of the dimension of demandingness and that of parental responsiveness to children's socially acceptable behaviour, authors of this model (Milivojević et al., 2004) highlight the standard of quality and quantity of child-rearer's feedback or response, based on which suitability of a style of upbringing regarding this dimension is assessed.

In relation to the quality of positive feedback, the authors mostly emphasise the truthfulness of the feedback message or response. Untrue positive feedback (for instance a message such as '*Your picture is the most beautiful one in the whole world.*') can thus result in children developing an unsuitable self-image (Baumrind, 1997). In relation to the quality standard, the authors (Milivojević et al., 2004) distinguish between feedback about children's behaviour and feedback about children's personality. For a style of upbringing to be appropriate in terms of the standard of quality of positive feedback, child-rearers must use positive feedback (responses) about both children's behaviour and about children's personality (for instance a message like '*You've recounted*

*the story in a very creative way.*' and '*You're a good story-teller.*') Positive personality-related feedback helps children develop a suitable self-image (Berne, 2005; Biddulph, 1998, 2003; Illsley Clarke and Dawson, 1998; James, 2001).

Considering its function (consistency of socially acceptable behaviour), the authors (Milivojević et al., 2004) believe, during the process of learning socially acceptable behaviour, it makes sense to give positive feedback every time children display it or attempt to do so. When children have mastered this behaviour and it has turned into a routine for them, positive feedback is no longer needed. Accordingly, the suitability of the quantity of positive feedback on children's acceptable behaviour is determined according to children's achieved level of mastering a certain type of acceptable behaviour.

## Responsiveness to Children's Socially Unacceptable Behaviour

The function of responsiveness to children's socially unacceptable behaviour is to change such behaviour and replace it with a socially acceptable one. Feedback on children's unacceptable behaviour is thus an essential component of an appropriate style of upbringing (Baumrind, 1997). In relation to the quality of feedback on unacceptable behaviour, the authors of the three-dimensional model (Milivojević et al., 2004) emphasise the following two things:



- a message must always be directed at children's behaviour and not their personality;
- a message must contain the following elements: description of unacceptable behaviour, description of consequences of such behaviour and steering children towards acceptable behaviour.

In accordance with this model, an appropriate message, in terms of its quality as a response to children's unacceptable behaviour, is focused on behaviour only (for instance '*What you've written won't do for a positive grade.*' and not '*You're incompetent/stupid.*'). Negative messages directed at children's personality may contribute to children developing an unsuitable, negative self-image (e.g. Biddulph, 1998, 2003; Illsley Clarke and Dawson 1998; James, 2001). Also, the message should contain the aforementioned elements, which enable children to understand that certain behaviour is not appropriate and learn about its consequences, and to learn about appropriate, socially acceptable behaviour (Milivojević et al., 2004).

In relation to the quantity of feedback on children's unacceptable behaviour, Milivojević et al. (2004) emphasise child-rearers' consistency. Parents or other child-rearers should respond to each instance of children's unacceptable behaviour and steer it towards acceptable behaviour. If they fail to respond to such behaviour, or if they respond to it in an inconsistent way, children do not

receive sufficient information for suitable social development. Child-reares' inconsistency in responding is exhibited through children's increased defiance (Snyder and Patterson, 1995), makes children draw the conclusion that their behaviour does not create a reliable impact on the environment, which is displayed through their reduced motivation for achieving more demanding goals (Baumrind, 1997; Millar, 1972; Watson, 1971).

Authors of the three-dimensional model (Milivojević et al., 2004) believe messages about children's unacceptable behaviour are likewise inappropriate if used when children are behaving in an appropriate manner (for instance, when child-rearers repeatedly remind them of inappropriate behaviour displayed an hour or even a day before that, while children are now behaving in a perfectly appropriate manner). In this case, messages are not suitable in terms of their quantity and through them children's attention is redirected to socially unacceptable behaviour, which increases the likelihood of children repeating it. This sort of inappropriate communication in upbringing can likewise lead to an unsuitable, negative self-image.

In respect of interaction between parents or child-rearers and children, the authors distinguish between six parenting styles in individual dimensions (Milivojević et al., 2004): authoritative, authoritarian, permissive, overly protective parenting, uninvolved parenting style and the power-assertive parenting style.



## The Impact of Parenting Styles on Children's Development

Results of various studies show the authoritative parenting style is, generally speaking, most suitable for raising children in western, technologically advanced countries (e.g. Baumrind, 1967, 1971, 1989; Cugmas, 2003; Darling and Steinberg, 1993; Denham, Renwick and Holt, 1991; Kuczyinski and Kochanska, 1995). This parenting style is often associated with children's higher social competency, moral development, good mood, self-confidence, efficient emotion regulation, age-appropriate independence, tendency to control the environment and learn new things, as well as adaptability within educational institutions.

Children raised in a predominantly authoritarian parenting style exhibit a negative mood, anxiety and sadness more commonly (Baumrind, 1971) than children raised in the authoritative parenting style. The former are, in comparison with the latter, more suppressed in their behaviour, more dependent on adults and less inclined to exploring the environment. They often express hostility towards their peers in situations involving conflicting needs, opinions and interest and are, in general, less socially adapted in comparison with

their peers. The permissive parenting style is associated with children's relative immaturity, difficulties controlling their impulses, emotions and behaviour, impossibility to be pleased, defiance and tendency for instant satisfaction of needs. As for the uninvolved parenting style, on average, it has the most adverse impact on children's cognitive, emotional, social and moral development (Baumrind, 1971; overview also in Marjanovič Umek and Zupančič, 2004; Vidmar and Zupančič, 2006; Zupančič, Podlesek and Kavčič, 2004).

Naturally, children's development does not entirely depend on the style of upbringing of their parents and other child-rearers. Likewise, the same style of upbringing does not have an identical effect on all children. Children respond to identical processes of upbringing differently and, on account of their temperamental and personality traits, simultaneously also encourage child-rearers to use different approaches. Which of the styles of upbringing will prevail among parents and child-rearers is thus not only dependent on parents and child-rearers themselves, but also on children and interactions between children's traits and characteristics of a style of upbringing (Marjanovič Umek and Zupančič, 2004; Vidmar and Zupančič, 2006; Zupančič et al., 2004).

Although results of various studies suggest an authoritative parenting style to be more efficient than others, this does not mean there is a general positive effect of this style on all aspects of children's development. Study findings indicate socialisation processes are differently associated with different aspects of children's development (Petit, Bates and Dodge, 2000, in Zupančič et al., 2004). Children with a difficult temperament experience the most powerful and adverse impact from the permissive and uninvolved parenting style, and slow children by the authoritarian style. Parents' common response to children with a difficult temperament is, for instance, swinging between the authoritarian parenting style (power assertion techniques) and permissive parenting style (inconsistency), but this is less common when it comes to children with different temperamental patterns (overview in Marjanovič Umek and Zupančič, 2004). The authoritarian parenting style (power assertion techniques) exerts an adverse effect in raising shy and nervous children, but has no effect on children who are not nervous (Kochanska, 1991, 1995, 1997).



In adolescence, the relationship between children (adolescents) and their parents is generally reorganised, mainly in the sense of a more symmetrical interaction, mutual communication and possibility of negotiations in conflict situations (Allison and Sabatelli, 1988; Grotevant and Cooper, 1986), which also impacts some of the elements of parenting style. Adolescents' relationship with their parents depends largely on the quality of the relationship prior to adolescence. Parents who make demands that are in line which their children's competencies, provide an emotionally supportive environment, encourage children's autonomy and initiative and are more inclined towards adjustments called for by the biological and psychological changes in adolescence. A well

differentiated family makes it possible for adolescents to think, feel and act independently of other family members and simultaneously calls for respect of other family members' right to autonomy (Crespi and Sabatelli, 1997). In spite of increased autonomy in the relationship between parents and adolescents, becoming independent does not also signify breaking off a positive emotional attachment to parents. Some studies have shown that a combination of an unsupportive family environment and high emotional independence from one's parents was an important indicator of adolescents' problematic behaviour, psychological problems and low academic achievement (Chen and Dornbusch, 1998; Lamborn, Mounts, Steinberg and Dornbusch, 1991). Similar results have been revealed by studies on the relationship between the type of attachment to parents and adolescents' psychological adjustment. Adolescents who exhibit a secure attachment style are characterised by greater resistance of the ego, lower anxiety, lower hostility towards their peers, a more positive self-image and fewer psychological symptoms than adolescents who exhibit ambivalent and avoidant attachment styles (Cooper, Shaver and Collins, 1998; Kobak and Sceery, 1998). Adolescents' successful individualisation also involves maintaining a positive emotional attachment to their parents.



## Parenting Styles of Slovenian Parents

Results of various studies shows the predominant parenting style used by Slovenian parents of preschool children is the authoritative approach and the fostering of children's cognitive development; also existent to a smaller extent are the permissive parenting style and the power-assertive parenting style (e.g. Cugmas, 2003; Veber, 2003; Zupančič et al., 2004).

To make sure their children adopt acceptable behaviour, mothers of Slovenian children most often use verbal encouragement and less often offer rewards. To do away with their children's inappropriate or unacceptable behaviour mothers most commonly use distraction,[1] induction[2] and negative reinforcement,[3] and less often fostering empathy and ignoring behaviour (Zupančič and Kavčič, 2002, in Zupančič et al., 2004). In comparison with fathers, mothers believe they encourage their children's cognitive development to a larger extent and regard themselves as authoritative. Contrary to this, fathers report more frequent use of power assertion techniques and more inefficient control over their children, compared to mothers (Zupančič et al., 2004). The reasons for these differences, as pointed out by the authors, are mainly differences in the perception of a mother's and father's parental roles, differences in

1 Diverting attention.

2 An explanation of the consequences of children's inappropriate behaviour.

3 In connection with some sort of inappropriate behaviour, children experience something unpleasant (punishment) and are in the future therefore less inclined to this sort of behaviour.

mothers' and fathers' opinions on what is efficient parenthood and differences in daily situations that involve interactions between a mother and a child, or a father and a child. Nevertheless, researchers have, in parenting practices of parents of one of the children, found moderate correlations indicating that there are more similarities than differences between parenting practices used by mothers and fathers .

A comparison of parenting styles in terms of children's gender showed no statistically significant differences (Zupančič et al., 2004). According to the comparison, babies' and toddlers' parents respond to both girls and boys in a similar way, make similar discipline-related demands, show affection in equal measure, provide children with equal opportunities for learning, provide them with similar toys and other play materials etc. (Veber, 2003; Zupančič, 1999, in Zupančič, Kavčič and Fekonja, 2003).This may indicate that in Slovenia, stereotypes about gender-differences in child-rearing are disappearing; at least none of them were noticeable in the aforementioned studies in relation to parents of children up to the age of three. However, it needs to be taken into consideration that study results suggest parents do perceive their child-rearing practices to be the same, or similar, regardless of children's gender, which does not necessarily mean this is reflected in the relationship with their children.



## Teaching Style

In the 1980s, researchers investigated students' behaviour in different classes with the aim of establishing whether students' behaviour was also dependent on the teaching style (overview in Evertson and Emmer, 1982). As was the case in studies of the relationship between the parenting style and children's behaviour, here – i.e. in research of the relationship between students' behaviour and the teaching style - it was likewise revealed that in dealing with students who expressed a greater interest in schoolwork and delivered a better learning performance, teachers used consistent and appropriate control (for instance, they used praise, rewards and suitable punishment, and gave clear instructions) and responded to students' needs suitably (for instance, they explained the significance of completing certain tasks to students, they adjusted the difficulty level of tasks to students' knowledge and competencies) (overview in Emmer, Evertson and Anderson, 1980).

Recent studies of relationships between teaching styles and different areas of students' development point to the importance of consistent control, autonomy support and suitable responsiveness to students' needs. In one of the studies (Patrick, Turner, Meyer and Midgley, 2005), as part of which lessons in several classes of Year 6 of primary school were observed, researchers identified three different types of classroom environment, all of which were influ-

enced by teachers' behaviour. The first type of classroom environment was named a 'supportive environment'. It was characterised by teachers' high expectations for student learning, teachers' use of humour and a high level of respect. The second type of classroom environment was a 'nonsupportive environment'. Teachers who created this type of environment emphasised extrinsic reasons for learning, used authoritarian control and expected children to misbehave or cheat in exams. The third type of classroom environment was named an 'ambiguous environment', as some inconsistencies were perceived in the teaching style. On the one hand the teachers expressed a desire for student learning and high learning outcomes, but on the other hand they had low expectations. Inconsistency was also perceived in teachers' assertion of control in the classroom. Researchers also examined students' views on learning and knowledge. Students whose classroom environment was supportive expressed a less negative view on learning and knowledge than students who were in classes with a predominantly nonsupportive or ambiguous classroom environment.

J. Turner, D. Meyer, C. Midgley and H. Patrick (2003) researched relationships between teachers' responsiveness to children's needs and learning outcomes, and students experiencing unpleasant emotions with regard to school. Study results have shown the authoritarian teaching style (especially a teacher's lack of warmth in his/her attitude to students and students' low autonomy regarding schoolwork) is related to students' negative emotions about learning and avoidance behaviour in their attitude to schoolwork.



J. Walker (2008) studied perceived self-efficacy of pupils, their readiness for schoolwork and their learning performance in mathematics in three classes. At the start of the school year (this coincided with children beginning at a new school; children's age: 12), the classes were perfectly balanced in terms of pupils' performance in mathematics; also, in all three classes, the majority of pupils expressed a positive conviction about their efficacy in mathematics and relatively high readiness for schoolwork. In each of the classes, mathematics was taught by a different teacher and there were differences between teachers in their teaching styles. The researcher first analysed the teaching style of all mathematics teachers at the school in terms of their responsiveness and expectations in their attitude to pupils, and selected three teachers who represented the three teaching styles in the most representative manner: the authoritative, authoritarian and permissive. There were no significant differences between the selected teachers in terms of didactic characteristics of their teaching practices. After six months, the researcher looked again into pupils' convictions about their efficacy in mathematics, as well as their readiness for schoolwork and their performance in mathematics. The biggest differences, compared to students' results at the start of the school year, were noticeable in the class with the authoritarian teacher. In comparison with pu-

pils taught by the authoritative and the permissive teacher, these pupils expressed more negative convictions about their efficacy, and their readiness for schoolwork was also lower. Some differences in pupils' performance were also evident; the lowest performance level was achieved by pupils in the class taught by the permissive teacher, while there were no significant performance differences between pupils taught by the authoritative and the authoritarian teachers.

In relation to the teaching styles, some researchers also looked into the question whether the teaching style can be defined as a characteristic or a trait and thus remains stable with time and independent of any other factors - in particular education and work experience - or do teachers throughout the development of their teaching styles pass through different stages and the teaching style thus also depends on teachers' knowledge and work experience? Results of more recent studies, the research focus of which was mainly on fostering students' autonomy, show teachers can learn how to foster students' autonomy and integrate it into their daily practice, and also that measurements of this dimension of the teaching style are valid and reliable (Reeve, Bolt and Cai, 1999; Reeve, Jang, Carrell, Jeon and Barch, 2004).



## Relationships between Parenting Styles and Children's Performance

As part of the international PISA 2006 assessment in Slovenia, the relationship between parenting styles as experienced by adolescents and their performance in PISA scientific literacy tests was researched. The study was participated in by 6,595 adolescents (15-year-olds), where 48% were girls and 52% boys.

Results of analyses have revealed Slovenian 15-year-olds, on average, see the relationship with their parents as a fond one (Rutar Leban, Vršnik Perše, Kozina and Pavlović, 2009). Of the 15-year-olds, 80% report that their parents are often, or very often, affectionate towards them. Approximately the same percentage also report that their parents often show they love them through their actions and that they are able to turn to their parents for help whenever they have problems. Slightly less than 70% of 15-year-olds report that they are often, or very often, praised by their parents and approximately 60% of study participants say their parents often also praise them in front of other people.

The results in relation to communication and children's participation in making important decisions are similar. Slightly more than 70% of the 15-year-olds interviewed report that their parents often include them in the decision making process with regard to something that concerns them, approximately the same percentage that their parents often, or very often, explain their expectations and approximately 60% of the 15-year-olds report that their parents

listen to them even if they do not agree with them. Parents' occasional criticism and anger is reported by approximately one half of study participants, but less than 10% report parents' recurrent criticism or anger.

The results are consistent with the findings of previous research, which have shown that adolescents maintain a positive attachment to their parents (e.g. Mayseless, Wiseman and Hai, 1998; Puklek, 2001; Steinberg, 1990), that the relationships with parents in this period are for the most part not conflictory (e.g. Bosma, Jackson, Zijsling, Zani, Cicognani, Xerri, Honess and Charman, 1996; Puklek Levpušček, 2001) and that parents remain an important object of attachment for adolescents (e.g. Paterson, Field and Pryor, 1994; Paterson, Pryor and Field, 1995). Results of the Slovenian study (Puklek Levpušček, 2003) have revealed slightly more than 60% of 15-year-olds can be classified in the group of adolescents who show a moderate attachment to parents or a very harmonious relationship with their parents.

Nearly 90% of the adolescents interviewed replied in the affirmative when asked if their parents like spending time with them, and approximately the same percentage believe parents are proud of what their children do. Approximately 85% of adolescents think parents let them know they are appreciated, and approximately 80% of 15-year-olds report that their parents talk to them whenever they do not approve of their behaviour. The results suggest that the majority of the participating 15-year-olds have a harmonious relationship with their parents, which is consistent with previous research in this field (e.g. Puklek Levpušček, 2001, 2003; Steinberg, 1990).



Correlations between the responses of 15-year-olds regarding the elements of parenting styles used by their parents and their own performance in mathematical, scientific and reading literacy in PISA were relatively low. All correlation coefficients were lower than 0.20. The highest correlation with adolescents' performance was shown for responses to the statement '*My parents ask about my opinion when deciding about something that concerns me*' ($r$ = 0.10–0.13). The highest correlation was perceived between the responses to this statement and adolescents' performance in reading literacy. The higher the extent to which Slovenian parents make 15-year-olds part of the decision making process, regarding something that concerns the adolescents' own lives, the better the performance in PISA reading literacy tests delivered by these 15-year-olds. Researchers (Rutar Leban et al., 2009) interpret this correlation as being related to fostering the development of the competency of argumentation and evaluation of the context, which is also assessed in PISA reading literacy tests. By encouraging children to think about the wider context of a situation, and to consider the future in doing so, parents foster the development of children's competencies related to independent argumentation and evaluation of specific contents. By granting children a greater degree of autonomy and responsibility in thinking, parents most likely encourage an an-

alytical and critical approach to understanding situations and contents. The results of a study conducted on a sample of older female adolescents from Norway (Von der Lippe and MØller, 2000) have similarly shown that the quality of negotiations in problem situations between female adolescents and their parents is positively correlated to the level of the development of their complex thinking, self-awareness, self-reflection and distinguishing between oneself and others, respecting interpersonal differences, distinguishing between different points of view and interpersonal mutuality.

The analysis of data in the aforementioned Slovenian study (Rutar Leban et al., 2009) has also shown a negative correlation between adolescents' performance in PISA and their responses to statements that could be classified into the field of control of the child. This refers to the following statements: '*my parents expect me to do what they want me to'; 'my parents only let me hang out with those of my friends who they think have a good influence on me'; 'it's important for me to fulfil the expectations of my parents';* and '*my parents want to know where I go and what I do'.* All correlations are lower than 0.20. The highest correlation is between adolescents' performance in reading literacy and their responses to the statement about limitations to their socialising with inappropriate friends. In relation to these items, the more that adolescents feel parents limit them, the lower their performance, in particular in the field of reading literacy. The highlighted statements represent some elements of the authoritarian parenting style. Parents who incorporate such elements in their upbringing, are also most likely use a more authoritarian approach in other areas of upbringing, give adolescents less autonomy and exercise a higher level of control. The social cognitive theory mainly emphasises the importance of autonomy for the development of beliefs in one's self-efficacy, which is an important part of children's self-image (Baumrind, 1997). An individual's beliefs in his/her own self-efficacy are related to motivation and the duration of effort devoted to overcoming obstacles on the path to the goal one is working towards (Bandura, 1989). Appropriate encouragement of autonomy is of particular importance in critical periods of the development of one's self-image, during the toddler period and early childhood, when children learn how to exercise their will, and in adolescence, when they distance themselves from their parents (Baumrind, 1971, 1991; Baumrind and Black, 1967).

Similar relationships between parenting styles and children's or adolescents' achievement have also been reported in other studies. Results of a study on intellectual development in adolescence (McCall, Applebaum and Hogarthy, 1973) have shown achieving higher results in psychometric intelligence tests (in comparison with results in one's childhood) is positively correlated with adolescents' independence and orientation towards learning achievement. Parents of adolescents who have made the most progress in comparison with their peers used rational, democratic, authoritarian parenting techniques

to a greater extent. On the other hand, adolescents whose IQ decreased in the period from childhood to adolescence received little stimulation within their family environment and their parents used predominantly extreme parenting techniques which are part of the authoritarian or the permissive parenting styles (McCall et al., 1973). Parents whose predominant parenting technique is power assertion and strict control, hinder adolescents' gradual independence (Zupančič and Svetina, 2004). The message they communicate to their children is that their children are not capable of behaving in an appropriate way on their own in various socially and cognitively more demanding situations, which has a negative impact on the development of children's self-respect and self-concept. The parenting techniques of power assertion used in relation to adolescents are associated with adolescents' low self-respect (Lacković-Grgin, Deković and Opačić, 1994).

Associations between one's relationship with parents as perceived by adolescents and performance in knowledge assessments in Slovenia were also analysed as part of the ESLC 2011 - European Survey on Language Competences (Rutar Leban, Mlekuž, Pižorn and Vršnik Perše, 2013). The survey assessed the knowledge of Slovenian Year 9 pupils in English and German languages; specifically, pupils' reading and listening comprehension, and writing in the aforementioned two languages were assessed. In addition to the knowledge assessment test, the sample of 1,041 Year 9 pupils completed a questionnaire on relationships with parents (Kozina, Rožman and Rutar Leban, 2010). The questionnaire includes statements describing various aspects of the relationship between parents and adolescents. Of the 23 statements included in the questionnaire, pupils' answers to only two of the items are statistically significantly correlated with their performance in the ESLC English test (Rutar Leban, Kozina and Rožman, in preparation). These two statements are '*My parents often compare me to others*' ($r = 0.22$; $p < 0.05$) and '*My parents are strict*' ($r = 0.19$; $p < 0.05$). The two statements are statistically significantly correlated only with pupils' performance in reading comprehension, both of the correlations are relatively low. Relationships between performance in listening comprehension and writing and pupils' replies to the questions about the relationship with parents are not statistically significant. These relationships indicate that a higher performance in reading comprehension is delivered by those Year 9 pupils who agree more strongly with the statement about parents comparing them to others, and with the statement about their parents being strict. As part of the three-dimensional parenting model by Milivojević et al. (2004), both of these items describe the authoritarian parenting style. The authors (Milivojević et al., 2004) believe that parents or child-rearers, whose predominant parenting style is authoritarian, impose demands that are too frequent and too high. The conviction behind this parenting style is that children's developmental characteristics and competencies are not an important factor of interac-

tion with children and that through appropriate strictness, through assertion of power and suitable conditions imposed on children it is possible to lead them to the desired goal. Adults whose predominant parenting style is authoritarian either do not respond to the children's socially acceptable behaviour or respond in an inconsistent and inappropriate way. Authors refer to this parenting style as the oversocializing parenting style and believe it results in children who are overly socialised (Milivojević et al., 2004). An overly socialised child is one who develops a relatively low self-image and is, throughout his/her life, strongly influenced by the opinion other people hold of him/her. He/she is constantly searching for validation of his/her capabilities, is fishing for compliments, is in dire need of them, and when he/she does receive validation, he/she is unable to accept it in a suitable way. Throughout their life, a person raised in such a way is characterised by performance-oriented behaviour, puts in a great deal of effort into his/her work and is mostly very successful, however, he/she takes no satisfaction from success (Milivojević et al., 2004). Maybe this performance-oriented behaviour could explain the aforementoned relationships. Adolescents raised in a more authoritarian style, behave in a more performance-oriented way since they are driven by the desire for their parents' recognition, which they receive only rarely. For this reason, they are more successful and also achieve better results in international assessment studies. However, the question is whether this sort of motivation proves efficient in the long run.



## Conclusions and Recommendations

Relationships between parents', teachers' and other child-rearers' styles of upbringing used on children and adolescents, and children's achievement within the school environment remain largely unexplored. However, individual studies have nevertheless detected some trends in relationships between these two domains. At this point it seems most logical to highlight those relationships that have proven to be significant both within one's home and school environments.

The factor related to the style of upbringing that has proven to be of significance, both in one's home and school environments in association with children's school performance, and that has been highlighted as such in various studies, is children's or adolescents' autonomy. The higher the extent to which parents make adolescents involved in the decision making process regarding something that concerns the adolescents' own lives, the better the performance delivered in PISA reading literacy tests by these 15-year-olds. By encouraging children to think about situations that call for giving some more thought to the wider context and considering the future, parents most likely

foster the development of children's competencies related to independent argumentation and evaluation of specific contents. By granting children a greater degree of autonomy and responsibility in thinking, parents probably encourage an analytical and critical approach to understanding situations and contents. A similar picture is revealed in a school context; students' low autonomy in schoolwork is associated with negative emotions about learning and avoidant behaviour in their attitude to schoolwork, which is consequently reflected in students' performance.

Another factor related to teaching and parenting styles, highlighted in the aforementioned studies as being significant in relation to students' academic achievement, are the high expectations or demands put forward by adults in their relationships with children and adolescents. The classes taught by teachers who had high expectations about students' knowledge and capabilities produced better outcomes than the classes taught by teachers whose expectations were low. In a similar fashion, parents' higher expectations are likewise associated with children's better achievement.

In relation to conclusions and recommendations consideration should be given to the correlations between individual teaching/parenting style characteristics and adolescents' performance in international comparative assessment studies that were relatively low in the majority of studies. What is more, conclusions cannot be made about the direct impact of teaching/parenting style on students' performance in international assessments studies on the basis of the results. An in-depth analysis of correlations would probably come up with a number of variables that interact both with children's achievement and also the teaching/parenting style.



However, in spite of this, two things can nevertheless be highlighted as the two variables that are most significantly correlated with adolescents' academic achievement: the level of adolescents' autonomy in learning and teachers' higher expectations about adolescents' knowledge and competencies. Teachers can control both of these two variables and change them as they deem appropriate.

In light of the presented findings and conclusions, it would undoubtedly be advisable to present these findings to parents and teachers in the future, and to develop various education and training courses where parents and teachers could be familiarised with practical means of fostering autonomy in children and adolescents. Another good idea would be to highlight the contents related to autonomy in children as part of teachers' undergraduate studies at faculties of education, thus contributing to dissemination of study findings in the school sphere.

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# Fostering Social and Emotional Learning as Means of Achieving Better-Quality Knowledge

**Ana Kozina**



Abstract: *This paper focuses on the assumption that students' learning outcomes can be influenced by fostering social and emotional learning and by reducing their anxiety. Learning and teaching in schools are not only characterised by a strong cognitive component, but also by emotional and social components (Zins, Weissberg, Wang and Walberg, 2004). Social and emotional learning involves the processes of acquiring the fundamental skills of identifying and regulating emotions, setting and achieving positive goals, taking into consideration other people's perspectives, establishing and maintaining positive relationships, taking responsible decisions and dealing with interpersonal conflicts in a constructive way (Elias, Zins, Weissberg, Frey, Greenberg, Haynes et al., 1997, in Durlak, Weissberg, Dymnicki, Schellinger and Taylor, 2011). Students' lack of social and emotional skills, together with their low level of connection with school in the transition to upper secondary education, may lead them to lower academic achievement or even dropouts (Blum and Libbey, 2004). In addition to students' greater social and emotional competencies, social and emotional learning also improves their view of themselves, others and school, and at a school level decreases the frequency of aggressive behaviour, fosters cooperative behaviour within the classroom and increases academic achievement (Durlak et al., 2011). Studies have revealed that achievement in Year 8 can be predicted more efficiently from the data on pupils' social and emotional skills from five years ago than the data on their learning achievement from the same period (Barrett, 2012). Several universal prevention programmes have been developed for the purposes of encouraging social and emotional learning, where the FRIENDS programme has proven to be especially effective (Barrett, 2005). In addition to the positive impacts on an individual, the programme also achieves positive impacts on the school as a whole.*

**Key words**: *social learning, emotional learning, anxiety, academic achievement, school*

## Social and Emotional Learning

Social and emotional learning is the process of acquiring fundamental emotional and social skills: self-awareness, self-regulation, social awareness, successful management of relationships and responsible decision-making (Durlak et al., 2011). Self-awareness encompasses familiarity with one's own emotions and feelings, a realistic assessment of one's own competencies, skills and self-concept. Social awareness includes the perception of other people's emotions and feelings, the ability to take other people's perspective, a positive attitude towards and active participation in different groups. Self-regulation relates to regulation of one's own emotions in a way that these emotions foster activity, the ability to forgo a reward for the sake of following one's own goals, and perseverance in spite of failure, standstill or regression. Successful management of relationships includes efficient regulation of emotions and relationships, establishing and maintaining good relationships based on cooperation, opposition when it comes to unsuitable social pressure, use of negotiation as a means of resolving conflicts and enlisting help whenever necessary. Responsible decision-making encompasses correct risk assessment, taking decisions based on the consideration of all important factors and most probable consequences of various actions, respect of others and assuming personal responsibility for one's own decisions (summarised from Safe and Sound: An Educational Leader's Guide to Social and Emotional Learning Programs, 2003, in Ragozzino et al., 2003). Among these, in relation to the school environment, Ellias et al. (1997, in Durlak et al., 2011) highlight emotional recognition and regulation, setting and achieving positive goals, taking into consideration other people's perspectives, establishing and maintaining positive relationships, dealing with interpersonal conflicts in a constructive way and taking responsible decisions. Developed emotional and social skills are a foundation for better adjustment, more prosocial behaviour, less aggressive behaviour, less emotional stress and anxiety and higher learning outcomes and grades in school (Greenberg et al., 2003). In a wider sense, social and emotional learning encompasses a comprehensive approach to fostering protective factors in students' environment and a reduction in the impact of risk factors in the same environment (Guerra and Bradshaw, 2008).

One of the significant consequences of improving social and emotional skills is reduced anxiety in students. Anxiety is a cognitive (e.g. worries), emotional (e.g. fear), behavioural (e.g. withdrawal) and physiological response of an individual who has a feeling of danger or threat, the cause of which he/she is

not aware of. Anxiety is the most common psychological disorder in the period of schooling (i.e. the period of childhood and adolescence) (Costello, Mustillo, Erkanli, Keeler and Angold, 2003). In this period constant anxiety affects an individual emotionally, is harmful to his/her physical health, impacts his/her development, learning and the development of interpersonal relationships (Coplan, Findlay and Schneider, 2010; Lowe and Raad, 2008; Stallard, 2009). Since high levels of anxiety cause a major disruption to students' functioning (e.g. impairment of their social skills, their relationships with peers and their entire social adjustment) (Last, Hansen and Franco, 1997), research in the approaches to reducing anxiety is necessary both within school and more widely. Anxiety is a stable trait, which means when present during one's childhood and – if not reduced by means of appropriate programmes and measures – accompanies an individual into adulthood (Kim-Cohen, Caspi, Moffit, Harrington, Milne and Poulton, 2003). In addition to its negative impacts on individuals, anxiety is also disruptive to processes within the school. The school variables associated with high anxiety are: a negative school climate (Kos, 1990; Wienke-Totura, Mackinnon-Lewis, Gesten, Gadd, Divine, Dunham and Kamboukos, 2009), negative attitudes to school (Kos, 1990), more frequent aggressive behaviour in school (Boxer, Edwards-Leeper, Goldstein, Musher-Eizenman and Dubow, 2003), low achievement in school (Normandeau and Guay, 1998), both in clinical and non-clinical samples and in different age groups, i.e. in pupils and students (Mazzone, Ducci, Scoto, Passaniti, D'Arrigo and Vitiello, 2007) and also when cognitive abilities are controlled (Gaudry and Spielberger, 1971; Popp, 2003).



## Social and Emotional Learning in Schools

Emotions are a response to important life events and are as such part of everyday school life. They organise behaviour (they significantly influence motivation), perception, cognition and personal development. In the school environment, learning achievement is, in particular, related to a number of emotions, such as enjoyment of learning, hope, anger, anxiety, boredom. Pekrun (2009) describes functions of so-called academic emotions, i.e. emotions related to the school environment. These emotions may be positive activating (joy, pride), positive deactivating (relief), negative activating (anger, anxiety) and negative deactivating (boredom, hopelessness). Positive emotions (for instance enjoyment of learning, openness to creative problem-solving) are an aid in setting learning objectives and a basis for mechanisms of self-regulation that lead to higher academic achievement (Ashby, Isen and Turken, 1999). On the other hand, negative emotions, such as anxiety, hopelessness and boredom, decrease achievement in school and may lead to students dropping out of school and other psychological and health issues (Zeidner, 1998).

Until recently, the scope of research into emotions in education was rather limited, in particular at the level of empirical studies. At the theoretical level, it was 'pride' and 'shame' that were repeatedly mentioned as the two basic emotions within motivation for learning, however, with limited empirical support (Pekrun, 2009). An exception to this was mainly the research into test anxiety and its impact on academic achievement. Intense research into test anxiety dates back to the 1930's and has now exceeded 1,000 empirical studies (ibid.). The research from the field of emotions in education has been on the increase in the last fifteen years. Ahmed et al. (2010) cite four special issues and two handbooks in their overview of literature devoted especially to the field of emotions in education. The momentum of research in this field may be attributed to definitions of emotional and social skills as significant indicators of not only students' self-regulation, but also their achievement in school.

Emotions in a school situation are given additional strength through a social context with the interplay of different types of relationships (between peers, with teachers and the rest of the school staff) (Pekrun, 2009). For this reason it makes sense to develop students' emotional and social skills simultaneously. The nature of teaching at school is fundamentally social. Learning takes place in relation to the teacher, peers and the school as a whole. Students who are successful in school are also characterised by greater social competencies, they are more active in the classroom, their relationships with their peers and teachers are better and their behaviour largely prosocial (Ragozzino et al., 2003). Students with better social competencies express their opinions and points of view more clearly and easily, integrate, evaluate and accept other people's opinions more easily, and it is also more common for them to ask for help when necessary. All of this fosters better-quality learning and thereby a higher academic achievement. Students who feel emotionally connected to their peers and teachers and who value learning and learning outcomes, show more positive attitude to themselves as well. For instance students' evaluation of teachers' warmth and support significantly predict pupils' involvement and activity in the learning process, which also results in a better academic achievement and better-quality knowledge (ibid.).



Today, science recognises learning and teaching as two processes that include both the cognitive, as well as the emotional and social aspect of individuals' functioning (Zins et al., 2004). Without developed emotional and social competencies, students eventually, develop a lower level of connection with school; of particular importance here is the period of transition from lower secondary to upper secondary education. A low level of connection with school has a negative impact on students' academic achievement, their behaviour and health (Blum and Libbey, 2004). Klem and Connell (2004) for instance report that as many as 40 to 60% of students in upper secondary education have a significantly low level of connection with school. A study by Rosenblatt and

Maurice (2008) monitored the effects of various social and emotional learning programmes on academic achievement in the transition from lower secondary to upper secondary education. A general decline in learning achievement has been perceived in the transition from lower secondary to upper secondary education. The authors have established that students are generally characterised by a lower achievement at the transition stage, however, the decline is less noticeable in students who were exposed to more intense social and emotional learning programmes (the initial level of social and emotional skills was controlled) in comparison with the decline of learning achievement in students who were either exposed to less intense social and emotional learning programmes or were not exposed to them at all.

## Social and Emotional Learning and Academic Achievement

One of the more attention-grabbing publications in relation to the relationship between social and emotional learning and academic achievement in recent years is the meta-analysis conducted by Durlak et al. (2011). The meta-analysis included 213 selective and school-based universal social and emotional learning programmes and (among other things) its impact on pupils' and students' academic achievement. The analysis involved over 270,000 pupils and students aged 5 to 18 years. The researchers established the significant positive impacts of these types of programmes on targeted emotional-social competencies, attitude towards self, others and school. Increased prosocial behaviour and less aggressive behaviour was observed in pupils and students who participated in these programmes, as were fewer internalising problems and improved academic achievement. The effects were statistically significant for a minimum of six months following the end of the programmes. The largest effect size (0.69) was established for social and emotional skills (e.g. emotions recognition, stress management, empathy, problem-solving, decision-making). Also noteworthy is the 11-percentile gain (on average) in academic achievement (ibid.).



Students' social and emotional skills and the learning environment, which support social and emotional learning, foster academic achievement both directly and indirectly (Zins et al., 2004). When social and emotional learning in schools is conducted in a systematic and comprehensive way, this facilitates a positive classroom climate and develops positive relationships between school participants. This type of learning provides students with various skills that improve academic achievement, including efficient management of the emotions that disrupt learning processes and motivation; development of motivation and perseverance in relation to more difficult tasks, lack of ac-

ademic achievement, standstill or regression; successful participation in the classroom and in groups; setting academic goals and working towards them (Ragozzino et al., 2003).

There are several explanations of connections between academic achievement and social and emotional learning. The first set of explanations is focused on changes within an individual that lead to better learning and conceptual knowledge. Students who are more self-confident about their learning competencies, who make more effort and persist with more difficult tasks longer (Aronson, 2002), who set higher learning goals for themselves, are more self-disciplined and motivated, know how to manage stress (Duckworth and Seligman, 2005), are more organised in terms of their work (Duckworth and Seligman, 2005; Zins and Ellias, 2006), have developed better problem-solving skills and the skills of taking responsible decisions, (Zins and Ellias, 2006) are on average higher academic achievers. Neuroscientific explanations focus on interpretations of brain functions, in particular the impact of social and emotional learning on central executive functions (for instance inhibitory control, planning), which leads to better regulation of the prefrontal cortex and therefore better academic achievement (Greenberg, 2006).



Instead of looking for connections between social and emotional learning and an individual's higher academic achievement and changes within the individual, some authors (Blum and Libbey, 2004; Hawkins, Smith and Catalano 2004) look for connections based on characteristics of the environment. They list environmental characteristics, which foster positive behaviour, such as peer and adult norms that encourage high expectations and support academic achievement; good interpersonal relationships between students and teachers, which encourage the feeling of belonging to a certain class and school; encouraging cooperative learning; providing a safe and organised learning environment. The best possible combination are changes both at an individual and school level, which lead to instant and long-term positive consequences (Catalano, Berglund, Ryan, Lonczak and Hawkins, 2002).

The impact of social and emotional learning on academic achievement can also be regulated by a reduction in anxiety and aggressive behaviour, which are both negatively connected with academic achievement. Developing social and emotional skills results in reduced frequency of maladjusted and aggressive behaviour. Aggressive behaviour disrupts the teaching and learning process and is related to a negative school climate which, in turn, affects students' academic achievement (Brown, Anfara and Roney, 2004). The negative correlation between aggressive behaviour and learning outcomes has large empirical support (Flannery, Wazsonyi and Waldman, 2007; Huesmann, 1994; Schwartz, Gorman, Nakamoto and McKay, 2006), including the data from the Slovenian educational system (Kozina 2013a; Vršnik Perše, Kozina and Rutar Leban, 2008). Students who are aggressive eventually develop more nega-

tive attitudes to school, which in turn leads to a lower academic achievement (Huesmann, 1994).

Connections between social and emotional learning and academic achievement can also be mediated by a negative correlation between anxiety and academic achievement, which has been empirically validated in several studies (Chansky, 1966; Craig and Dobson, 1995; Duchesne and Ratalle, 2010; Gaudry and Spielberger, 1971; Hooloway, 1958; Lowe and Raad, 2008; Merryman, 1974; Normandeau and Guay, 1998; Peck and Mitchell, 1967). Students with a higher level of anxiety have more difficulties learning new content, which may be a consequence of memory functions being reduced on account of anxiety, making the solving of cognitive tasks more difficult (Prevatt, Welles, Li and Proctor, 2010). Based on diminished cognitive competencies or specific learning difficulties, some children develop a fear of knowledge testing, which is correlated with lower academic achievement. The number of anxious children is greater in schools with a larger number of unsatisfactory grades and where messages of children's underachievement are more common (Kos, 1990). However, the correlation between academic achievement and anxiety is not necessarily based on cognitive skills. There is a negative correlation between academic achievement and anxiety, even when cognitive skills are controlled (Gaudry and Spielberger, 1971; Popp, 2003). Diminished academic achievement also leads to greater anxiety on account of parents' high expectations. More than half of Slovenian Year 8 pupils report that their parents have too high expectations of them and the majority fear failure in school (Nastran Ule, 2000).[1] Fear of failure also occurs in successful children, not only the unsuccessful. The former are equally worried that they will not get a top grade as are the low-performing pupils about not getting a positive grade (Kos, 1990). Improving social and emotional skills also significantly reduces anxiety, which may result in higher academic achievement.



## Social and Emotional Learning and Academic Achievement in Slovenia

The introduction of social and emotional learning programmes in schools is a necessity and supported by data on the correlation between anxiety of students in Slovenia and their outcomes in the Trends in International Mathematics and Science Study - TIMSS and TIMSS Advanced.[2] On account of theoreti-

1 More information on the correlation between parenting styles and adolescents' academic achievement is provided in the paper by Tina Rutar Leban in the chapter Attitudes, Relationships and Emotions as Factors in Student Achievement.

2 In 2007, 4,099 Year 4 pupils (2,028 boys and 2,071 girls; average age 9.8 years) and 3,937 Year 8 pupils (1,970 boys and 1,967 girls; average age: 13.8 years) participated; in 2011, 3,951 Year 4 pupils participated (2,049 boys in 1,886 girls; average age 9.9 years), as well as 4,296 Year 8 pupils (2,181 boys and 2,115 girls; average age:13.9 years) and students (3,343 students from the final year of General Matu-

cal connections between anxiety and low academic achievement (Chansky, 1966; Craig and Dobson, 1995; Duchesne and Ratalle, 2010; Gaudry and Spielberger, 1971; Hooloway, 1958; Lowe and Raad, 2008; Merryman, 1974; Normandeau and Guay, 1998; Peck and Mitchell, 1967), the relationship between anxiety and achievement has been investigated, at a national level. In order to establish whether anxiety in Slovenia is connected with academic achievement, students participating in TIMSS and TIMSS Advanced also had anxiety measured after TIMSS had been completed. The LAOM (i.e. Lestvica anksioznosti za otroke in mladostnike) anxiety scale for children and adolescents (Kozina, 2012) was used for measuring anxiety; the scale has been developed especially for measuring general anxiety and emotional and cognitive components of anxiety in a school setting in Slovenia. To determine the predicted strength of individual school environment variables (including learning outcomes) for anxiety, the data on anxiety was merged with TIMSS data. The multiple regression method was used in analyses to compare significant predictors of anxiety at a school level for both age groups (Years 4 and 8) in the years 2007 and 2011. In both cases, it is possible to significantly predict the anxiety of pupils in Years 4 and 8 from the data on pupils' self-confidence in mathematics and science (in Years 4 and 8), from the data on the frequency of exposure to aggressive behaviour in school and the data on achievement in TIMSS (Year 4) (Kozina, 2013b).



## Social and Emotional Learning Programmes

The development of emotional and social skills during social and emotional learning, as has previously been established, turned out to be a significant predictor of students' good adjustment and a reduction in negative developmental results and a simultaneous improvement in academic achievement. Emphasis on the development of emotional and social skills leads to students' general well-being and higher learning efficiency, while on the other hand lack of such skills leads to numerous personal, social and learning difficulties (Eisenberg, 2006).

Both social and emotional learning programmes and anxiety treatment programmes can be universal, selective or indicated. Universal programmes target the entire population, selective programmes are designed for groups with a greater risk of increased anxiety and other problems, and indicated programmes are intended for treatment of individuals for whom higher levels of anxiety and other problems have previously been established (Silverman and Treffers, 2001). Studies indicate high efficacy of universal social and emotional learning programmes in relation to students' achievement both in and out-

ra school programmes participated, whereof 1,743 were male students and 1,600 female students; the average age was 18 years).

side of school (Zins and Ellias, 2006). Schools are especially suitable for this type of learning as they encompass the majority of students, without additionally exposing individuals who have more problems (Masten and Motti-Stefanidi, 2009). Here the programme is administered to students who would otherwise not seek professional treatment, although they may need it. Several studies (Ferguson, Horwood and Lynskey, 1993; Ping, Hoven, Bird, Moore, Cohen, Alegria, Dulcan … Roper, 1999, both in Mifsud and Rapee, 2005) have in particular pointed out that anxiety is overlooked and that students with this sort of disorder are only rarely treated professionally. This applies especially to students with a lower socioeconomic status (Mifsud and Rapee, 2005). Another advantage of these programmes is that on account of group handling and inclusion of the entire group within a class, no stigmatisation occurs of those students who might need help. The advantage of the universal approach is in capturing larger groups of students in their own school environment.

As part of a meta-analysis of 165 studies, Wilson, Gottfredson and Najaka (2001) compared the efficacy of various school prevention programmes from the field of social and emotional learning. They have established that social and emotional learning programmes increase students' presence at school and reduce the likelihood of dropouts. Zins, Bloodworth, Weissberg and Walberg (2004) have defined the qualities of good social and emotional learning programmes that foster academic achievement. These qualities include a theoretical basis and empirically proven efficacy; learning emotional and social skills useful in everyday life; orientation towards emotional and social components of learning; control, integration, unity of the programme in relation to academic achievement; added instructions for efficient learning of emotional and social skills; participation of parents and the wider environment; presence of sustainable development, evaluations and result dissemination.



## The FRIENDS Programme

Findings of numerous studies, both from the clinical and non-clinical field, resulted in the development of a number of different approaches and programmes for fostering students' emotional and social skills (Greenberg et al., 2003). One of the programmes that has proven to be very effective is the FRIENDS programme (Barrett, 2005). This is a prevention programme that efficiently reduces anxiety and depression in children, adolescents and adults on the basis of social and emotional learning. It is intended for all children, adolescents and adults, regardless of their anxiety levels. It is focused on providing children and adults with the emotional and social skills needed in their daily lives and when coping with negative events to which they have already been exposed, or will be in future. The programme aids children, adolescents and

adults in developing life-coping skills to be used in everyday challenges; it diminishes negative emotions; develops lifelong emotional resilience; supports establishing and maintaining social support groups and positive role models; encourages empathy and improves one's self-confidence; decreases peer violence and teaches skills in constructive resolution of interpersonal conflicts; improves academic achievement and provides children, families and teachers with the necessary life-coping skills.

The FRIENDS programme has been developed on the basis of the cognitive-behavioural approach by Paula Barrett, an internationally renowned expert in the field of clinical psychology. It is the cognitive-behavioural approach that has turned out to be most effective in reducing anxiety. Through several controlled trials (Barret, Dadds and Rapee, 1996; Barret and Farrel, 2009) it has proven to be efficient in reducing the symptoms of anxiety in both individual (Barret et al., 1996; Kendall, 1996; King, Hamilton and Ollendick, 1988; all in Barret and Farrel, 2009) and group conditions (Barret, 1998; Barret and Farrel, 2009; Flannery-Schroeder and Kendall, 2000; Rapee, 2000; Short, Barret and Fox, 2001) and also as a prevention programme (Dadds, Holland, Barrett, Laurens and Spence, 1999). Cartwright-Hatton, Roberts, Chitsabesan, Fothergill and Harrington (2004) performed a systematic analysis of the results of ten controlled clinical studies into the impact of the cognitive-behavioural approach on anxiety in children. It has been established that the cognitive-behavioural approach has a significantly positive effect on anxiety reduction in comparison with control groups. Following the cognitive-behavioural approach the symptoms were on average reduced in 63.75% of participants.



The programme originates in Australia, however it has also been successfully translated and transferred to twelve other countries.[3] In comparison with similar programmes, FRIENDS is an internationally recognised programme, the effectiveness of which has been confirmed in numerous studies. It is also the only one of its kind recommended by the World Health Organization (WHO, 2004). Studies (Barret, Dadds and Rapee, 1996; Barret, Duffy, Dadds and Rapee, 2001) indicate that after programme completion, anxiety symptoms are on average reduced in 80% of participants and, more importantly, the positive effects last for up to six years after the end of the programme (Barret et al., 2001). In addition to the positive effects of the FRIENDS programme on individuals, a positive impact on the school as a whole has been established. Besides improved social and emotional skills, social and emotional learning also improves students' views of themselves, others and school, reduces the frequency of aggressive behaviour at a school level, encourages cooperative behaviour within the class and, last but not least, improves academic achievement (Durlak et al., 2011). Different developmentally-sensitive programmes

3 Brazil, Canada, Finland, Hong Kong, Japan, Mexico, Portugal, the Netherlands, New Zealand, South Africa, Sweden and Great Britain.

are used in accordance with the participants' development stage. The most suitable programme for students in lower- and upper-secondary schools is *My FRIENDS Youth*, which is used in the period between the ages of eleven and seventeen. During this period, the programmes aids adolescents in developing skills for efficiently coping with everyday problems and (or) situations that increase anxiety; normalises anxiety; improves one's resilience and problem-solving skills; encourages peer learning and development of peer and social support groups; improves one's self-confidence in dealing with difficult situations and is efficient in reducing anxiety and depression.

## Implications for Educational Policy and Educational Practice

The generally adopted standpoint of educational practice and educational policy is that school is to be oriented towards the comprehensive development of an individual, i.e. his/her basic fundamental knowledge, the ability to cooperate with different people in an emotionally and socially acceptable way as part of a healthy lifestyle and by means of responsible and respectful behaviour (Greenberg et al., 2003). In other words, in addition to cognitive development, schools should, in equal measure, encourage students' emotional and social development. Here, attention needs to be drawn to the fact that schools are exposed to high expectations with regard to students' academic achievement and consequently devote more attention to the learning process within the school. So, on the one hand they are mainly oriented towards encouragement of cognitive aspects of delivering teaching content, assessment, teaching and learning strategies and, on the other hand, they tend to neglect the emotional and social processes taking place in the background. In relation to this it is necessary to point out that social and emotional learning does not deter schools from the fundamental teaching and learning processes and acquisition of basic knowledge, but enables better-quality and more efficient teaching and learning within schools. Through this, the school simultaneously pursues its aim of educating caring, responsible students by means of quality and long-term knowledge. Social and emotional learning not only sets students on the path to academic achievement, but also leads to success at a later time in life and in fields outside of school (Ragozzino et al., 2003).



At a school level, social and emotional learning encompasses two wider-scope educational approaches. The first one includes practice, integration and selection of various types of emotional and social skills programmes depending on the developmental period. Through systematic teaching students are able to learn (by means of learning, modelling and exercises) social and emotional skills in such a way that they can easily apply them to different sit-

uations and use them in everyday life. Some schools also opt for learning programmes of this kind to avoid specific problems such as drug and alcohol abuse, aggressive behaviour, bullying and academic underachievement (Zins and Ellias, 2006). Social and emotional learning programmes of higher quality also give students an opportunity for active participation in class activities, school and society, which improves students' sense of belonging and encourages motivation (Hawkins, Smith and Catalano, 2004). In light of this, universal predesigned programmes, like the FRIENDS programme, are welcome in a school setting, as they are less time consuming for schools and students, while their efficiency is nevertheless supported by a number of empirical studies both for the functioning of students and functioning of the school as a whole. A finding by Durlak et al. (2011) stating that the school staff (and not only professional help from outside of the school) are also able to deliver social and emotional learning programmes in an equally efficient measure is also important for schools. This means that such programmes are easy to integrate into regular school work, as no additional professionals need to be hired for them to be efficient. It also needs to be pointed out that with the purpose of fostering students' comprehensive development, it is advisable to integrate efficient social and emotional learning programmes in all schools within the primary, lower secondary and upper secondary education.



Other approaches foster social and emotional learning based on the creation of a safe and encouraging learning environment, which includes integration of peers and parents into creating a positive classroom and social climate (Hawkins et al., 2004). Studies (Kos, 1990; Wienke-Totura et al., 2009) generally indicate a correlation between anxiety and a negative school climate. Anxiety, to a large degree, occurs in a negative school climate (Wienke-Totura et al., 2009). At this level, the importance of additional training for headteachers about the means of creating and maintaining a stimulating school climate needs to be highlighted. At a school level, headteachers are responsible for the climate within their respective school. Studies conducted using Slovenian data (Kozina, Rožman, Vršnik Perše and Rutar Leban, 2012) suggest a negative school climate, as perceived by headteachers, is significantly correlated with student underachievement.

A good example of fostering social and emotional learning within the classroom is cooperative learning during which students learn from one another, make each other enthusiastic about the content, learn to accept others and their views and learn negotiation and conflict resolution skills. Efficient learning of social and emotional skills may also take place within a non-formal curriculum, i.e. during lesson breaks and as part of after-school classes. This knowledge is at a later time also transferred within lessons and facilitates more efficient learning (Zins et al., 2004). A comprehensive impact of social

and emotional learning on academic achievement and success in life is presented in the diagram below.

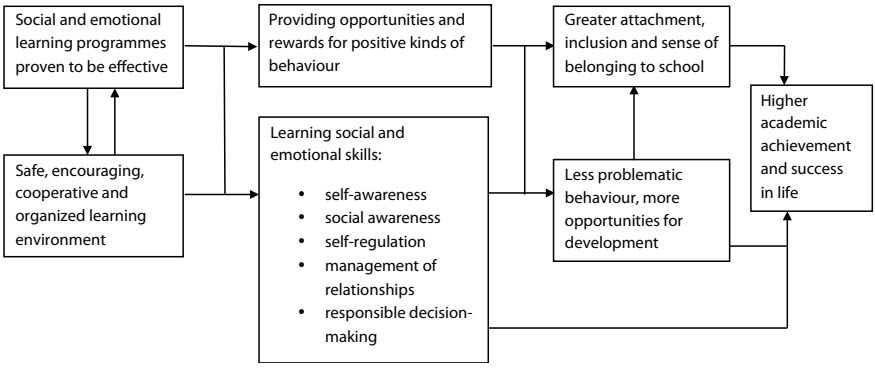


Figure 10: A comprehensive impact of social and emotional learning on academic achievement and success in life
Source: Zins et al., 2004



## Conclusion

The discussion about the significance of fostering social and emotional learning as a means of achieving better-quality knowledge within the Slovenian school sphere may be concluded with the words by Dr Heckman, Nobel Laureate in Economics (2000, in Barrett, 2012): 'Our best long term investment is human capital investment in the form of emotional, social and cognitive education. To date, we are failing the first two areas of development in our educational systems. An important lesson to draw from the entire literature on successful early interventions is that it is the social skills and motivation of the child that are more easily altered – not IQ. These social and emotional skills affect performance in school and in the workplace. We too often have a bias toward believing that only cognitive skills are of fundamental importance to success in life.' (Dr Heckman, Nobel Laureate in Economics)

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# 3
# other factors and approaches to fostering student achievement

# Rhetoric and Argumentation as Factors in Student Achievement

**Janja Žmavc**



Abstract: *This paper explains the role and significance of rhetoric and argumentation in contemporary education. Although they are two discursive strategies, that have from their start played key roles in successful learning and teaching, rhetoric and argumentation often remain overlooked within Slovenian education. In the introduction, the paper presents some stereotypical conceptions of rhetoric and argumentation, followed by a short description of selected rhetoric and argumentative concepts, which is used to reveal – from the perspective of contemporary theoretical starting points - the premise that these are two significant factors in student achievement and that thorough knowledge is required in order to master them. As part of a presentation of issues in relation to contemporary teaching of both of these disciplines in Slovenia, a discourse analysis of curricula for lower and upper secondary education is also shown, which presents two elements: firstly, why explicit teaching of rhetoric and argumentation is important for education in Slovenia; and secondly, why it is of key importance that the two skills are both taught and used in the most systematic way possible.*

**Key words:** *rhetoric, argumentation, education, competencies*

## Introduction

*rhetoric* /ˈrɛtərɪk/ noun

1. the skill, the art of speaking, especially in public: *she was impressed by his brilliant rhetoric; practice rhetoric / study rhetoric; the rules of rhetoric*

2. *lit.* language, use of words that is clever and sophisticated, but usually has no real meaning: *his essays are characterised by verbosity and rhetoric; the speaker got lost in pathos and rhetoric //* speaking, use of words in general: *such rhetoric is more useful for a lawyer than a writer*

*argumentation* /ˌɑːgjʊmɛnˈteɪʃ(ə)n/ noun
a set of arguments to explain, substantiate, prove something: *his argumentation is impossible to keep up with; convincing, contradictory argumentation; argumentation of a proposal //* evidence: *submit elaborate evidence; the assertion has no argumentation*; scientific argumentation[1]

The definitions of rhetoric and argumentation used above have been taken from the Dictionary of Standard Slovenian Language, which is considered the usual and normative reference with regard to understanding and proper use of the Slovenian language. Careful readers, who are familiar with the theory of rhetoric and argumentation, at least to a small extent, may notice some points of interest in the above dictionary entries. The entry for 'argumentation' makes it clear at first glance that the interpretative framework is completely subordinate to understanding argumentation as merely a technique, without any social reference; and in relation to it, it is not clear whether it is understood as an emphatically linguistic or cognitive technique, or both. The entry for rhetoric reflects a somewhat more complex image. With the exception of the pejorative interpretative framework and obvious inaccurate understanding of individual rhetorical concepts, such as separate definitions of the terms *rhetoric* and *pathos* in the context of the so-called 'literary use' (e.g. '*the speaker got lost in pathos and rhetoric*'), no connection can be found in the dictionary entry between the concepts of *rhetoric* and *persuasion*, which is considered one of the fundamental characteristics of rhetoric and has been a constituent part of its conceptualisation since antiquity. In view of this pejorative meaning, which in relation to rhetoric can be reconstructed at least from the first and the second definitions, it is rather surprising that the common and everyday (although somewhat unsuitable) conception of rhetoric as a skill of persuasion in the sense of *deceiving* is missing from the dictionary entry. The absence of such an explicitly pejorative and simplified notion could be attributed to the tradition of the literary conception of rhetoric, which reduces rhetoric to some sort of catalogue of verbal decoration and – giving the dictionary entry a more detailed analysis - is actually the basis of the definition from the Dictionary of Standard Slovenian Language.

In spite of such initial orientation, two questions remain unexplained, i.e. why *persuasion* is not a constituent (or at least implicit) part of the Slovenian 'official' normative definition of rhetoric, and why the social aspect of ar-

1 SASA - Slovenian Academy of Sciences and Arts. Scientific Research Centre of SASA, Fran Ramovš Institute of Slovenian Language ZRC SAZU (2000). Dictionary of Standard Slovenian Language.

gumentation is being denied by the Slovenian 'official' definition. Can the reasons for this be attributed to the lack of knowledge and understanding by the authors of the dictionary or must the answer to this be sought in the characteristics of Slovenian society and the 'Slovenian' attitude to such social and linguistic phenomena as rhetoric and argumentation? Assuming the competencies and knowledge of the authors who participate in such a large-scale and socially significant project as the Dictionary of Standard Slovenian Language are sufficient, the attention of this paper is directed towards the second reason, i.e. circumstances within society. These can be the result of a number of cultural, historical, political and other factors, whereby the essential role in the construction of the meaning (notions, ideas, concepts, etc) and language use in the widest sense of the word is always played by the current systems of education. Language use, as the result of social construction, permeates the field of education, where it is commonly an implicit and non-problematised part of curriculum-based and official knowledge. When the construction of a meaning by means of the 'public sphere' becomes part of everyday (and therewith support) knowledge, the notions, ideas, concepts etc. within educational discourse are likewise constructed as self-evident and normative.[2] Reasons for this must be sought in a) the distinctive character of the context wherein this sort of language use takes place (i.e. a highly formalised institutional context) and, b) in the specific (i.e. educational) nature of the educational discourse, which makes it possible for the ideological, currently valid political and otherwise problematic conceptions to be validated, explained, legitimised and naturalised.[3] With the aim of pointing out any special characteristics of the Slovenian conception of rhetoric and argumentation, and providing a partial answer to the aforementioned questions about the issues in relation to dictionary entries, this paper reveals the role of both disciplines within contemporary education in Slovenia. In doing so, it devotes special attention to student achievement as a significant element in light of social evaluations, as well as self-evaluation, and shows that rhetoric and argumentation, as special strategies of language use at several levels, remain overlooked or even underrated factors, whereby they most likely also impact academic achievement.



2 The conception of educational discourse is summarised from Žagar Ž. and Domanjko (2006: 8), who define the educational process as 'a special form/impacts of language use in a specific social context, with a specific function and aim'. In light of the discourse, the authors refer to the educational process as 'a dynamic social process of co-construction of knowledge and the immediate learning situation as part of which, and because of which, the process takes place more or less successfully' (ibid.); the authors understand the learning situation both as a lesson and the school institution in the widest sense, as well as participants' roles and relationships between participants, and the various types of activities taking place within this situation.

3 Problematic conceptions because an 'objective' value is attached to them by the institutional framework and the educational function in advance. Something similar has been demonstrated in the example of the term 'Europe' in Slovenian textbooks for lower-secondary schools. Cf. Žmavc and Žagar Ž. (2011).

## Particularities of Conceptions of Rhetoric and Argumentation in Slovenia

A widely known and well-researched fact in contemporary rhetoric and argumentation theories, as well as other theoretical disciplines associated with the field of (public) discourse in any way, is that the tradition of rhetoric (and thereby argumentation)[4] as the art of successful public persuasion and construction of arguments is centuries-old. It dates back to Ancient Greece and Rome and has dominated the entire European (and Western) culture until the present-day. In spite of its highly turbulent development, with no shortage of dramatic rises and falls throughout the 2,500 years of its history, rhetoric and argumentation are today still fundamental tools of public activity (Booth, 2005). In recent years especially, research in the field of rhetoric and argumentation theories and practice has revealed that interest in both of these disciplines in Europe has again been improved.[5] Although the starting points of rhetoric and argumentation as constituent elements of active participation in modern democratic societies date back to the 1980s (Habermas, 1998), in recent years rhetoric and argumentation have been noticeably present in conceptualisations of (active) citizenship, European democratic systems and policies, interculturality etc. (Kock and Villadsen, 2012; Zaleska, 2012). In relation to this, the role and significance that both disciplines are supposed to gain within the context of European educational systems are defined more commonly and clearly, either in terms of developing (new) independent topics within individual forms of education, or raising awareness of the significance of mastering rhetoric and argumentation as part of a successful educational process.[6]



In Slovenia, the situation is considerably different: rhetoric and argumentation remain on the fringes of educational policies, models and contents, mainly as the result of a lack of understanding and (consequent) absence in curricula and educational practice. As part of endeavours to finally bring about the necessary changes, both at the level of understanding and in the sense

4 More about the relationship between rhetoric and argumentation, as well as their delineation and (or) differentiation, will be written in the paper at a later time.

5 In the last decade, there has been a noticeable increase in the number of studies, research, scientific meetings and professional societies involved in studying the theoretical fields of rhetoric and argumentation. Simultaneously, rhetoric and argumentation (as part of communication and social competencies) are becoming an important part of European policies and strategies in the field of lifelong learning. However, it needs to be pointed out that this kind of activity is mostly associated with the tradition of Western European and North American countries, whereas a common symptom is reflected in the former communist countries: in the period of their existence, communist regimes eliminated rhetoric and argumentation from education as 'dangerous disciplines' and their revival did not take place until these regimes were abolished in the 1990's.

6 It is worth remembering that contemporary recognition of rhetoric (and argumentation) as a socially significant educational topic is actually a sort of 'revival' of the ancient model of education, where rhetoric studies (both at theoretical and practical levels) represented the main part of the entire education hierarchy (from the very start to university education).

of transfer into educational practice, to-date the only study on knowledge and application of rhetoric and argumentation in Slovenian lower and upper secondary schools was conducted in 2010.[7] Results have revealed that rhetoric and argumentation are often misunderstood and that they are virtually non-existent in the form of educational content. However, at the same time both teachers and students recognised them as factors that they believe exert a significant impact on individuals' successful participation in school and society in general (Žmavc, 2011). Before some of the findings of this study are presented and highlighted, and also linked to the issues in relation to student (under)achievement, another matter will be presented in more detail: Slovenian everyday, stereotypical conceptions of rhetoric and argumentation that significantly influence the way they are understood and consequently impact on their (non)integration into education.

For a clearer idea on the diversity of these conceptions, a general and value-neutral definition is used as a basis, i.e. that rhetoric and argumentation are two discursive practices with a long-standing tradition of differentiation and numerous (including value) connotations. The principal contemporary theoretical definitions that were developed in the 20th and the 21st centuries, place emphasis on various historically grounded aspects within rhetoric and argumentation, however, they simultaneously try to 'harmonise' both of these theoretical fields. The argument in favour of such convergence is based on the premise that these are two disciplines that are inseparably linked in spite of their conceptual differences; the key issue is thus not in relation to their (non) connection, but about understanding the nature of the relationship between both theoretical fields (Blair, 2012: 309–321). In Slovenia, a number of problems are present in this field, most of which originate from the lack of suitable theoretical studies into rhetoric and argumentation. This is partially related to historical and sociopolitical circumstances in Slovenia and also to the generally prevalent and market-oriented idea (which dates back to antiquity) about the profitability of teaching persuasion strategies. The latter is not problematic in itself, however, in Slovenia, where rhetoric and argumentation lack a suitable theoretical grounding, such a bare 'market' conception has led to often highly simplified and inaccurate ideas about the skills of persuasion and argument which enter formalised fields such as science and education in this form.[8]



7 The study was conducted as part of a larger-scale ESF (European Social Fund) project with the title 'Professional Bases, Strategies and Theoretical Frameworks of Education for Intercultural Relations and Active Citizenship', which was carried out by the Research Centre of SASA and the Educational Research Institute in the 2010–2011 period.

8 Proper in-depth and suitable research into theories of rhetoric and argumentation in Slovenia started in the early 1990's with work conducted by Igor Žagar, whose research is mainly focused on argumentation, discourse analysis and linguistic pragmatics. Not only has Žagar developed the first suitable 'Slovenian' conceptualisations in the field of rhetoric and argumentation, his work is important also because he has established and developed contemporary models for teaching rhetoric and ar-

With the exception of a small group of experts, whose rhetoric and argumentation conceptualisations more or less correspond with internationally recognised theoretical directions, most researchers and theoreticians, from the field of social sciences and humanities in Slovenia, view rhetoric and argumentation as less important contents that are of no equal match in comparison with 'serious' disciplines, such as philosophy, linguistics, literary sciences, communicology etc. Another anything-but-rare occurrence is rhetoric being perceived in a curtailed form, either in the spirit of the 19th century as a 'catalogue of rhetoric figures' (e.g. Smolej and Hriberšek, 2005), as a skill of sophisticated and accurate speaking (e.g. Podbevšek, 1994) or as a bare manipulative technique, the main and sole aim of which (in contrast to argumentation) is misleading, or even lying and deceiving (e.g. Vezjak, 2009).[9] When conceptions developed by Slovenian theoreticians in the sense of independent theoretical disciplines are found, there is another characteristic that can be noticed in relation to this. While there are few individuals who view rhetoric and argumentation in the widest sense as a network of concepts and notions that enable an analysis and synthesis of public discourse (e.g. Žagar Ž., 2006), the majority of others recognise rhetoric solely as something that needs to be differentiated from argumentation at a value level. Although nowadays such a concept has elsewhere almost completely been abolished, it is still relatively deeply-rooted in Slovenia.[10] In the context of public discourse, argumentation (or what it is usually understood to be) is in Slovenia considered a legitimate practice, defined by two criteria: rationality and the truth. On the other hand, rhetoric is condemned as an illegitimate, irrational form of public activity that is based on untruth and is misleading. In defence of such differentiations, definitions such as 'rhetoric is weak argumentation' or 'rhetoric is a decorative appendage of argumentation' can commonly be found. As a conceptually inferior discipline, rhetoric is thus often either almost completely missing from Slovenian argumentative analyses, or is recognised as a 'lesser' discourse element.



Such circumstances present the challenge of how to maintain a conceptual dichotomy between rhetoric and argumentation, and simultaneously define both of these disciplines in a way that will not result in getting caught in

gumentation at Slovenian universities. His role in teaching rhetoric in lower secondary school will be described in more detail later.

9 In relation to this, some Slovenian translations of ancient (and other) works from the field of rhetoric must not be overlooked. The majority of a rather modest (yet rising) number of translations consist of classical works; however, as their primary aim is not the theoretical presentation of rhetoric and argumentation concepts, such works usually contain only a historical outline or factual and content-related explanations in the form of appendices (prefaces, footnotes, comments).

10 For instance, a well-known pragma-dialectical theory needs to be mentioned at this point; this theory was, at the beginning, extremely unfavourably disposed to the understanding of rhetoric, whereas in most recent conceptualisations it integrates rhetorical principles into the concept of so-called *strategic manoeuvring* in an equal way to dialectic elements. Cf. van Eemeren and Grootendorst (2004).

the local axiological definition of 'weak rhetoric' in 'good argumentation'. Why even waste time on definitions and substantiating them in a paper that should really be about the (possible) impact of mastering rhetoric and argumentation on student achievement? The reason for doing so is the author's belief that due to the peculiarity of attitude to rhetoric and argumentation within Slovenia, any formal 'entry' of both of these disciplines in education will make sense and be legitimate only when they have been accurately defined, as suitable conceptualisations are needed for presenting arguments in favour of the significance of teaching these two disciplines and to develop didactically suitable learning models.

The conception of rhetoric and argumentation in this paper combines the traditional Aristotelian perspective on rhetoric, along with some established contemporary theories of rhetoric and argumentation developed by Perelman, Toulmin, Govier and other researchers. A partial basis for the conception is Tindale's concept of rhetorical argumentation (Tindale, 2004), where argumentation is viewed as a special part of rhetoric, and not as something that is in contrast with rhetoric. Rhetoric is thus regarded as a skill of efficient public persuasion based on the classical rhetorical system. Its basis is provided in the so-called 'duties of the orator' (Lat. *officia oratoris*) and concepts within individual duties, such as discovery, invention of arguments[11] (Lat. *inventio*), selection and arrangement of arguments (Lat. *dipositio*), the style, articulation of arguments (Lat. *elocutio*), as well as their memorisation (Lat. *memoria*) and presentation (Lat. *actio*). Moreover, argumentation represents a field that is both within and outside of rhetoric. On the one hand it is defined as part of contemporary theoretical directions as a conceptually independent activity/discipline, and it is simultaneously recognised within 'a rhetorically historical context', as part of the (rhetorical) concept of three means of persuasion (i.e. as part of *pisteis* and the well-known Aristotelian triad *ethos–pathos–logos*, where the last principle represents the so-called 'rational form of persuasion', and the first two the 'irrational', 'illogical' forms).[12] From the perspective of contemporary argumentation theories represented by Toulmin (1958/1995), van Eemer-



11 Here, the concept of 'argument' is not understood in the normative sense as a set of specifically constructed premises leading to a conclusion, but as a distinctly functional, i.e. in terms of contents and structure, highly diverse selection of utterances that may, considering the circumstances, suitably support what one wishes to say.

12 *Ethos* denotes a discourse construction or a presentation of the speaker's trustworthy image based on creating the impression of their good sense, integrity and good intentions; *pathos* is a collection of various different kinds of strategies (linguistic and non-linguistic), by means of which the speaker tries to evoke the listeners' emotional response (e.g. anger, fear, joy, etc.), which corresponds to the content/topic of the speech. The expressions *rational and irrational* are, within the context of rhetoric and argumentation in terms of their functionality, regarded as perfectly equivalent means of persuasion, whose differentiation is based on the level of the discourse situation (who is the audience and what is the speech about?) and presents a collection of various linguistic and non-linguistic techniques and strategies. For more on the concept of means of persuasion see Žmavc (2009a, 2009b, 2012).

en and Grootendorst (2004), and Žagar Ž. (2006), as well as the theory of informal logic, and their upgrading, whose main proponents are Blair and Johnson (1987), and Govier (2005), *logos* or argumentation is a specific social, linguistic and intellectual activity, determined by a series of permanent ('objective') rules - independent of each discourse situation - at the level of structure, soundness and validity. When rhetoric is discussed within the context of public discourse, it is not possible to leave out argumentation (even though we may realise that in a specific case there are no arguments, it was argumentation that we have been talking/thinking about while considering the whole situation); and vice versa, in any argumentation its 'rhetorical' aspects can be touched upon (i.e. other elements of persuasion that can be a legitimate or an illegitimate part of the argumentative process).

Following a short definition of the theoretical framework, this paper will now focus on the role of rhetoric and argumentation within education. Their principles, in the way they have been presented, are viewed as the key communication strategies within the educational process, which – in their widest sense – impact in particular:



- the effectiveness of co-construction of knowledge (i. e. persuasion and argumentation are the constituent parts of co-construction of knowledge both at analytical and synthetical levels; mastering them is thus one of the factors that may impact student achievement as the final result of this process);
- the efficiency of the educational process (i. e. good command of persuasion and argumentation strategies enables a better-quality transfer of information related to co-construction of knowledge);
- the dynamic of interpersonal relationships (i. e. rhetorical and argumentative principles as specific tools of language use enable participants in a pedagogical discourse efficient treatment of potentially controversial topics, whereby they significantly impact the quality of interpersonal relationships within the educational process);
- the development of the self-concept of (all) participants in the educational process (i. e. conscious use of rhetoric-argumentative strategies improves linguistic self-confidence and consequently develops (self) perceptions of (one's own) achievement, and also impacts motivation for more active participation in the educational process).

Linking what has been stated above with the concept of key competencies as a 'transferable, multifunctional collection of knowledge, skills and views' (European Commission, 2007), the principles of rhetoric and argumentation as linguistic strategies can be defined in particular within the first key competence, i.e. communication in the mother tongue. Within such a limit-

ed framework, the principles of rhetoric and argumentation represent a (independent) group of skills and competencies that may be given the generic name 'the rhetoric-argumentative competence'. Such a 'sub(competence)' is based on the theoretical model of rhetoric and argumentation, indicated above, and encompasses the notions and concepts of the classical rhetoric, as well as contemporary argumentation theories. In terms of its functionality, it is understood as the ability to identify, understand, assess and efficiently use (in writing/speech) the elements of rhetoric and argumentation, depending on a specific situation (i.e. to whom, when, where, why, and about what is spoken/written).

## Rhetoric and Argumentation as Factors in Student Achievement

Student achievement is a concept defined by different authors in different ways, either in terms of objective outcomes (i.e. knowledge) assessed by relevant formal institutions, or in the sense of self-perception of such formally assessed outcomes (the so-called psychological aspect), which includes both the views of individuals whose outcomes are assessed (pupils, students) and the views of others (peers, parents, teachers). In this paper, student achievement is regarded in the context of educational outcomes, i.e. as a result of formalised objective indicators. In their study on factors of student achievement in primary/lower secondary school, Puklek Levpušček and Zupančič (2009: 9) define student achievement as achievement in the field of learning which is 'determined by means of learning outcomes and standards of knowledge that are set in a school system as a measure of students' performance at a certain age or in a certain school year.'



At this point, the interest of the paper is not in the boundaries and criteria that distinguish achievers from underachievers, nor will other factors of student achievement be discussed in detail.[13] Student achievement is regarded as a specific element of pedagogical discourse and as a wider contextual framework wherein the presented rhetorical-argumentative competence is to be

13 Researchers (Marentič Požarnik, 2000; Puklek Levpušček and Zupančič, 2009) usually distinguish between external and internal factors of student achievement. The latter consist of two subgroups, i.e. physiological factors (physical wellbeing, energy levels, condition of sensory organs, functioning of the nervous system, hormonal balance, perceptual motor coordination) and psychological factors (intellectual abilities, the development stage of thinking, linguistic competence, prior knowledge, personality traits, motivation for learning, perceived learning self-efficacy, cognitive and learning styles, use of cognitive and metacognitive strategies in learning, characteristics of feeling and behaviour). External factors consist of two subgroups: physical factors (conditions within the environment that impact the quality of learning: illumination, temperature and humidity in a room, tidiness and airiness of a room, noise) and social factors (characteristics of the family, classroom context, teachers and school, peer context and of the wider social environment). It also needs to be pointed out all of these factors are always embedded in the historical, socioeconomic and cultural context of the sociopolitical system, as part of which forms of education take place.

embedded. On the one hand, such competence can be identified at a curricular lever and could thus be, as an explicit learning topic, one of the (measured) standards of knowledge. On the other hand, command of principles of rhetoric and argumentation is closely associated with oral competence in its widest sense. Oral competence is considered one of the more significant psychological factors that influence student achievement in interaction with social factors (Puklek Levpušček and Zupančič, 2009; Marjanovič Umek et al., 2007: 43).

It can be said that rhetoric and argumentation are – on account of their sociocultural peculiarities – actually embedded in student achievement at several different levels, whereby the following may represent the key factors that could impact both educational outcomes and self-perception of achievement in a psychological sense: 1) the level of knowledge and (practical) command of rhetoric and argumentation, 2) (non)integration of rhetoric and argumentation in the education process, 3) the attitude to persuasion and argumentation as more or less desirable discourse strategies in the school and wider social environments that might represent the key factors which could impact both educational outcomes and the self-perception of achievement in a psychological sense.



Another area for closer examination is the premise of the problematic nature of non-independent and unsystematic teaching of rhetoric and argumentation in Slovenia. In the author's opinion, this circumstance impacts both the micro-level of school life (e.g. the quality of the process of education, interpersonal relationships and student achievement) and shapes the general attitude of Slovenian society to persuasion and argumentation. Both factors are noticeable within Slovenian public discourse and they also co-shape communication patterns in everyday communication.[14]

There are some historically grounded connections between systematic teaching of rhetoric and argumentation, and successful participation in society that remain topical even today. Ancient Greeks and Romans regarded teaching of effective persuasion and presentation of arguments as one of the foundations of society. Rhetoric was a key teaching subject of the entire education throughout antiquity (from the approximate age of six to seventeen). Moreover, no public activity in terms of politics, or a wider social and cultural participation, was possible without education of this kind. But why is this still relevant even though 2,500 years have since passed? Mainly because this involves

14 At this point another study needs to be pointed out first, i.e. a study on argumentation in the National Assembly of the Republic of Slovenia (Žagar Ž., 2011), which revealed the predominant decisive factor to be the physical number of votes of the governing coalition (i.e. the argument of power), and not, for instance, the frequency or even quality of MPs' argumentation. The second circumstance that also partially attests to a specific position of rhetoric and argumentation is the aforementioned analysis of dictionary entries, which was presented in the introduction, and partially also Slovenian stereotypical, generalised notions about good communication, wherein presenting arguments is often understood as inclination to conflict and quarrelsomeness, while rhetoric is equated with sophisticated language and sweet talk.

– in limited contexts that are, however, also relevant for Slovenia – a continuous impact of such perception of rhetoric and argumentation. On account of a profound influence of the Greco-Roman antiquity on the so-called European cultural area, both rhetoric and argumentation have been preserved as teaching contents until today and remain, in various forms, part of educational models, especially in the countries of Western Europe and North America, in various forms.[15]

The understanding of the significance of contemporary teaching and learning of argumentation in particular has been highlighted by Andrews (2010).[16] He based the theoretical starting points of arguments in favour of teaching argumentation on the concepts of 'dialogism' (Bakhtin), 'social constructivism' (Vygotsky) and 'rational communication' (Habermas), whereby he established argumentation as a dialogical, social and rational educational activity and simultaneously content that is of key importance for both mastering the contents prescribed by the curriculum and developing interpersonal relationships and communication skills in the broadest sense. Considering such a starting point, usefulness (or even necessity) of integrating argumentation (and rhetoric) in the entire hierarchy of education needs to be viewed in the context of comprehension of pedagogical discourse 'as place and means of active co-construction of teaching situations and knowledge' (Žagar Ž. and Domanjko, 2006: 6). In other words, this means rhetoric and argumentation as strategies of language use in school are significant in terms of defining 'the language of communication of what has already been learnt (narration, describing something on the basis of prior knowledge)' and are also part of 'the language of acquiring and developing knowledge' (discussions, giving reasons for one's views and approaches in relation to problem-solving, presentation of arguments etc.) (cf. Marentič Požarnik and Plut Pregelj, 2009: 12).



To show why discussions are needed about the necessity of an independent command of the rhetoric-argumentative competence, which is based on its systematic and comprehensive teaching and may also contribute to student achievement, some typical factors of pedagogical discourse – where rhetoric and argumentation are directly present – are presented below:

1. *Knowledge*. Knowledge, and progress in knowledge, are commonly already present in the form of an argument or argumentation, as, for instance, statements about the facts that are part of teaching content

15 This pertains to various, yet mainly independent teaching contents that are the successors of the medieval trivium (i.e. rhetoric, logic and grammar) and represent literary and communication skills that are in the broadest sense associated with skills of reading, writing, speaking, listening and often encompass the concept of critical thinking.

16 His research and analyses are limited to (short-cycle) higher education modules from Great Britain and the USA, however, conclusions about the significance of teaching such contents (providing specific features of personal development and curricular requirements are taken into account) can be transferred to the level of primary and secondary education.

are also supported by means of research, verification and evaluation of new facts (Andrews, 2010: 1). Andrews' claims, which seem almost self--evident, can also be presented in terms of rhetoric. In addition to the unambiguously argumentative nature of knowledge, another aspect of knowledge can also be highlighted: the so-called 'communication aspect' (i.e. how speakers – both teachers and students – communicate knowledge to the people they speak with), which is as part of different speaking-related events (i.e. during discussions accompanying new contents, oral examinations, discussions among students etc.) embedded in a specific structure and verbalisation. The function of the latter is also always persuasion-centred, at a so-called subjective level. In other words: one always reacts to any kind of content, including facts, at an emotional level; and through the objectively presented content, the speaker simultaneously also presents him/herself, intentionally or unintentionally, whereby he/she influences the credibility of what has been presented.

2. *Communication*. On account of its social characteristics (e.g. as a means of resolving controversial issues), as well as linguistic-pragmatic and (non)formally logical ones (e.g. structure, soundness, validity), argumentation is within public and consequently also pedagogical discourse most commonly recognised as an objective means of communication that is unproblematic in terms of development of good interpersonal relationships, and is used by speakers (e.g. teachers, students, parents) to efficiently explain their points of view and persuade the persons to whom they are speaking about their views on an issue. The key competence in relation to this is distinguishing between argumentation and other (non-argumentative) means of communication, that are closely intertwined, that take place at the same time and differ from one another only in terms of their salience within a given discourse. The means of communication alone are not problematic in terms of their existence, but merely at the level of substantiated, legitimate and appropriate use within a specific communication situation.
3. *Public participation.* Command of techniques of argumentation as principles of the so-called rational presentation of arguments and their effective presentation are still the foundations of public participation in a 'cultivated' society. In line with parliamentary traditions of the 19th and 20th centuries, modern democratic systems, especially within the European and North American geopolitical area, expect (at least in principle) active participation within society, which – as an element of its key (i.e. operational) part - also includes command of the principles of rhetoric and argumentation. Consequently, some specific contents and curricular guidelines can be recognised within edu-

cational models, practically at all levels, in an explicit and, preferably, implicit form; as part of various subjects (and in particular contents associated with civic culture), these contents and guidelines call for training in the aforementioned principles as a means of learning the key mechanisms 'for life'.

4. *Extracurricular activities.* Presentation of arguments and effective persuasion as a specific speaking-related event (e.g. in the form of a public debate, competitive debates etc.) can be a form of a desirable curricular/extracurricular activity that is not only used for the purposes of educating, but also developing other personality traits, abilities and habits. This is attested to by the popularity of competitive debates, which have, in recent years, won recognition in many Slovenian lower and upper secondary schools and become a regular extracurricular activity with international dimensions.[17]
5. *Subjects and learning contents.* The principles of rhetoric and argumentation as discourse strategies are closely interwoven with school subjects and disciplines. This interwoven nature is exhibited at different levels and reflects the peculiarities in the dynamic of inclusion in terms of individual subjects and disciplines. Some subjects are conceived in such a way that their basis includes rules about argumented and convincing writing or speaking (e.g. languages, other humanistic and social science subjects, such as civic culture, philosophy, sociology, history etc.). Others view these strategies as external, depending on special features of a subject, for instance, as something that could potentially be connected to the subject in question in terms of the content (e.g. in particular science subjects, such as mathematics and physics, that also incorporate the principles of logic) or as a form of suitable discourse construction of existing contents (e.g. discussion as a form of teaching and learning, regardless of content-related characteristics of the subject).



## The State of Rhetoric and Argumentation in Slovenian Lower and Upper Secondary Schools

In Slovenia, the issue of contemporary teaching of rhetoric and argumentation is complex. With the exception of the aforementioned conception, that still insists on professional and semi-professional use of rhetoric and argumentation, an unusual dynamic can be perceived in Slovenia in relation to non-integra-

17 A good example of implementation of such contents in education is the institute 'For and against' (Za in proti) (http://www.zainproti.com/web/), which coordinates the debate programme in Slovenia and combines debate clubs within schools at the lower- and upper-secondary, as well as university level.

tion of rhetoric-argumentation contents in educational programmes, which mostly reflect an incoherent approach with no clear educational objectives. At a lower secondary and upper secondary level, only individual elements of rhetoric and argumentation are noticeable; they can be identified within the curricula for Slovenian language, philosophy, civic culture, sociology, communicology and other subjects and teaching contents (that will be described in short at a later time).[18]

There is, however, a minor exception (that proves the rule) and thus it is appropriate to stress the benefits of learning rhetoric and argumentation and to carry on endeavours to integrate them into the entire educational hierarchy. Since 2001, rhetoric has been a compulsory subject in Year 9 of lower secondary school in Slovenia, which is largely owing to Igor Ž. Žagar, who designed both the curriculum and suitable education and training for teachers of rhetoric. The curriculum is based on findings of contemporary linguistic pragmatics and the theory of argumentation and rhetoric. Its main objective is to present the basic concepts of the system of rhetoric along with elements of argumentation that are discussed in a systematic and comprehensive way. Since this is something special, both in Slovenia and internationally, the operative objectives of rhetoric lessons are presented below, wherein the fundamental orientation and content-related emphasis of the subject can be discerned unambiguously (Žagar Ž. et al., 1999: 5, 6; italics are by the author):



– Functional objectives:
    1. Students learn *what rhetoric is*.
    2. Students learn *why it is useful to learn rhetoric*.
    3. Students learn about *the ethics of dialogue*.
    4. Students learn *what argumentation is*.
    5. Students learn about *the difference between good and bad arguments* (non-compulsory).
    6. By getting acquainted with the *components of the technique of rhetoric*, students understand how they can *give convincing speeches*.
    7. Students learn about the importance of *personality* (of the speaker) and *passion* (of listeners) for effective persuasion.
    8. Students learn about the origin and *history of rhetoric* (non-compulsory).

– Educational objectives:
    1. Students *learn (master)* how to speak in public and express their points of view.

18 At this point, the non-formal, market forms of 'rhetorical' education, which have been very popular in the last ten years and which have no significant parallels with formal / curricular forms of education, will not be touched upon. Such schools often present rhetoric and argumentation as a collection of simplified recipes for 'beautiful, sophisticated language' and are mainly focused on 'performance' without any appropriate training in developing arguments.

2. Students *learn (master)* effective persuasion and presentation of arguments.

A pronounced usability-orientation of knowledge acquisition in the school subject of rhetoric needs to be pointed out, which is not reduced to bare and empty instructions for persuasion. What students are supposed to learn is 'mainly how to form and express their opinions in an independent, coherent and critical manner in relation to other subjects, during the course of further education, as well as in all (other) fields of social and personal life' (Žagar Ž. et al., 1999: 5). This is based on a suitably adapted theoretical model of rhetoric and argumentation and also includes a number of other humanistic, social science and science contents within other subjects (e.g. in relation to linguistic issues, social and cultural patterns, functioning of the body, perception of time and place etc.). In spite of its non-compulsory nature and a high level of difficulty, the subject is very successful; in many lower-secondary schools it has been taught continuously for several years. With regard to this, the significant role of teachers should not be overlooked in making students familiar with these contents, their knowledge of rhetoric and argumentation and their motivation for integrating the contents in the educational process at a teaching level.



The compulsory elective subject of rhetoric in Year 9 of lower secondary school is considered the only case of systematic and comprehensive teaching of skills of rhetoric and argumentation in Slovenian education at lower-secondary and upper-secondary levels. Otherwise, rhetoric and argumentation can also appear within different subjects either as a set of (randomly selected and designed) elements at the level of learning content or as part of learning objectives. Thus they are most commonly present in an indirect form, i.e. as concepts that are not directly related to the theoretical fields of rhetoric and argumentation. However, this involves a number of weaknesses, which lead to an unsuitable conception and unsatisfactory command of rhetoric and argumentation. These weaknesses include:

- fragmentation of the rhetoric-argumentation model, which does not enable a comprehensive command of the strategies of persuasion and presentation of arguments;
- randomness / arbitrariness in terms of selection of the concepts that are discussed, which makes it difficult to understand, and consequently suitably use, the principles of rhetoric and argumentation;
- an interpretation of rhetoric-argumentation notions and concepts within the context of these disciplines that differ significantly from rhetoric and argumentation in terms of the field, methods or theoretical models. Generally, such subordination to the 'primary' discipline

fails to reflect suitable conceptualisation of rhetoric and argumentation as independent disciplines or delimits the application to the discipline in question only, in spite of suitable interpretations.

Some selected examples will be examined below which were found in curricula for the Slovenian language, sociology, philosophy and civic education and have been presented in more detail in the aforementioned study on the knowledge and use of rhetoric and argumentation in Slovenian lower secondary and upper secondary schools (Žmavc, 2011).

One of the most obvious observations with regard to rhetoric and argumentation that accompany all curricula, is that the term is not used explicitly anywhere. Moreover, no documents of this type contain any explicit references to the concept of 'public persuasion'. The only reference found are formulations that imply elements of rhetoric or persuasion in the context of what could be called public verbal (and non-verbal) activity. For instance, in the updated curriculum for civic culture, which was introduced in the school year 2011/2012, some starting points can be noticed that are directly related to argumentation in particular, while rhetorical elements (such as rhetorical devices, persuasion procedures, rhetorical situation, the ethics of dialogue) – that should be presented as a constituent part of the so-called skills – are missing and might remotely be recognised in the use of the vague concept of communication and its connection with the democratic public sphere.



The subject promotes students' development of the following skills (Karba et al., 2011: 5; italics are by the author):

- judgement about social and ethical dilemmas and issues;
- *communication and development of arguments within the context of the public sphere;*
- *informed, critical, constructive and committed social activity;*
- lifelong learning.

On the other hand (as is evident from the above example), curricula relatively often contain terms such as 'argument' and 'argumentation'. However, this use is very random, as it is mostly not clear what these two expressions refer to, or on what concepts they are based. Instances where different concepts are clustered together, without any explanations or definitions, such as argumentation, explaining, conflict solving, communicating, critical thinking etc., are perceived as the most problematic. The listed linguistic and cognitive strategies are, at the level of educational policy, often regarded as desirable in the sense of currently 'topical' contents or educational principles, however, what, and by which means, teachers should teach in relation to argumentation, are not defined.

Below is an example from the curriculum, wherein various concepts are listed one after another; these concepts are partly presented in a descriptive form, however, they are still used as self-evident, self-referring concepts, whereby mutual relationships are defined in an unclear way (for instance, there are no explanations about what it means to express an opinion in comparison with negotiating or solving problems within different life situations in a peaceful manner).

> */…/ [S]tudents develop readiness for speaking and writing; in this way they express their thoughts, points of view, volition, emotions or experiences, negotiate and solve problems in different life situations in a peaceful manner. They are aware that speaking/writing is an interpersonal activity as part of which the person one is speaking to needs to be respected and the principle of politeness and the speech situation need to be considered (Križaj Ortar et al., 2005: 9, 10).*

Likewise, curricula examined during the study (Žmavc, 2011) contain no information about what specifically students are supposed to learn about argumentation, or what standards of knowledge in this relation (if any at all) they are supposed to achieve. Simplified verbalisations are also used in relation to the objective, and what is referred to as 'argumentation' is presented as an obvious, natural competence. Judging from the above descriptions, it seems students are expected to have already mastered argumentation and are even expected to be able to distinguish between argumentation and non-argumentation within discourse.



One such example is noticeable in the aforementioned curriculum for the Slovenian language in primary/lower secondary schools; in accordance with the curriculum, students are, at an initial level, expected to know what it means to 'receive a text in a reflective and critical way' (conditionally this could maybe be called 'critical thinking'?) and that by means of a direct activity alone they ('receive' and consequently 'develop') automatically learn the basic principles of argumentation (drawing conclusions, evaluating, presenting arguments). In doing so, they obviously also distinguish between argumentative synthesis and analysis (i.e. the ability to construct valid argumentation and the ability to evaluate validity), as well as between different types of reasoning (formal-logical and informal reasoning) that might be characterised by the juxtaposition of the concepts listed one after another, such as logical thinking, drawing conclusions, evaluating, presenting arguments: '*They receive texts in a reflective and critical way and thus develop their ability of logical thinking, drawing conclusions, evaluating*, *presenting arguments*, as well as respecting different opinions' (Križaj Ortar et al., 2005: 60, italics are by the author).

Another relevant circumstance can be addressed on the basis of the briefly outlined characteristics of argumentation and its appearance in curricula. Explicit (although commonly problematic) use of argumentation and simultaneous omission of rhetoric in curricula, - wherein objectives and contents are concerned that are undoubtedly connected with persuasion-related (and in this respect also argumentation-related) aspects of language use – reflects a lack of knowledge of both of these fields. This is based on the previously addressed value-related delineation between the two disciplines and implies a possible negative conception of rhetoric. In the author's opinion, such introduction of rhetoric and argumentation in education is extremely problematic, as implicitness of rhetoric and the use of different principles (and (or) concepts), which actually characterise rhetorical and argumentative strategies, may result in poor knowledge, difficulty understanding and inappropriate use of rhetoric and argumentation. Its main consequence is reflected in all of those fields that have been recognised as being of key importance for successful participation at school and in extracurricular activities.



It also needs to be pointed out that civic education is regarded as a subject and educational content, and that rhetoric and argumentation are especially closely related to the ideas and concept of democratic citizenship (Audigier, 2002: 21, 22; Dürr et al., 2005: 57). This is another reason why these types of content should also encompass direct teaching of strategies of (public) persuasion and presentation of arguments. Since civic education is part of both lower and upper-secondary education, this could simultaneously, at least partly, solve the issues for students regarding the absence of systematic teaching about rhetoric and argumentation at school. However, a more in-depth overview of curricula for this field shows that rhetoric and argumentation remain, at best, part of the so-called 'civic competencies', but which have not been defined adequately (and suitably). Within these competencies, the strategies of persuasion and presentation of arguments are not clearly defined or systematically designed as educational objectives; they appear as recommendations or content elements at the level of principles.[19] On account of the social dimension of rhetoric and argumentation, the integration of the rhetoric-argumentation model in civic education lessons is viewed as taking place at three inter-related levels: a) as an independent content (i.e. what is the rhetoric-argumentation model), b) as one of the key elements of a democratic society (the role of rhetoric and argumentation in modern democratic society and its predecessors), c) as one of the key competencies used by students daily as part of their social

19 A comparison of the 2000 and 2001 curricula reveals that the 2000 curriculum explicitly mentions rhetoric and argumentation within the content set Communication within the Community, which is destined for Year 7 of lower secondary school. Moreover, individual elements of both of these skills are referred to in terms of objectives, learning contents, concepts and standards of knowledge. More in relation to this in Žmavc (2011).

activities (how can command of the rhetoric-argumentative competence contribute to achieving the principles of active citizenship).

## Rhetoric and Argumentation between Today and Tomorrow

In spite of an explicit absence of their contents and unsuitable curricular definitions of rhetoric and argumentation in lower and upper secondary education, in practice this remains a very important subject matter. This is partly reflected by the results of PISA (2006, 2009), which indicate lower achievement of Slovenian students in reading literacy, in particular at those levels of the reading process where students are required to show command of the principles of presenting arguments.

This was also confirmed (significantly) by a study on familiarity with, and use of, rhetoric-argumentation principles in Slovenian lower and upper secondary schools (Žmavc, 2011; Gril and Videčnik, 2011). Among other things, the study examined what Slovenian students and their teachers know and think about rhetoric and argumentation, and what elements of rhetoric and argumentation they use in a direct way as part of their daily school life, either within lessons (learning contents and work methods) or in terms of a wider school participation.[20] Two hypotheses have been confirmed in the study, i.e.: 1) integration of rhetoric-argumentation principles into lessons improves the quality of lessons and 2) integration of rhetoric-argumentation principles into lessons fosters classroom communication and interpersonal relationships. Study results have pointed out the complexity of issues in relation to the conception, use, and teaching of rhetoric-argumentation principles and also touched upon student achievement. Moreover, they also indicate that rhetoric and argumentation ought to be viewed as significant educational elements which could, providing they are systematically integrated into school curricula, contribute to a greater quality of knowledge and better dynamic of lessons, and at the same time to improved interpersonal relationships and more active participation of students. Some key findings are listed below:

- Students who boast a better learning achievement are recognised (by their contemporaries and teachers) as more skilled in terms of rhetoric and argumentation and more active in participation at school.
- Integration of rhetoric-argumentation principles into lessons is positively correlated with:
  - methods of active learning (the more favourably disposed teachers are towards these methods, the more often they use rhetoric-

20 A detailed description of the study (the issue, methodology, results) is provided in Žmavc (2011), as well as Gril and Videčnik (2011).

-argumentation principles; teachers in lower secondary education opt for these methods more frequently than do those at the upper secondary level);
– the participatory school culture (the higher the extent to which students are enabled active participation, the more often teachers opt for including rhetoric-argumentation principles into their lessons);
– interpersonal relationships (command of rhetoric-argumentation principles has a positive impact on the competencies of communication and the classroom climate, especially in relation to resolving conflicts, interpersonal cooperation and a higher self-concept);
– the perception of a higher competence of rhetoric and argumentation (teachers see students as more competent in terms of rhetoric and argumentation mainly in relation to how frequently methods of active learning are used and participation in lessons is enabled).

## Conclusion



Slovenian teachers have rather different perceptions (and probably also different levels of command) of the concepts, notions and principles of rhetoric and argumentation. In addition to the specific situation which was, in relation to the general (including everyday) attitude to rhetoric and argumentation presented in the first part of this paper, this is also a result of the fact that during the course of their education and training, teachers have not been made familiar with them in a suitable manner. However, it is interesting to note that they have no difficulties recognising the presence and value of rhetoric and argumentation, especially in the context of interpersonal relationships, providing that the concepts, notions and principles of rhetoric and argumentation are presented to them as concrete language tools, strategies or processes. Rhetoric and argumentation are without doubt firmly anchored in one's daily life and are important in co-constructing a means of entering into relationships with others (and oneself). However, even if one's use of rhetoric and argumentation is restricted (although not quite suitably) to the personal sphere only, it is still true that effective persuasion and presentation of arguments within 'relationships' cannot be learnt all that easily, but only on the basis of thorough familiarity with what rhetoric and argumentation are in the first place, and an understanding of their role within public discourse. Accordingly, reducing rhetoric and argumentation to the level of secondary (and more or less implicitly present) elements of pedagogical discourse does not seem a suitable perspective. In the context of the subject matters within humanities and social sciences, these are two important content elements that are impossible to separate from some subject matters prescribed by the curricula. Moreover,

rhetoric and argumentation are indispensable methodological tools in every educational process and enable the co-construction of the learning situation and the knowledge, regardless of any specific characteristics of the subject matter, whereby they also leave a direct mark on student achievement.

In view of the aforementioned difficulties in relation to their conceptually suitable use in practice, rhetoric and argumentation - as important educational factors - require mainly:

- teachers who are sensitive to rhetoric and argumentation;
- long-term and systematic teaching with a special focus on practical activities;
- a productive wider public environment, where they can be performed effectively.

Ancient Greeks and Romans were aware of this. They came up with a highly meaningful and today commonly quoted, yet rarely understood, proverb - one that the author hopes to have explained, at least to some degree, in this paper: *Poeta nascitur, orator fit*.[21]



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21 The poet is born, the orator is made.

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# Fostering Student Achievement on the Development of Enterpreneurship

**Blaž Zupan and Franc Cankar**

Abstract: *The paper presents some aspects of fostering young people's learning achievement based on the development of entrepreneurial competency. The introduction addresses the basis of different learning outcomes commonly presented in relation to various factors. The opportunity for schools to provide conditions that make learning achievement possible for all students is pointed out. In the first part, the main starting points of the development of creativity, innovation and entrepreneurship are described. In the second part, the new paradigm of the development of entrepreneurial competency and disposition in schools is presented, based on fostering creative and innovative problem solving as a universally applicable skill. In the final part of the paper the fundamental principles, characteristic of the efficient fostering of entrepreneurship in young people, are described and elaborated upon. The way in which the development of innovation and entrepreneurial competencies can aid in young people's improved learning achievement and employability is also presented.*

**Key words:** *learning/student achievement, creativity, innovation, entrepreneurship, competencies*



## Introduction

One of the fundamental starting points of the educational process, both in Slovenia and elsewhere, is a good learning outcome. It is therefore perfectly understandable that schools, teachers, parents and school authorities alike do everything they can to improve students' learning achievement and alleviate the factors hindering it. This is an issue of great significance, both from the

point of view of young people, as well as society as a whole. However, in spite of all endeavours, the effects are commonly not as positive as one would have liked. In numerous schools this issue is a common topic of discussion, however, much less attention is devoted to actually solving it. Magajna et al. (2005) point out that more than half of schools fail to define the field of learning difficulties as the overall responsibility of the school, which includes some schools where related problems are then successfully resolved (Glaze et al., 2011).

Although the issue of learning outcomes is often presented in relation to various factors, such as gender, parents' level of education and demographic indicators, it does not have much in common with students' abilities and motivation. Irrespective of whether boys or girls are concerned, whether they are from this or another region, whether they are more or less capable and talented, whether their parents are more or less well-off, the fact is that young people have roughly the same desire for a good education that will prove useful in later life (Levin et al., 2000). This means that systematic classification of students' learning outcomes based on the aforementioned criteria does not prove all that productive. At the same time this gives schools the opportunity and responsibility to create conditions that make learning achievement possible for all students. This relates to ensuring equality and going beyond factors controlled in the assessment of student achievement. What is of particular importance in relation to this is the way in which schools present this issue to a wider community. Diversity is a natural thing and from the point of view of the dynamic of social interactions it enhances the community and strengthens identity. Understandably, equality of learning outcomes also calls for teachers to use different strategies. Based on these it is possible to bridge the gap between the group of high-achieving students and students who fail to fulfil their potential. From this point of view, excellence and equity go hand-in-hand (Glaze et al., 2011).



Although the social status of young people and the factors associated therewith are usually a reliable indicator of different achievements in one's life, this is nevertheless considered to be the sole indicator. Numerous studies (Valencia, 1997; Levin, 2000) are therefore mainly focused on the following two concepts: the first is individuals' resilience which enables them to persevere through difficult circumstances (Ungar, 2007); and the second is about the social capital which refers to networks or groups used by people in order to respond to the challenges they are faced with in a productive way (Portes, 1998). Both of these two concepts can be used in schools, but this calls for changes in both teaching and learning. Magajna et al. (Magajna et al., 2008) have listed some basic principles that might be of help in teaching underachieving students. This relates mostly to the integrated approach principle, principles of interdisciplinarity, cooperation with various partners, student participation, action, exploration and encouragement of one's strengths. It is possible to de-

velop all of this in students by means of suitable development of entrepreneurship, with the emphasis on encouraging creative and innovative problem-solving as a universally applicable skill. This is a skill that anyone could use in everyday life and one that requires no broad knowledge of the conventional contents taught at school or any great ability for retention or analytical thinking.

The paper presents the essence of contemporary fostering of entrepreneurship in schools and provides some answers to the questions about the way such education can prove helpful for underachieving students.

## Starting Points of Fostering Creativity, Innovation and Entrepreneurship at School

Although educational institutions exert no direct influence on the business environment, they can nevertheless encourage young people to think and understand the connections between life, education and work. They can teach the youth how to be creative in solving problems and how to act in an innovative way and assist them in gaining considerable experience. Although discussions among authors are still ongoing as to the extent that entrepreneurial behaviour may be learnt, the generally acknowledged fact is that at least certain aspects of entrepreneurial practices and thinking can indeed be taught (Cotton et al., 1992; Henry et al., 2005).



Creativity, innovation, entrepreneurship and entrepreneurship education are complex and interwoven concepts with multiple meanings, and may be linked to many other fields. A number of authors have for many years been conducting studies (Wehner et al., 1991; Sternberg and Lubart, 1999; Ferrari et al., 2009; Bourgeois, 2012) which aim to provide a more thorough explanation for the common basis of these concepts and to offer a narrower vision of this phenomenon. In recent years several European documents and guides have also been produced (Entrepreneurship Education Enabling Teachers as a Critical Success Factor, 2011; Entrepreneurship Education at School in Europe, National Strategies, 2012; Razvoj podjetniške naravnanosti in spretnosti v EU, 2012; Entrepreneurship Education: A Guide for Educators, 2013), which link the concepts and give more concrete guidelines on school practice. De Bono (2006) believes creativity is a skill that can be developed and is based on the use of lateral thinking tools. It cannot be 'taught' in a traditional way. A suitable environment needs to be provided, one that fosters production of new ideas and curiosity. In analysing and describing the lateral thinking phenomenon, the author points out that lateral thinking deals with generating new ideas and that by its nature it differs considerably from traditional vertical thinking. Burke (2007) holds a similar opinion. He believes that 'if creativity is difficult to

define, one certain thing is that it is possible to create conditions in which creativity is more likely to thrive'.

Encouraging students to think up new ideas is merely the first step. A good idea then needs to be developed further, it needs to be given a tangible form, put into practice and must eventually also be marketed (Likar, 2004). Creativity linked to entrepreneurship skills can help an individual put an idea into action, develop and implement it. If creativity is 'the prime source of innovation' (Council of the European Union, 2008), innovation is the application and implementation of creativity (Craft, 2005). In spite of numerous different attempts at finding concordance regarding definitions of both creativity and innovation, innovation may be understood as 'the ability to produce work that is both novel and appropriate' (Sternberg and Lubart, 1999). Dubina (2005) perceives innovation as the ability of an organisation to actualise the creativity of its members and transform it into innovative action-taking and innovative ideas. According to this, creativity and innovation are related and innovation may thus be understood as the application of the creative process or a product. This means that without ambition and action, creativity is merely an empty word.



There is no simple answer to the question 'What is entrepreneurship is who has entrepreneurial spirit?'. It is obvious that different people have a different understanding of the concept of entrepreneurship. The most simplified answer may be that the entrepreneurial spirit may be attributed to any person who is successful in facing different work challenges and tasks. A similar thing applies to students – in them entrepreneurial competency is developed simultaneously with the development of innovative behaviour. This entrepreneurial competency is not an absolute ability, independent of work and life-related contexts (Svetlik, 2009). It is in facing up to uncommon circumstances that an individual exhibits the highest level of competency. Such competency consists of several dimensions, including knowledge, skills, ways of thinking and personality traits. Entrepreneurial competency needs to be distinguished from the concept of entrepreneurship, which is broader, and in addition to entrepreneurial actions also encompasses the knowledge and skills related to establishing and managing small-sized businesses (Jones and Iredale, 2010). Entrepreneurship is an important social activity and occupation. However, it does not have much in common with school practice.

Within school systems, changes are generally accepted reluctantly. It comes as no surprise therefore that fostering entrepreneurship has not won much favour. Some authors have pointed out difficulties in upper secondary education in particular (Surlemont, 2007). However, in spite of numerous issues in relation to the development of entrepreneurship, there are several successful initiatives both in Slovenia (Škrinjar, 2013) and worldwide (Hampson et al., 2011). Key significance here is attached to the role of the school management and its teachers. Namely, the development and realisation of creative activi-

ties and independent operation, whenever this is needed, depends greatly on the type of messages an individual received during his schooling period (Kent, 1990; Chell et al., 1991). For this reason, many authors agree that entrepreneurial competency can be developed at an early age. The development of innovation and entrepreneurship is included in the national curricula of a number of European countries as one of the eight key competencies of lifelong learning (cf. Finland, Scotland etc.). These are the Key Competencies (2002) or skills (Toner, 2011), which are some of the primary objectives of the European educational policy and the national educational policies of European countries. Consequently, all EU Member States are working towards providing young people with more innovative and entrepreneurial incentives. They are trying to achieve this in different ways, some being more successful and others less so. Several of them have incorporated fostering entrepreneurship into the entire educational process in different ways. They work at improving the culture of innovation and entrepreneurship through the following means in particular:

- by establishing partnerships between educational institutions and companies or support organisations in the local environment with the aim of developing creativity, innovation, entrepreneurship, opening up the world of entrepreneurship, involvement in the economic environment and developing a sense of responsibility in young people;
- by educating teachers or mentors of innovation and entrepreneurship projects in individual schools;
- by inviting tenders for projects participated in by schools and educational practitioners; with these projects they promote practical work and exchange of actual experience in relation to young people's innovation and entrepreneurship;
- by providing opportunities for young people to participate in individual voluntary, free-time activities.



In the lower years of primary school, the emphasis is on raising awareness of entrepreneurship being a factor that contributes to improving the way of life within society and one of the possible career options. At a later stage, in the higher years of lower secondary school, students are able to experience the work of an entrepreneur themselves by participating in various projects. Upper secondary school on the other hand is intended for the development of entrepreneurship and motivation for entrepreneurial work on a wider scale. Studies (Kourilsky and Carlson, 1997; Gibb, 2002) have revealed it is the entrepreneurial competency that needs to be developed within the educational system in particular. The entrepreneurial competency can namely be developed at an early age and is also most closely related to knowledge, skills and personal traits which are developed during young people's socialisation. This

involves the development of intuitive decision making, creative problem-solving, strategic thinking, time planning, coordinating work and motivating others for work.

While some authors still disagree about the answer to the question of whether quality creativity, innovation and entrepreneurship can be developed as part of young people's educational process at a very early age, agreement about the learning and teaching methods has already been reached. The prevailing conviction is that young people need to be taught in an active and experimental way, so they get accustomed to systematic thinking and entrepreneurial action-taking. The focus is mainly on learning through work and experience, experimenting, considering the risks and tolerating mistakes, creative problem-solving, obtaining feedback as part of social interaction, role-playing and interaction with the world of adults. Cotton and Gibb (1992) believe that instead of the conventional mode of teaching entrepreneurship (mostly entrepreneurial skills), which is sometimes delivered and taught in a rigid and scholastic manner, young people should experience the concept of the development of creativity, innovation and entrepreneurship in particular. The authors suggest that conventional modes of learning should be supplemented and, where applicable, replaced by modes that foster the development of innovation in students.



Table 9: Modes of learning and teaching

| *Conventional approach* | *Entrepreneurial approach* |
|---|---|
| Content-oriented. | Process-oriented |
| Teacher-oriented | Student-oriented |
| Teacher is the expert | Teacher is the facilitator |
| 'Know what' | 'Know how and who' |
| Passive student (receiving knowledge) | Active student (generating knowledge) |
| Emotional detachment | Emotional involvement |
| Programmed sessions | Flexible sessions |
| Imposed learning objectives | Negotiated learning objectives |
| Concept theory emphasis | Practical relevance of theory |
| Subject/functional focus | Interdiciplinary focus |
| Fear mistakes | Learn from mistakes |
| Teacher is infallible (one-sided learning) | Teacher learns (two-sided learning) |
| Limited exchange | Interactive learning |

Source: Gibb, 1998

Creativity and innovation can thus be developed and learnt during the educational process, providing the educational process opens up suitable opportunities and encourages individuals' development and learning, so their ideas can be put into practice. This happens especially when the focus is on an interdisciplinary approach, which guarantees resolutions and enables familiarisation with complex issues in a certain field and calls for finding and developing one's own ingenious solutions, whereby support is provided by associate professionals and the local environment. It is namely at the intersection of different fields where innovations occur. The predominant opinion is that young people should gain knowledge about related issues in an active and experimental way, which will get them accustomed to systematic thinking and entrepreneurial action-taking.

However, in spite of all the endeavours, there is a gap between school policy on creativity and innovation and related practice. The fact that EU Member States promote creativity and innovation in their educational policies does not in itself guarantee creativity and innovation are part of the day-to-day practice in schools. This means that the expectations of school policy makers are in marked contrast to the opportunities for creative learning and innovative teaching. It would be an exaggeration to claim that schools in Slovenia lack ideas; also, that there is hardly any shortage of organised external incentives for the development of creative and innovative processes in students. However, in spite of this, study findings (cf. Likar, 2004; Lavrič et al., 2010; Cankar et al., 2011, 2013) clearly show that a certain deficiency of the educational system in this field has been perceived by schools and students. This means that suitable improvements of the curriculum, and especially its implementation, may result in young people internalising creativity and innovation to a greater extent, and would simultaneously foster initiatives in establishing a connection with the environment. What is clearly needed is an incentive based on concrete activities bringing schools closer to the latest findings in relation to the development of creativity, innovation and entrepreneurship, thus accelerating the emergence of best practice.



## A New Paradigm of the Development of Entrepreneurial Competency and Disposition in Schools

Newer documents (Entrepreneurship Education Enabling Teachers as a Critical Success Factor, 2011; Entrepreneurship Education at School in Europe, National Strategies, 2012; Razvoj podjetniške naravnanosti in spretnosti v EU, 2012; Entrepreneurship Education: A Guide for Educators, 2013) point out that the concept of entrepreneurship education based on the paradigm of how to manage a company is obsolete. Studies (Honig and Karlsson, 2004; Garavan and O'Cin-

neide, 1994) indicate that the conventional administrative - entrepreneurial approaches and the use of business plans in fostering the development of creativity and innovation in young people, in particular primary/lower secondary school pupils, do not produce satisfactory results. Some authors (Martin, 2004; Meinel and Leifer, 2011; Kelley et al., 2005) have thus foregrounded the fostering of creative problem-solving, which is a universally useful skill. However, it is simultaneously also at the core of entrepreneurial thinking and action-taking. This applies to the school population in particular, so centre stage in primary and secondary schools (Carroll et al., 2010) is being taken by the so-called 'design thinking' (Rauth et al., 2010). 'Design thinking' is based on the realisation that we ourselves create the world that we are surrounded by, which is a result of our way of thinking and actions. The world we are surrounded by consists mostly of solutions to the problems we are faced with, the society we live in and the business world of which we are a part. The educational system does teach us how to solve problems, however, it does so on the basis of past knowledge and past methods of solving similar problems. In view of how fast everything around us is changing, the essence of these problems is likewise changing very fast. We are faced with an increasing number of challenges which previous generations were not familiar with. Considering creativity is merely a means of solving problems, resulting in new and previously unknown solutions within the educational system, it is necessary that pedagogic approaches are fostered with creativity as one of the principal topics of the process. 'Design thinking' places the problem (the challenge) and the solution-finding process, which involves creative thinking techniques, at the core of the pedagogical process. 'Design thinking' methods were developed in practice and are as such not the theory that science would hand over to be tested in practice. Its concept is namely the exact opposite of this – starting from practice it is then integrated at all levels where it may prove useful for man's development and progress.



'Design thinking' not only includes the principle of conventional product design, but also, and mostly, the principles of holistic development of new solutions as a response to unstructured and new problems we are faced with in our personal, social and business lives. The method is used to develop products and services, spaces, experiences and concepts of any kind. Some of the world's leading universities have recognised the method as a promising one for the development of creativity and innovation, new products and problem solving (Brown, 2008). The essence of this type of thinking is identifying the actual problems or needs of an individual or society and a practical solution to these problems. Pedagogical approaches in developing 'design thinking' are in principle distinctly experimental, i.e. students get to develop their knowledge through concrete tasks, experiments and experiences. The methodology consist of four basic steps (based on Rauth et al., 2010).

The first step is identifying and defining the basic problem or challenge. Problems may be to do with a wider society, for instance solving issues with regard to minority ethnic groups, existential problems in underprivileged areas or environmental issues. They can also be local problems, for example setting up tourist products and services, equipping school premises, setting up environmental clean-up campaigns or humanitarian fundraising events They can also be economic in nature, for instance developing a new or improved product or service for a local company. What is of key importance at this stage is that these are real identified problems and that they are as widespread as possible, i.e. that the solution is useful for as many people or organisations as possible. The most common mistake made during the course of the first step is searching for ideas about how to solve the problem identified. Ideas are namely dealt with during the third step; the most important thing here is understanding the problem and at this point ideas may actually prove an obstacle to gaining an emphatic and objective view of the situation.

Step two is understanding the problem, whereby an attempt is made to familiarise oneself with the people or organisations and their problem by means of emphatic methods. A multitude of ethnographic and anthropological field methods for user data collection are used and the data is then analysed with the aim of developing an understanding of the true nature of the problem. During the course of this step, one's view on the problem is commonly altered, the problem is then redefined and presented within the new context of acquired information. One of the key elements of this method is nonlinearity, which means that based on the data collected and the understanding developed, previous assumptions are quite commonly completely redefined.



The focus of the third step is creating ideas that could potentially lead to solving the problem. Various techniques are applied to generate as many ideas as possible, evaluate them in terms of how simple they are to implement and the level of their impact, after which some ideas are selected and then tested in practice.

Step four is testing ideas or prototyping. The selected ideas are demonstrated to users by means of simple methods, such as drawing of comic strips, role-playing or use of simple materials to illustrate the idea in a physical way; users' responses are closely monitored and critically evaluated. Subsequently the original idea is changed based on users' responses, and then improved by means of a more advanced prototyping method; it is then tested for as long as needed until we are convinced this is a workable solution and can be put into actual use.

The essential characteristic of this approach is the integration of various kinds of knowledge and skills and consequently cooperation with both the local community and wider, as the final solution covers the user (i.e. human) aspect, as well as the technology and business-related aspects of the develop-

ment of the solution. We need to use all relevant technical and business tools and skills, which individuals or the elementary group involved in the problem-solving process use only in rare instances. Additionally, the approach is distinctly and solely user-centred, action-oriented, encouraging the transfer of knowledge from all disciplines relevant to solving the problem (Brown, 2008). The more elaborately described characteristics of this approach are as follows:

- The mode of thinking is characterised by cycles which do not always follow in sequence; it is a synthetic-iterative approach (Rauth et al., 2010). We thus move further away from the conventional process of analytical search for a single correct solution, which more often than not does not produce optimal results in a real, volatile environment.
- It is centred upon creating the desired future, for which new solutions for both existing and new problems are developed. We are always on the lookout for new opportunities and new solutions, so this thinking mode is also opportunistic and driven by the new social worth it is creating.
- It is holistic and integrative, a comprehensive solution to the problem is found (Martin, 2004) and is understood as a system with many links and a series of necessary inputs. Through a broad understanding, investigative curiosity and creative solutions are then proposed that are a considerable improvement over the existing ones.
- An important part of the process is experimenting, both in looking for new ideas and in terms of observation techniques and, especially so, during the prototyping stage, when the solutions are improved iteratively. The approach is distinctly action-oriented (Rauth et al., 2010).
- The approach is distinctly transdisciplinary and cooperational - it combines the knowledge originating in different fields, adjusts it and uses it in different part of the process where applicable.
- It is user-centred and tries to understand the user by means of emphatic observation approaches. We see the world from the point of view of everyone concerned with the problem in one way or another and apply observation to look for details that would get overlooked if more conventional data collection methods, for instance a survey, were used (Brown, 2008). Users are often unable to express their wishes and needs, so it is up to the teacher to recognise them by means of empirical methods (Kotchka, 2004).
- The process is accompanied by optimism and creativity, as we are on the lookout for solutions to immensely complicated problems and we create new solutions instead of choosing among the existing ones (Brown, 2008).

Naturally, the use of these approaches calls for teachers to take a leap in their thought process, internalising the aforementioned principles. Design thinking as a pedagogical approach does not call for a revolution in the educational system and is thus a welcome addition to the existing modes, which include design classes and other organised forms of fostering entrepreneurship at all levels of education. On the other hand it is an essential developmental step as a response and preparation for increasingly fast changes in the economic, as well as social and natural environments that we are witnessing now and will continue to do so in the coming years and decades.

## Entrepreneurial Competency Aids in Improving Student Achievement

All participants can benefit from creativity, innovation and entrepreneurship being integrated into lessons, because the aforementioned approach is not centred upon individual school subjects. As far as the development of creativity and innovation is concerned, all areas of knowledge are important. This fosters taking into account different interests, learning styles, skills etc. The described approach is therefore a good basis for working with underachieving students as well, it is in line with basic principles of additional support provided to students with learning difficulties. Of course, such an approach calls for a new teaching paradigm and resolution of some other important issues related to the development of the school curriculum. Mostly this concerns the teacher's autonomy, flexible teaching approaches and the issue of adapting the curriculum to local needs and cooperation of schools and teachers with the local community. Some of the biggest obstacles to the development of creativity and innovations are a crowded school schedule and teachers' feelings of inner constraints (Karkkainen, 2012). What is also important is the issue of integrating the school curriculum with policies in other fields. In spite of everything that has been said, actual adjustments to the curriculum and work in the classroom nevertheless depend on each individual teacher. It is a fact that within the prescribed curriculum every teacher is able to choose key aspects himself, adapt the curriculum content and teaching approaches to the different needs of individual classes. Some key fundamental principles characteristic of the efficient fostering of entrepreneurship in schools, and consequently also employability, will be pointed out and described below. The principles are suitable for directing underachieving students. They enable the development of competencies on the basis of which young people gain in creative self-confidence and concretise their role within society; providing their motivation is strengthened, this can also lead to improved learning achievement.

## The Principle of Action

The core of the action component is that students not only learn the truths presented in books and gain academic knowledge, but they also learn how to relate to other things and use what they have learnt in real life. The important thing here is that they associate thinking with useful skills and concepts in complex situations. In doing so they develop understanding and lasting patterns for life. Teachers encourage action-centred behaviour by including as little analytical planning as possible, steering students towards acquiring information from the environment quickly and testing the possible solutions in a real environment as fast as possible. They encourage a practical presentation of solutions whilst not describing them in detail, as well as regular public presentations of the results of their work. Students present the intermediate results to potential users and all project participants.

Such actions or projects relate learning to the outer world. Activities often last several weeks or months, may be highly impressive and also significantly impact students. This makes it possible for students to become familiar with different situations and understand the circumstances while they are working on performing their tasks. In particular, if they have no time and little opportunity to get to know the issue inside out and understand the problem, then the activity was most likely not well chosen. What is of particular importance here is that such activities or projects can point out and provide authentic situations and enable efficient learning. When students are thinking about the project, about how to prepare for it and carry it out, they are using different kinds of interdisciplinary knowledge and skills. They need to communicate all of this to their schoolmates, make a team effort and find solutions to practical problems that arise during the course of the project. Learning is frequently relocated to one's home and family, as students need their parents' help and advice, as well as to local institutions. Of course, such activities have to be associated with a sense of responsibility and a feeling of self-respect, respect for others and the environment. Work is carried out both in the field and in the classroom. The space for project work needs to be adapted to team work and the equipment inside to project work. It is important that students are provided with free access to the work area and thereby to the prototype materials and tools. These activities or projects are not separated from learning, they are part of it and can also take place during the course of the regular teaching process. They enable and call for the cooperation of teachers from different fields of expertise at school that may, technology or content-wise, contribute to the project in any way they can.

## The Principle of Interdisciplinarity

Contemporary educational policies and school systems around the world (for instance in Finland, England or Scotland) pay - within the curricula at all levels of education - increasingly close attention to integrating the contents and the skills between individual subjects and subject areas. This involves numerous skills, knowledge, relationships and points of view that are not always part of the formal school curriculum. They are however essential for participation in society. The world is not divided into subject areas. It is a coherent and indivisible whole, which makes integration of subjects a necessity. Williamson and Payton (2009) are in agreement with this and believe the issue of school subjects is one of the key issues in relation to changing the curriculum. This means content knowledge must be supplemented with other competencies, such as creative thinking, research and the development of ideas, team work, reflective learning and self-organisation. Poor integration of subjects reduces the innovative-centred strength of the curriculum (Elmore et al., 1992), and for this reason OECD recognises interdisciplinarity and cross-curricularity as driving forces of education reforms (Reid and Scot, 2005). Integration of multidisciplinary and interdisciplinary contents, which include the development of self-initiative, contributes to the integration of educational fields and subjects into a coherent whole. The integration of contents does not mean subject-related or disciplinary arrangement of knowledge is being given up. The emphasis is merely on associations being formed in a systematic and planned way as part of students' mindset; this gives students additional meaning to the knowledge acquired in a disciplinary way, deepen it, expand its complexity and apply it for the purposes of solving authentic life problems. Reality is not experienced in a structured way in accordance with the criteria of individual disciplines, but as a whole. The human brain processes perceptions in a parallel, not in a sequential manner. It arranges information into complex networks with clear hierarchies of interpersonal relationships. The efficiency of the development of interdisciplinary competencies in students is greater if the competencies are not only integrated into individual subjects but are simultaneously also realised as part of joint projects and modules.



## The Principle of Discovering and Fostering Students' Strengths

Some authors (Batey and Furnham, 2008) believe intelligence bears no direct relation to creativity. They demonstrate that thinking outside the box, with the aim of producing creative solutions, has already proved to be a possible tool for providing assistance to underachieving students (Barak and Doppelt, 2000). Another author in agreement with this is Munro (2002), who has ascer-

tained that individuals with otherwise low learning outcomes at school may have considerable knowledge in other fields in which they take great interest. However, the school system is often unable to cultivate such a talent or interests, or may not have the time or the interest to do so. Such individuals are therefore in need of teaching approaches that are not centred around individuals' difficulties, but take into consideration and systematically build on their competencies and their application in the real world.

The content of 'design thinking' makes it possible for young people to come up with solutions that are important for themselves and society. Through specific methods they are able to achieve tangible and socially-desired results even without vast knowledge of traditional contents taught at school and relate the knowledge they have acquired to career aspirations. This type of approach nurtures one's performance-based self-esteem and confidence in one's own abilities to be successful (Magajna et al., 2008; Kavkler et al., 2010), as well as inner motivation and self-determination to achieve tangible results. What is more, employers are on the lookout for employees who not only boast high learning achievement, but also, or even especially so, excel at problem solving. This means that in addition to learning outcomes there are a number of other factors that impact job performance (Lee, 1986). Development of creativity, innovation and entrepreneurship may thus prove an interesting alternative approach to improving young people's employability.



## The Principle of Cooperation with Different Partners in the Environment

Cooperation with the environment creates an abundance of opportunities for taking on new challenges and producing fresh ideas. It aids in improving the awareness of how important it is for education to integrate with the labour market which in Slovenian schools, in particular primary/lower secondary ones, occurs on a relatively small scale (Cankar et al., 2013). It also involves developing social capital, which is a significant component of lifelong learning (Kilpatrick et al., 2003). It is important for innovation to be developed within various communities. In other words, the basis of innovation lies in the development of a creative environment, wherein an especially important part is played by communication among participants (Gotvassli, 2008). In the process, it is up to the school to open doors and to be the initiator of cooperation (Cankar et al., 2011). If young people strive to present their competencies and ideas to the local environment, this means they are trying to gain the trust of the environment in which they live. It is therefore important that while at school they also learn how to present their ideas and projects in public. Local and regional initiatives are especially important and suitable for the development of creativity and innovation in young people. Cooperation with the local

community is centred around collaborative work with the aim of developing young people's abilities, so they have a greater understanding of what is happening in their community. The common goal is for programmes and actual activities to develop as part of a dialogue with the community and with different stakeholders. This can impact the dynamic development of learning and recognising opportunities, which are provided by a number of public policies, i.e. economic, health care, environmental, cultural, social and others.

At this level, there is also great potential for innovations, which has to do with a smaller, more manageable size of the environment, greater concentration of participants and a better integration into the local environment. Opportunities for using different sources are provided, both within the formal educational system and outside of it, which may gradually involve the entire local community in endeavours for a common goal. Another advantage is that it is possible to test models and tools before they are used more widely. Some companies and organisations are starting to become aware of it - they understand that in the local environment in which a company operates, the support of the immediate environment is also needed for one's own innovation. That is an environment that provides sufficient encouragement and entrepreneurial challenges, so young people are able to shape their ideas into projects related to different areas of life within the local environment. It is difficult to operate and be innovative in an environment where there is little understanding for innovation and where it is not actually put into practice. At the same time companies investing in young people's innovation are aware that they are their future employment potential.



## Conclusion

The teaching practice and successful examples of fostering creativity, innovation and entrepreneurship from Slovenia and elsewhere have shown that by means of alternative approaches it is possible to further develop students' self-image and confidence and thus also impact their learning achievement and employment prospects. Through the action approach students learn how to relate what they have learnt to real-life situations, and simultaneously solve actual personal, social and business-related problems. This calls for teaching approaches that mainly involve field work, becoming familiar with users and solutions and testing solutions in real situations. Solutions need to be transferred from the school 'laboratory' environment into an environment where they can actually be used. In doing so, the cooperation of teachers from different areas of expertise and the use of suitable premises for group and experimental work are important.

In underachieving students such a work method also encourages a feeling of their social equity. Through a different work approach (in terms of its contents and organisation) they are able to demonstrate the competencies they have previously, i.e. as part of the conventional teaching process, been unable to, or did not know how to, use. This is of particular importance in terms of labour market requirements and student employability – namely, what future employers will expect and require them to possess is mainly the ability to solve random and commonly unstructured and unfamiliar problems.

However, in spite of this, study findings (Likar, 2006; Lavrič et al., 2010; Cankar et al., 2011, 2013) show that a certain deficiency of the educational system in this field has been perceived by schools and youths. This means that suitable improvements to the curriculum and, even more so, its implementation may result in young people internalising creativity and innovation to a greater extent, and would simultaneously foster initiatives in establishing connection with the environment. What is obviously needed is an incentive that would be based on concrete activities bringing schools closer to the latest findings in relation to the development of creativity, innovation and entrepreneurship and thus enable and stimulate the emergence of best practice.



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# Student (Formal) Achievement through Non-formal and Informal Knowledge

**Polona Kelava**



Abstract: *Student achievement is a result of a number or intertwined factors, not merely intelligence and (or) diligence at school; a certain role in this is played by adolescents' self-concept; when adolescents have no confidence in themselves and their abilities, this often results in a poorer performance at school. It takes great effort, for this or any other reason, for youths to regain their lost motivation for school work. Motivational incentives at teachers' disposal for supporting unmotivated adolescents are often limited. This paper is based on the presumption that non-formal and informal knowledge is multicomponent and boasts certain advantages that can be used to foster motivation for further school work. One of the means of helping adolescents regain confidence in themselves, increase motivation for school work, and consequently improve their academic achievement is presented. Additionally, the paper also shows how teachers can recognise (as part of the subjects they teach) adolescents' non-formal and informal knowledge of various kinds, evaluate it suitably and determine, together with adolescents, what amount of (non-school) work has been invested in it, then identify the effort and the energy required for such success and use it as an incentive for school work. The potential that drives individuals' active participation in non-formal and informal learning, and results in a beneficial impact on their positive self-concept, can thus be redirected to school work and (more successful) completion of schooling.*

**Key words**: *formal education, non-formal and informal learning, extracurricular activities, self-concept, self-esteem, motivation*

## Introduction

This paper addresses the question about the correlation between self-concept[1] and academic achievement[2] of pupils, students and adolescents,[3] and the solutions that might be adopted in relation to this. In the paper, a connection is made between student underachievement and the narrower field of non-formal and informal knowledge. Reasons for this are sought in the data which indicate how important it is to address individuals' learning. An attempt is made at developing guidelines that could, if schools used these alternative approaches, help adolescents improve motivation for school work and by means of achievements in the field of non-formal and informal learning, which mainly takes place outside of the school setting, also aid in improving adolescents' self-confidence in relation to learning.[4]

## Self-concept, Motivation and Student Achievement



Numerous studies point to a positive correlation between student achievement and self-concept (cf. Nash and Lauder, 2010; Westwood, 2003; Weinstein, 2004; Zins et al., 2004). On average, the school performance of children with a low[5] self-concept is poorer than that of their peers with a high self-concept. In understanding learning, some authors attribute great significance to individ-

1 In this paper, self-concept is understood as an organised whole of the qualities, traits, feelings, images, views, competencies and other mental components individuals attribute to themselves (Kobal Grum, 2000). Special emphasis is placed on academic self-concept, which is one of the major components of global self-concept and is generated in educational institutions where adolescents evaluate their own work as part of curricular and extracurricular activities in various fields and different school subjects and receive other people's (i.e. schoolmates', teachers') assessments of their work (Juriševič, 1999). In the paper, no distinction will be made between *self-concept* and *self-esteem* as empirical attempts at delineating the two terms have proven unsuccessful (see Juriševič, 1999, as cited in Brunett, 1994).

2 There are no explicit definitions of student achievement, in rare instances authors seem to equate it with students' school or school year graduation success (cf. Flere et al., 2009; Juriševič, 2005; Marjanovič Umek, Sočan, Bajc, 2007). In this paper, student achievement is understood in a broader sense, in particular as the ability to complete the education one has started, and in a narrower sense as grade-point average on completion of education (or individual years). Student achievement is relative based on children's competencies; in this paper it means the highest possible level of graduation success adolescents are capable of achieving in terms of their cognitive competencies, motivation and other circumstances (objective and subjective, e.g. family situation etc. or the suitability of the chosen educational programme), as well as their progress in learning and knowledge. In the paper, learning outcomes or learning attainments will be mentioned in relation with recognition of non-formal and informal knowledge and will be defined at a later point in the text.

3 In this paper, the terms *pupil*, *student* and *adolescents* are understood as equivalents. For the most part, the focus of this paper is on the upper secondary population, however, the proposed solutions could be used in relation with pupils in lower secondary education as well.

4 Cf. Bracken, 2009; Juriševič, 1999.

5 In the diverse literature the following synonyms for low/high self–concept can be found: negative/positive or poor/good self–concept.

uals' self-concept (cf. Illeris, 2007). The data collected so far points to a co-dependence of individuals' uncertainty about themselves, a low global self-concept, a low academic self-concept and lower career aspirations with a greater likelihood of dropping out of school (cf. Reid, 2000). Some examples will be given below to explain the correlation and also to make connections to the role played by schools and teachers.

For easier understanding, the basic characteristics of self-concept will be described, while the definition of self-concept is provided in the footnotes to the introduction. There are several self-concept models (Juriševič, 1999), however, in this paper, Bracken's self-concept model will be used for illustration purposes. Self-concept supposedly consists of several dimensions, including academic self-concept, social self-concept, competence self-concept, body self-concept, family self-concept and emotional self-concept.

Academic self-concept, in which this paper is particularly interested, represents how a person feels about himself or herself within a school or academic setting, or in relation to students' academic progress. Factors that affect academic self-concept include influences such as (Bracken, 2009: 92, 93): '1) successes and failures in the school curricula (subject specific self-concepts can also be developed, such as a reading or math self-concept); 2) ease or difficulty with which information is acquired; 3) the student's overall intellectual or cognitive abilities (and comparatively, the abilities and achievement of the student's peers); 4) the student's relationship with adults and peers within the school setting (e.g., classroom, lunchroom, playground) and 5) acceptance of the student's ideas, contributions, suggestions, and so on, by others in the school setting.'.



The first question to be addressed is what influences adolescents' self-esteem. From the self-esteem and education literature studied, Kenway (2004: 131) inferred the following premise by which this literature tends to be dominated: '…that low self-esteem is a problem, that it is a problem for and of certain individuals, and that it prevents them making the best of their schooling and their lives.'. Further, low self-esteem is attributed to individuals who belong to those social groups which are least valued by and powerful in society. The author also points out that the majority or related literature is far more concerned with defining 'self-esteem' and explaining why it is a problem than with exploring how it was developed in an individual in the first place and became a problem. A high self-esteem, school performance and 'the culture of success' are highly intertwined and correlated. (ibid.).

What supposedly influences student achievement to the largest degree are students' competencies and motivation for learning (West and Pennell, 2003). Teachers' roles in relation to this is to foster interaction among students within the class, as interaction has proven to be the factor related to increasing and strengthening students' self-esteem (Austin, Dwyer and Free-

body, 2003). Another correlation has been established, i.e. the correlation between increased student achievement and increased enthusiasm and motivation for learning, with teachers setting up the learning environment outside of the classroom, i.e. in nature or elsewhere (Broda, 2007). This correlation also exists when the effect of gender, final grades and ethnic affiliation are excluded from the statistical analyses. Generally it is difficult to isolate the effect of learning that takes place outside of the classroom setting in such a way that only its effect on the increase in school performance is measured (ibid.). In Slovenia, schools put this into practice by carrying out various different activities, such as the forest and field day trips (science, technical, culture and sports days), whereas learning outside of the school premises as part of regular lessons is less common. An effect similar to that achieved by learning outside of the school premises can be achieved if during classroom learning, emphasis is placed on the knowledge acquired outside of the classroom, and if this particular knowledge is then evaluated and significance attached to it.

Some further consideration should be given to factors influencing student achievement. A study (Smith, 2005) which was aimed at looking into the effects of academic achievement and to build a model for predicting academic achievement included the following variables: ethnicity, gender, parental employment, self-esteem, self-concept, parental involvement in school, family type and age and number of siblings. In view of the determined values, it was established that all of the above variables can be used in predicting individuals' academic achievement. The study also revealed another common consequence of poorer school performance to be students' dropping out of school. However, there are some other common reasons for youths leaving schooling prematurely: being tired and bored with lessons or the teacher, all in relation to the lack of academic achievement and consequently a low self-concept within the school environment (Reid, 2000). Academic achievement (in different fields) of adolescents who dropped out of school was lower than the academic achievement of average students (Reid, 2000, 2002). Among both short and long-term measures used to encourage youths to change their minds and complete their schooling, the emphasis is most frequently placed on the importance of improving individuals' self-concept (along with other measures) (Reid, 2002). An example of such measures, from the UK, is the Learning Gateway Project. As part of this project youngsters aged between 16 and 18 who have dropped out of school are coaxed back into education by the prospect of improving their own skills and earning money. Trainees who attend the programme on a regular basis receive a weekly training allowance. The project primarily attempts to improve students' learning while, at the same time, helping them to change their often initially hostile attitudes (towards school, schooling, learning) and raise their low self-concepts (ibid., 170, 171). There are a number of such alternative means of reaching out to youths with all sorts

of learning difficulties or education-related problems. In Slovenia, one such programme is the PUM project – Project Learning for Young Adults. However, it is not necessary for such programmes to start once youths have already dropped out of school, it is better to address the issue while they are still part of the educational system and to help them to better academic achievement.

When it comes to attempting to improve general academic achievement, by means of measures that are related to school work only, it is also important to voice some doubt about whether it is the right thing to place the sole focus on the achievement students demonstrate during lessons. In doing so, the informal and social experiences that children are exposed to at school (during breaks, on the pitch) are left somewhat neglected (Blatchford, 2005). It therefore makes more sense to look for mechanisms that work outside of school and try to use them to improve adolescents' school performance. Some studies have revealed that in trying, for instance, to improve adolescents' attitude to school in general, an important segment of their social life at school (in addition to school) is disregarded. (ibid.) Deliberations in this paper are connected to these findings, however, the focus is not on relationships, but on academic achievement.



It has so far been shown that the reciprocal interaction between self-concept and student achievement is difficult to explain unambiguously. Some other study findings, in relation to the correlation between the two, will therefore be presented below.

Empirical studies (Covington, 1989; cf. also Kenway, 2004) show individuals' higher self-concept signifies better achievement. A positive correlation is observed between self-concept and academic achievement. This relationship also works vice versa: the self-concept of individuals who boast a better school performance is higher. This relationship also encompasses the influence of the social class and intelligence. Studies have revealed national systems, school sectors, schools, departments and teachers combined explain approximately 20% of the total variance in school outcomes (Gorard and Smith, 2004; as cited in Smith, 2005: 39), which needs to be taken into consideration in attempts to make interventions in this field.

The monograph *Hearts and Minds: Self-esteem and the Schooling of Girls* (Kenway and Willis, 2004), which addresses the relationship between academic achievement and girls' self-esteem, states that for both genders various types of literature indicate associations between aspirations, academic achievement, opportunities in life and self-esteem; and in relation to this a low self-esteem can often 'explain' at least part of one's school and social underachievement. The authors also point out the humanistic expectation, according to which good teachers should show concern for their students' self-esteem, and that this concern should be integrated in at least part of the curricula. For girls in particular (Renshaw, 2004: 18) it has been established that underesti-

mation of their own potential leads to eventual underachievement (in relation to school work) and restricted career choices (cf. also Younger and Warrington, 2005).

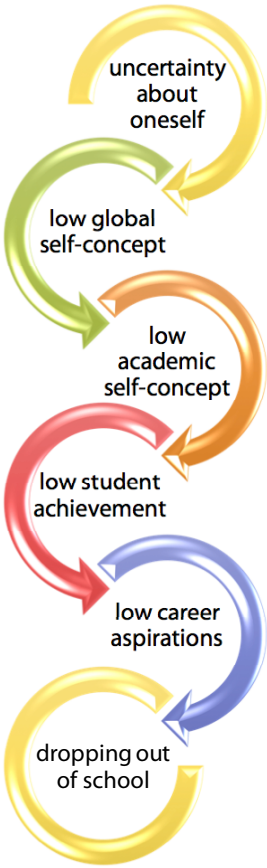



Figure 11: Correlation between self-concept and student achievement
Source: Kelava, summarised from Zins et al., 2004; Westwood, 2003; Weinstein, 2004; Nash and Lauder, 2010; Illeris, 2007; Reid, 2000

In discussions about the relationship between self-concept and academic achievement, the doubt raised in relation to this (which serves as a basis for an interesting interpretation) must not be disregarded. Based on his studies of relevant literature, analyses and meta-analyses, Bracken (2009) shows that in spite of what is believed to be true, the proven or established correlation between academic achievement and self-concept is relatively low. However, he does state one of the reasons for such study results could be the fact that some

adolescents with a poorer school performance have a higher self-concept and a healthier starting point for comparisons with others than some adolescents with highly pronounced learning outcomes with a less healthy starting point, in the sense of them imposing too high demands on themselves.

In spite of this, the basis for discussion in this paper will be the finding that in several studies a somewhat stronger correlation has been pointed out between academic self-concept and academic achievement than between general self-concept and academic achievement (Juriševič, 1999).

No in-depth analysis about reasons for lack of success at school is included in this paper. In view of the above, academic achievement is first and foremost a relatively complex combination of different factors. This paper is centred on one of the options, i.e. on raising the awareness of the significance of non-formal and informal knowledge for school work, which teachers can use to improve adolescents' self-concept and steer their attention towards academic achievement. Teachers should make adolescents familiar with the correlation between endeavours that are necessary for non-formal and informal learning outcomes, endeavours within formal education and results exhibited by means of knowledge and measurable with grades.



It can be concluded that adolescents' self-concept and academic achievement are correlated (see Figure 11) and that (with the exception of some special cases) the correlation is positive. For this reason the author's aim in this paper to find out in which way they can be connected with school work and how to attempt to influence adolescents' self-concept, with the aim of fostering improved academic achievement.

## Adults with Low Levels of Education and Adolescents' Learning

A short presentation of some basic characteristics of adults who have attained low levels of education is given below. This is of particular interest in relation to adolescents' learning as this study's aim is to take suitable action during the course of adolescents' schooling in order to foster their attaining as high a level of education as possible considering their competencies and enable them – to the extent possible within the power of schools and teachers – to become 'lifelong learners'.

Studies point to a connection between the level of education successfully completed by adults and the frequency of their participation in education. Understandably, adults who have attained higher levels of education participate in formal education more frequently, however, it has also been revealed that participation in non-formal and informal learning is commonly conditional on a higher level of individuals' attained education.

In the EU, the educational structure is gradually improving (Eurostat, 2011). However, more than in the structure itself, this paper is interested in who participates in (adult) education after completion of initial education. In 2009, 3.9% of adults, with uncompleted or completed lower secondary education, participated in education in 27 EU Member States, 8.1% of adults with completed upper secondary education or completed post-secondary non-tertiary education and 16.9% of adults with tertiary education (ibid.). These data clearly show that the extent of individuals' participation in education as adults strongly depends on their attained level of education. Data about participation in formal education alone show that from the first educational groups listed above, 1.0% participated in 2009, 3.2% from the second group and 5.0% of adults from the third group (ibid.). The percentage of participation in non-formal and informal learning is somewhat higher, it is, however, likewise conditional on individuals' level of education attained. From the lowest educational level group, 3.1% participated in non-formal and informal learning in 27 EU Member States in 2009, 5.4% from the second group and 13.2% from the third group (ibid.).

All of this influences individuals' literacy skills and their integration in society. Slovenia can be used as an example for investigating connections between these areas established by study findings.



A 1998 study on the participation of adults in education in Slovenia (Ivančič and Mirčeva, 2001) will be used for this purpose. Authors of the study *Adult Literacy and Adult Participation in Education* conducted a data analysis and generalisation of results to formulate the most typical characteristics of individuals' participation or non-participation in adult education, whereby the term 'typicalness' includes the group with the relatively highest proportion of answers among the existing groups. It has been established 'typical active[6] individuals in education are male, aged between 25 and 39 with a minimum of short-cycle post-secondary non-tertiary education, although the educational activity is even more pronounced in individuals with higher education, masters or doctoral degrees. Persons active in education are individuals who are employed or self-employed, are at senior or managerial positions and are also willing to devote a considerable amount of their time or money to educational activities. Better adequacy of writing skills[7] is also associated with this, as is ad-

6 In this study, participation in education is defined as cooperation of the active working population in one or several organised learning events lasting more than five hours per year in any field of education. Active participants in education are those individuals whose reply to the study question was that they are participating in education, or have, during the course of the reference year. Adults whose total amount of participating hours in education was fewer than six are not considered active. Potentially active adults are individuals who replied that for the time being they were not participating in education or that they have not participated in the last year, however, they would wish to participate in education if they had the opportunity. Inactive adults are individuals who were not participating in education at the time of being interviewed or in the last twelve months, and neither did they wish to participate in any educational programmes (Mirčeva and Radovan, 2006: 8, 9).

7 In many OECD countries, PIAAC - Programme for International Assessment of Adult Competences is currently being conducted, however, its results are not yet available. For this reason, older results

justment to society. Typical inactive individuals (in terms of education) include persons (especially men) whose occupation involves housekeeping or agriculture, are unemployed or are looking for work. The level of education of inactive individuals is low: completed or uncompleted lower secondary education and aged over fifty. Typical inactive individuals live in less developed (peripheral) regions, where the availability of educational programmes is rather limited. Their writing competencies reach Levels 1 or 2 and they attach no particular value to education' (ibid., 47).

In another study (Mohorčič Špolar and Radovan, 2006) conducted in Slovenia in 2004, an analysis of the socially collective characteristics of participation in education of the active working population revealed a similar picture: two main groups can be recognised based on the variables used. The first group includes adults with higher levels of education and more demanding and responsible jobs (mostly persons employed in legislative bodies, senior officials, managers and professionals). Adults in this group are also characterised by an above-average monthly family income and they live in larger towns. The second group is an antithesis of the first. It includes adults with lower levels of education, less demanding jobs and below-average family income. Adults from this group can be described as a more rural population since they



of previously published assessment studies will be stated in this paper.
In international adult literacy surveys, adults are classified in five levels of literacy that correspond to measured ranges of the scores achieved. Level 1 indicates persons with very poor skills (an individual may, for example, be unable to determine the correct amount of medicine to give to a child from information printed on the package.) Level 2 respondents can deal only with material that is simple, clearly laid out, and in which the tasks involved are not too complex, which also denotes a weak level of their skill. (Level 2 individuals may have developed coping skills to manage everyday literacy demands, but their low level of proficiency makes it difficult for them to face novel demands, such as learning new job skills. Level 3 is considered a suitable minimum for coping with the demands of everyday life and work in a complex, advanced society. Generally, it denotes roughly the skill level required for successful upper secondary school completion and tertiary education entry. At the highest two levels (Levels 4 and 5) individuals are required to integrate a large number of information sources and solve complex problems. An individual who has achieved Level 4 or 5 demonstrates command of higher-order information processing skills (OECD, 2002; cf. Hauser, Edley, Anderson Koenig and Elliott, 2005). The study conducted in Slovenia has likewise confirmed it is achieving Level 3 of literacy (be it prose literacy, document literacy or quantitative literacy) that guarantee individuals' successful integration in society and therewith education (Radovan, 2001b: 139).
In more recent studies, classification of adult literacy into five levels is less commonly encountered. Different definitions are used as the span of adult literacy and competence assessment has been changed owing to many years of experience in researching this field and also because the present-day society has different expectations and requirements. (OECD, 2012) . In both studies conducted in Slovenia that are referred to here, adults' prose literacy, document literacy and quantitative literacy were measured. Prose literacy refers to the knowledge and skills needed to understand and use information from texts including editorials, news stories, poetry and prose. Document literacy represents the knowledge and skills required to locate and use information contained in various formats, including job applications, payroll forms, transportation schedules, maps, tables and charts. Quantitative literacy relates to the knowledge and skills required to apply arithmetic operations, either alone or sequentially, to numbers embedded in printed materials, such as balancing a chequebook, calculating a tip, completing an order form or determining the amount of interest on a loan from an advertisement. (Tuijnman, 2001: 70).

live mainly in places with fewer than 2,000 inhabitants. Participation in different forms of education (formal and non–formal education) of the members of the first group is significantly higher than participation in education in the second group (ibid.).

By taking a closer look at the key features of participation or non-participation of adults in education, it can be established that in a similar way youths with lower achievement in schools are likewise often trapped in a so-called 'vicious circle'; neither their aspirations and their parents' expectations, nor the general economic and social situation at home provide them with any support in their efforts to be more successful (cf. Beltram, 2000; Bevc and Uršič, 2008; Čelebič, 2011; Field, 2000; Kranjc, 2002, Radovan, 2001a). In addition to the data that reveal limited participation in formal education, data about adults' participation in non-formal and informal education are similarly not encouraging (cf. Kelava, 2012). Studies have revealed participation of adults in both formal and non-formal education often results from individuals' higher level of attained education, a higher income, greater motivation for education and a higher social class. If we succeed in bringing present-day youths to a higher level of education than they would have achieved without these measures, this increases the likelihood of them more frequently participating in further education in the future, and even more so that they will be better prepared for life (e.g. they will achieve higher levels of all kinds of literacy). If the significance of their non-formal and informal learning outcomes is pointed out to adolescents while they are still in upper secondary school, this may help change their attitude to knowledge and also influence their attitude to education during adulthood.



The goal is to coax youths who are not doing well in terms of academic achievement, and who often drop out of school, into returning to education (or prevent them from leaving) and thus enable their greater academic achievement. This could, to a larger extent, ensure that youths whose level of academic achievement is presently lower would, in adulthood, not be part of that group of adults whose levels of education are low and who do not participate in education. This is the original reason for the interest in these data; the presented analyses clearly show that a higher level of education generally means the level of one's achievement and success in life is also higher.

## Teachers' Roles in Understanding and Valuing Adolescents' Non-formal and Informal Knowledge'

The aim of the paper hereafter is mainly to establish how non-formal and informal knowledge can also be recognised in youths. To start, the focus is on recognition of non-formal and informal knowledge in adults, as the *recognition* of

their non-formal and informal learning outcomes is the domain of adult education and not of the initial education of children and adolescents. The aim of the paper is also to find out how (if at all) those individuals who are today's adolescents will participate in adult education in the future.

The official EU point of view on this topic states (European Commission, 2011; cf. Bjørnåvold, 2000) validation of non-formal and informal learning is the key element of EU procedures in support of education and training, although there are differences between individual member states in the way they support validation of non-formal knowledge. Some of them have already set up relevant systems, while others are in the initial stages of developing this field.

Studies have also revealed new approaches to recognition of non-formal and informal knowledge are needed for the purposes of recognition, certification and validation of 'invisible' learning experiences (European Commission, 2011). It was on the basis of these documents that the European Commission expected the validation of non-formal and informal learning within the entire EU will foster introduction of the European Qualifications Framework (EQF) and development of national qualification frameworks, attaching greater importance to non-formal and informal learning than in the past.



One of the key elements in the field of vocational education and training, of which recognition of non-formal and informal knowledge is part, is the Copenhagen Declaration (2002), as well as the Maastricht, Helsinki, Bordeaux, and Bruges Communiqués[8] that followed – these documents contained a number of incentives in support of recognition of non-formal and informal learning. In these documents the following tools were first agreed upon and introduced at a later time: common principles for recognition and validation of non-formal education and informal learning, Europass, the European Qualifications Framework (EQF), the European Credit System for VET (ECVET) and the European Quality Assurance Reference Framework for VET (EQARF). The Copenhagen Process brought about changes in national educational policies as these tools were integrated in their national legislation on the basis of voluntary cooperation. For the future, these documents (among other things) also call for the strengthening of the quality and efficiency as well as the attractiveness and relevance of vocational education and training; the realisation of lifelong learning and mobility; the development of creativity, innovation and entrepreneurship; the promotion of equity, social cohesion and active citizenship etc. (Bruges Communiqué, 2010: 18, 19).

Additionally, European and Slovenian documents have established to what extent the guidelines laid down in relation to recognition of non-formal and informal knowledge have been followed and achieved in Slovenia (cf.

8 Official announcements, communiqués (*the Maastricht Communiqué, Helsinki Communiqué, Bordeaux Communiqué and Bruges Communiqué*), adopted by the ministers for education and training of EU member states, which followed the Copenhagen Declaration at two-year intervals and carried on the progress of the process initiated by the Declaration.

Tašner, 2007; Beltram, Drofenik and Možina, 2010), wherein some of the documents have taken a critical stance towards this issue.

Teachers' familiarity with the field of recognition of non-formal and informal knowledge can contribute greatly towards integration of the fields of formal education, non-formal and informal learning, adolescents' self-concept and their motivation for further learning; for this reason definitions of some of the basic relevant terms from this field are given below.

Non-formal learning is 'learning which is embedded in planned activities not explicitly designated as learning (in terms of learning objectives, learning time or learning support). Non-formal learning is intentional from the learner's point of view. Non-formal learning outcomes may be validated and lead to certification. Non-formal learning is sometimes described as semi-structured learning.' (Cedefop, 2004 and Institute of the Republic of Slovenia for Vocational Education and Training, 2011). Informal learning is 'learning resulting from daily activities related to work, family or leisure. It is not organised or structured in terms of objectives, time or learning support. Informal learning is in most cases unintentional from the learner's perspective. Informal learning outcomes do not usually lead to certification but may be validated and certified in the framework of recognition of prior learning schemes. Informal learning is also referred to as experiential or incidental/random learning' (ibid.).



In relation to non-formal and informal knowledge, assessment, validation and recognition of the outcomes/attainments of (this type of) learning for adults are also commonly discussed when needed for further work or education. Learning outcomes/learning attainments are a 'set of knowledge, skills and/or competences an individual has acquired and/or is able to demonstrate after completion of a learning process, either formal, non-formal or informal' (ibid.). Additional comments state that learning outcomes/attainments can be the result of any means of learning or education (be it formal, non-formal or informal) (cf. Tissot, 2004: 100; Terminology …, 2008: 120).[9]

The emphasis on non-formal and informal knowledge in adults is greater than in adolescents, since adults have already completed formal education and as they also have work and other kinds of life experience that might be eligible for formal certification. Adolescents, on the other hand, must understandably first complete their formal education, before they can use their non-formal and informal knowledge in the same manner as adults. It would be inappropriate if certification of non-formal and informal knowledge were to replace adolescents' attainment of certain levels of formal education. However, the value of non-formal and informal knowledge should not be underestimated, not even when it comes to youths. In adults, non-formal and infor-

9 This definition is specific for the field of vocational education and adult education and is difficult to transfer to school circumstances. Learning outcomes are here mostly defined as something tangible, which adults are able to validate through obtaining a certificate.

mal knowledge can also be 'used' with the aim of coaxing adults into returning to education. One of the many options available is recognition of non-formal and informal knowledge. This means that adults who have non-formally or informally acquired knowledge from a certain field have it certified by means of official certification procedures (for instance, they obtain a national vocational qualification[10]) and then capitalise on it, either with their employers or when they re-enter formal or non-formal education (cf. Kelava, 2006). For this reason, assessment of learning outcomes, validation of learning outcomes, or recognition of learning outcomes is used for adults. Recognition of learning outcomes is (Cedefop, 2004 and Institute of the Republic of Slovenia for Vocational Education and Training, 2011): 'a) formal recognition: the process of granting official status to skills and competencies either through: the awarding of qualifications (certificates, diplomas or titles); or granting of equivalent credit units or waivers, validation of gained skills and/or competencies; and/or (b) social recognition: the acknowledgement of the value of skills and/or competencies by economic and social stakeholders'. For adolescents such a system is not applicable, as it is intended exclusively for adults. Adolescents have no non-formal or informal knowledge acquired in work-related situations that they could have certified (for instance by means of a national vocational qualification) to be used with their employers.



Nevertheless, adolescents possess knowledge acquired in non-formal and informal ways, although this knowledge is of a different kind to that of adults. For instance, they gain such knowledge by means of voluntary or part-time work, through reading, sports, music activities and in all sorts of other non-formal circumstances. A means of approaching adolescents whose self-concept is low, as is consequently their achievement in schools, is their obtaining and demonstrating non-formal and informal knowledge. They are taught to record their non-formal and informal knowledge, obtained through any type of non-formal/informal activity, assess it together with teachers and then also discuss the knowledge itself and the processes associated therewith.

In relation to youths, we speak about *valuing learning* which is 'the process of promoting participation in, and outcomes of, (formal or non-formal) learn-

10 "In 1986 the National Vocational Qualifications (NVQs) were introduced in England. They are job–related, competence–based or outcome–related qualifications that reflect the knowledge and skills that are required to perform a certain vocational activity. National occupational standards that are performance descriptions of what a competent person should be able to do in a particular profession provide the basis for the NVQs, which do not have to be completed within a specified period or a specific learning environment. NVQs consist of units that may be acquired when the learner is ready for an appropriate examination, regardless of how and where this knowledge, skills and competencies have been acquired. Ideally the conduct of the proceedings for the acquisition of an NVQ is as follows. The examiner supports the candidate in identifying his/her skills, selecting the appropriate standards, analysing the learning processes still required and the corresponding required learning activities prior to the completion of an NVQ" (Annen, 2013: 930) (cf. British Vocational Qualifications, 2007). This example was followed by some other countries where similar systems of national vocational qualifications were introduced.

ing in order to raise awareness of its intrinsic worth and to reward learning.' (Cedefop, 2004 and Institute of the Republic of Slovenia for Vocational Education and Training, 2011; European Commission, 2001; cf. Tissot, 2004: 159; Terminology …, 2008: 201).

In searching for solutions for underachieving adolescents, knowledge assessment turns out to be one of the tools that could be applied to beneficially transfer motivation, based on adolescents' non-formal and informal knowledge, to learning situations within the school.

If it is established how much effort and motivation was required for this non-formal and informal knowledge to be acquired by adolescents in the first place, then positive learning experiences can also be transferred to school work. Topics are integrated, adolescents' motivation for school work is strengthened and, most importantly, their positive self-concept is developed and boosted; with non-formal and informal knowledge evaluated in a positive way their self-concept is undoubtedly greater than in relation to (possibly less successful) school work. Negative life experience in particular, possibly in the form of poor academic success, negative peer relations and difficult relationships with adults, will have a dramatic impact on a child's self-esteem (Long, 2004, as cited in Cornwall and Walter, 2006: 49).



For these reasons it is also necessary for teachers to be familiar with the basic principles of recognition of non-formal and informal knowledge in relation to adults. As previously stated, national vocational qualifications have been introduced in some countries, however the existence of non-formal and informal knowledge, and the need for its recognition, needs to be understood in a broader sense. The recognition of non-formal and informal knowledge should not be limited to national vocational qualifications. Teachers should be acquainted with basic guidelines and ideas in relation to non-formal and informal knowledge and learning, as well as its recognition.

## Non-formal and Informal Knowledge and Adolescents

As previously stated, adolescents have a large amount of non-formal and informal knowledge and also a certain amount of non-formal and informal experiences, and they are often encouraged to record them. Many schools (either independently or within projects) encourage youths to create their own portfolios or to record their non-formal and informal knowledge in other ways (cf. Paris and Ayres, 1994; Irvine and Barlow, 1998). The *reason* why schools and teachers try to persuade adolescents to do so is of particular importance.

It is quite common that adolescents are still in school when they are coaxed into thinking about their non-formal and informal experiences and non-formal and informal knowledge and skills. However, for the most part, the

reason given for this is firstly preparation for employment, or at least an aid in school assessments. A positive effect which could also be expected prior to employment, i.e. improving academic achievement (cf. Zubizarreta, 2009) or persevering in education, is commonly overlooked.

Any adolescents' non-formal or informal experience can provide teachers with a starting point for discussions with them, and also for a more active approach to recording non-formal and informal knowledge. It is important for teachers, who in this case assume the role of mentor to validate adolescents' non-formal and informal knowledge, and to suitably draw adolescents themselves into doing so. This facilitates communication in comparison with what is possible during school work as part of formal education. It also makes it easier for adolescents to associate the knowledge that is not foreign to them and which they had fun acquiring. And they find it easier to use the knowledge with which they are less familiar. Teachers can make good use of this and transfer it to school work.

There are several other options, for instance, teachers can draw from literature on recognition of non-formal and informal knowledge in adults (Bjørnåvold, 2000; Colardyn and Bjørnåvold, 2004; European Commission, 2011; Kelava, 2006; Tašner, 2007) and adjust and change the methods and recommendations included in this literature to suit their own needs. In doing so, it is important that they encourage adolescents and that they are aware of the power of non-formal and informal knowledge.



## The Teachers' Role in Improving Adolescents' Academic Achievement

It is not necessary for teachers in schools to opt for formalised means of recording non-formal and informal knowledge. The tools used for recognition of non-formal and informal knowledge in adults are not transferable to adolescents who are still being educated. The only thing of importance is for teachers to recognise the mechanisms of improving one's self-concept through improving performance in school. In students, whose self-concept is predominantly based on their performance in extracurricular activities, teachers are supposed to be able to transfer this to the school setting.

One of the possible solutions suggested for improving school performance is 'assertive mentoring' provided for adolescents, comprising relatively relaxed mentor sessions with much of the discussion aimed at confidence building and reinforcing self-esteem (Younger and Warrington, 2005: 105). Such mentoring is closely associated with the recognition of adolescents' knowledge acquired outside of the school environment.

Marzano (2003: 144–153) asserts, based on research of both theory and practice, that the link between student motivation and achievement is straightforward, and quotes a number of different studies in support of a high level of correlation. For this reason, special attention should be devoted to motivating students for school work. The option of motivating students by means of non-formal and informal learning has already been presented. Based on research of various theories, Marzano (2003) proposes four 'action steps' for strengthening motivation for learning. Step 1 is providing students with feedback on their knowledge gain. As step 2, Marzano suggests providing students with tasks and activities that are inherently engaging. Step 3 consists of providing opportunities for students to construct and work on long-term projects of their own design. As part of step 4, he expects teachers to teach students about the dynamics of motivation and how those dynamics affect them. All of these steps can prove useful in the validation of non-formal and informal knowledge and in generating initial motivation for further learning within schools.

Teachers can try and make students more interested in school work by adjusting it to work in informal conditions, as this has been confirmed (cf. Brown, 1995; Broda, 2007) to increase students' motivation for work. 'Real-world opportunities and simulations both provide useful settings for this process to occur. As motivation, effort, and self-esteem affect both learning and observable performance, Herman and others strongly recommend that teachers motivate students by giving them real life tasks and opportunities to connect learning to their personal experiences. They stress that learning has significant social components; group work is valuable and should be designed to enable students to take on a variety of roles.' (Herman, Aschbacher and Winters, 1992, as cited in Brown, 1995: 48).

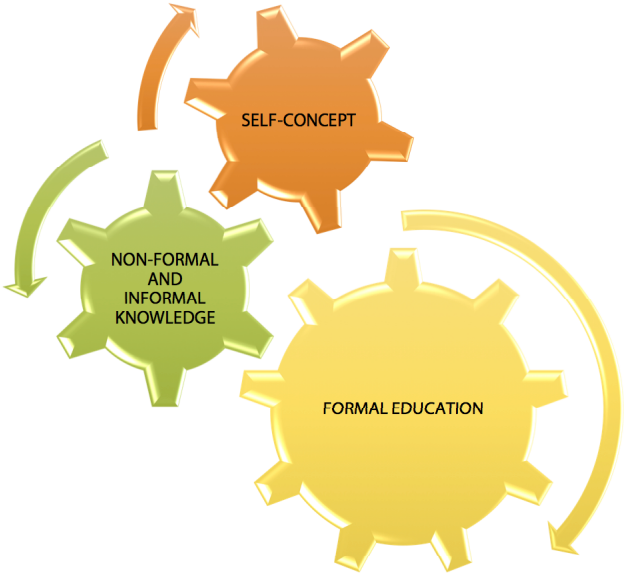


Among the extrinsic and intrinsic factors influencing individuals' self-concept, the focus of this paper is on the extrinsic, since self-concept is supposedly also affected by school grades as an extrinsic factor (cf. Schiraldi, 2007). Grades, student achievement and self-concept have also been linked with the attitude to non-formal and informal knowledge in schools. The underlying presumption in the paper is that achievement of success in adolescents results in their self-concept becoming increasingly positive, even if the initial recognition they have received is not entirely 'school-like' (presented by means of grades) (ibid.). The correlation between non-formal and informal knowledge and self-concept can serve as a basis for paving the way for students' academic achievement.

## Conclusion

The fields of non-formal knowledge and informal knowledge have been linked with children's, students' and adolescents' self-concept and it was shown how identifying, and subsequently validating, adolescents' non-formal and informal knowledge could be used to reinforce their motivation for school work. It would be advisable to conceive recognition of the significance of non-formal and informal knowledge and recording it at a level that would make it possible for youths to assert this knowledge, both in proving their qualifications and as a basis for broadening their knowledge and competencies.

Figure 12: The desired reciprocal relationship between self-concept, non-formal and informal knowledge and formal education






It is understandable that going into detail about the reasons for adolescents' underachievement is not one of teachers' priority tasks, however, in their hands it is a method by means of which they can stimulate adolescents' interest for school work. Pointing out one's non-formal and informal knowledge, and the key features of its acquisition, does not require too much time or energy. However, it can also spark adolescents' interest in school work, providing they receive appropriate guidance through the procedure of recognition of non-formal and informal knowledge and learn about its key features. By understanding the reciprocal relationship between adolescents' self-concept, non-formal and informal knowledge and their academic achievement, adolescents can be steered towards the path of achievement (see Figure 12).

By adopting a suitable approach in schools, it is possible to change the existing patterns of educational behaviour of those individuals who would, as underachieving adolescents, turn into adults with low levels of education, rarely (or not at all) participating in any form of education and being less active and successful in life than other adults (cf. Mohorčič Špolar et al., 2006; Radovan, 2001b).

If adolescents are presented with higher expectations (cf. Weinstein, 2004), they will be more successful in school and have higher educational and career aspirations. One of the ways of achieving this includes non-formal and informal knowledge.

The issues presented in this paper can be summed up in three starting points for educational policy with the aim of improving adolescents' achievement in school and decreasing the dropout rate. The first starting point is that policymakers should understand the wider-scale integration of teachers and students with extracurricular activities, and, where necessary, include it in their strategies and aims, as this could in turn have a positive impact on school work. The second point is to attach greater significance to non-formal and informal knowledge - including at the declarative level, since this will authorise teachers for work with adolescents who are less motivated for school work. (This pertains to attaching significance to non-formal and informal knowledge within the framework of initial education, which is not customary, as non-formal and informal knowledge is otherwise the domain of adult education). The final point is to look into whether teachers being trained for motivating students in such a way might not produce better results in a cheaper and faster way than employing methods that use external levers and procedures for the purposes of achieving higher academic achievement and a lower dropout rate.



Within the school practice, for teachers who feel more familiar with the field of non-formal and informal learning, the considerations presented in this paper may facilitate working with adolescents and result in adolescents' better academic achievement. Adolescents can thus be better prepared for their entry into the labour market, as this will make them aware of their own non-formal and informal knowledge, help them understand and value it and also be able to present and use it both in a school setting and in their job.

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# Facilitating Civic Knowledge – a Path Towards Active Citizenship

**Eva Klemenčič**



Abstract: *This paper analyses the averages of various civic education constructs in order to show the different characteristics of students with the lowest achievements in the area of civic knowledge. While improving or raising the level of civic knowledge, it is equally important to increase all other possibilities and opportunities for such students, which is where being aware of the stated attitudes and readiness to work in the immediate and wider social and political community might come to our assistance. Students with the lowest achievements in the area of civic knowledge (those who failed to achieve the first proficiency level of this knowledge) are as a rule below the national average of the measured concepts. Individual results seem to be the most interesting. On average, in the area of civic knowledge, compared with students with higher achievement, these students have a stronger belief that their opinion on the way the school operates is taken into consideration, that they participate more in the wider local community yet simultaneously have fewer opportunities to participate in the school community. Perhaps the most worrying finding is that this is a group of students who are, on average, more convinced that they will take part in illegal protests – despite their civic knowledge being measurably lower. It is this fact that should hold implications for future policy in this area.*

**Key words**: *civic knowledge, active citizenship, ICCS*

## Introduction

In recent decades Europe has seen social and political changes that have influenced the "renewal" of the concept of civic knowledge in political theory, as

well as in the wider scope of social sciences (Sardoč, 2011). This is why the subject, usually labelled 'civic education', has come to the forefront of discussions about the education system in Europe (Justin and Sardoč, 2003; Klemenčič, 2012). In past years, civic education and its role in democracy has found a new place on the agendas of numerous European countries (Torney-Purta, 2002), including the EU member states. At the same time, the realisation that education plays a vital role in solving social-economic, demographic, technological and environmental challenges has grown stronger. All this is already considered in numerous strategic documents at European and national levels.

The European Reference Framework of Key Competencies (The Office for Official Publications of the European Communities, 2007: 9) defines social and civic competences as those that include "personal, interpersonal and intercultural competences and cover all forms of behaviour that equips individuals to participate in an effective and constructive way in social and working life, and particularly in increasingly diverse societies, and to resolve conflict where necessary. Civic competence equips individuals to fully participate in civic life, based on knowledge of social and political concepts and structures, and a commitment to active and democratic participation."



How are knowledge, skills and relations connected with social and civic competences? The European Reference Framework (ibid.: 10) defines civic competence as knowledge of the concepts of democracy, justice, equality, citizenship, and civil rights, including how they are expressed in the Charter of Fundamental Rights of the European Union and international declarations and how they are applied by various institutions at local, regional, national, European and international levels. It includes knowledge of contemporary events as well as the main events and trends in national, European and world history. In addition, an awareness of the aims, values and policies of social and political movements needs to be developed. It is also essential to possess knowledge of European integration and the EU's structures, main objectives and values as well as an awareness of diversity and cultural identities in Europe.[1]

Vassiliou (2013: 3) (the serving Commissioner for education, culture, multilingualism and youth) wrote the following as part of her introduction to Eurydice's *Citizenship Education in Europe* study: "European countries need citizens to be engaged in social and political life not only to ensure that basic democratic values flourish but also to foster social cohesion at a time of increasing social and cultural diversity. In order to increase engagement and participation, people must be equipped with the right knowledge, skills and attitudes. Civic competences can enable individuals to participate fully in civic life but they must be based on sound knowledge of social values and political con-

1 The ICCS study, together with the European regional module, examines precisely those types of knowledge and adds a matrix structure of the connections between opinions, values and readiness for active participation. The results of the study for students in their eighth year of lower secondary schooling will be summarised later in this section.

cepts and structures, as well as a commitment to active democratic participation in society. Social and civic competences have, therefore, featured strongly in European cooperation in the field of education /…/. Promoting equity, social cohesion and active citizenship through school education is also one of the main objectives of the current Strategic Framework for European Cooperation in Education and Training which extends to 2020."[2]

"The civic competences needed to be able to actively exercise citizenship, as defined by the European framework for key competences, focus on: a knowledge of basic democratic concepts including an understanding of society, social and political movements; the European integration process and EU structures; major social developments, both past and present. Civic competences also require skills such as critical thinking and communication skills, and the ability and willingness to participate constructively in the public domain, including in the decision-making process through voting. Finally, a sense of belonging to society at various levels, a respect for democratic values and diversity as well as support for sustainable development are also highlighted as integral components of civic competences" (ibid.: 8).

The 2013 Eurydice study used the conceptual framework that was defined in the 2005 study and contains three sets of goals: developing political literacy, developing critical thinking skills, certain attitudes and values and fostering active participation by students. The only difference is that the 2013 study separates the second set into two parts, i.e. critical thinking (while adding analytical skills) and relationships and values. Thus the three main sets of goals are broken up into four segments in the new version (Eurydice, 2005/2013), which together give a definition of active citizenship that connects knowledge, values and participation in a democratic society.[3] This premise is also supported by the definition of active citizenship, which is defined by Hoskins (2006) as participation in a civil society, community and/or political life, based on mutual respect and non-violence in accordance with human rights and democracy. Based on this definition, Hoskins and Mascherini (2009) produced an operational model of active citizenship on four measurable and different di-



2 I & U 2020.

3 What does citizenship mean today? Citizenship, while not a novel notion, has recently experienced a kind of "revival" or a widening of its meaning. According to Kymlicka (2005: 399, 400), "interest in citizenship has been sparked not only by /…/ theoretical developments, but also by a number of recent political events and trends throughout the world." While speaking about citizenship in contemporary society, we are referring to a multi-dimensional view of citizenship, which is not limited solely to legal relations between an individual and the state but also "expresses the competencies, skills and abilities /…/" (Durr, Spajic-Vrkaš and Ferreira-Martins, 2005: 7). Furthermore, contemporary conceptualisation of citizenship, as espoused by e.g. Veldhuis, sees citizenship separated into several dimensions. These are: a) the political/legal dimension; b) the social dimension; c) the cultural dimension; and d) the economic dimension. They can all be translated as political, social, economical and cultural literacy. The majority opinion in discussions regarding citizenship is that this issue needs to be understood as a mosaic of identities, obligations and rights and not as a unified concept (Klemenčič, 2012: 116). This wide definition also applies to the concept of active citizenship.

mensions. These are: protests and social change, community life, participatory democracy and democratic values.

Kovačič (2009: 27, 28) meanwhile warns about the loose definition of citizenship, which does not differentiate between political participation and participation in society.[4] This is why citizenship competencies, listed in brochures on civic education, are almost exclusively non-political competencies and stress values and skills, useful in relationships between individuals in a civil society. The author further believes that materials on civic education, available in Slovenian, completely overlook the active side of citizenship with the phrase 'inclusion into society' being used instead. This mainly means entering into the labour market and other supporting institutions of wage labour as well as acceptance into micro social networks and it is of key importance that it does not include a critical attitude towards the rules of participation in the labour market and other institutions.

Why do we stress education in connection with active citizenship and development of social and civic competencies? The first reason is that civic education is nowadays recognised as a constituent part of the social sciences and arts curriculum (regardless of whether we talk about individual subjects, cross-curricular topics or an integrated approach). Within the Slovenian educational system, civic education (termed 'patriotic and citizenship culture and ethics') is an obligatory subject and a compulsory elective subject ('civic culture') in the lower secondary school curriculum, while in upper secondary school these topics are part of compulsory elective courses or individual subjects (also dependent on upper secondary schools' teaching programmes). The other argument is linking (formal)[5] education and active citizenship. Recent studies (e.g. Mascherini, Manca and Hoskins, 2009) have shown that the level of active citizenship increases with the years spent in education. The aim of both presented arguments is one and the same, i.e. educating active citizens.



Concern is growing in numerous countries due to the lack of interest by the youth and young adults to get involved with public and political life (Putnam, 2000; Gril, 2011). While youths reject political practices, it is not necessarily the case that the same also holds true for supporting values such as solidarity, equity and tolerance. Proof also exists that the youths are increasingly involved in alternative forms of participation (Torney-Purta, Lehmann, Oswald and Schulz, 2001; Schulz, Fraillon, Ainley, Losito and Kerr, 2008). However, not every activity or participation in public and political life contributes towards active citizenship (some activities can also be in discrepancy with democratic values etc., which form one of the pillars of active citizenship). According to Mascherini, Manca and Hoskins (2009: 10), examples existed in the past when

4 The Eurydice study (2005: 17) expressly states that its definition of a citizen is a person that exists within a society.

5 Informal, non-formal and formal education plays an equally important role in lifelong learning.

participation was not recognised as active citizenship – Nazi Germany and communist European countries point to mass participation without necessarily having democratic and useful consequences.

The formal framework of civic education thus begins within the formal education system. The role of an active citizen is also influenced by other factors, be it individual or social (a country's GDP, average education level etc.). The first insight into the issue of what we call social and civic competencies or the active citizenship concept, is represented by the knowledge of this area.

The project 'Raising Awareness and Opportunities of Lifelong Learning for Low Achievers' is specifically targeted at low achievers and this chapter therefore presents the characteristics of students with low civic knowledge scores. It also points to the issues that low civic knowledge of individuals can present for the development of contemporary democratic societies. The project is based on the data by International Civic and Citizenship Education Study (ICCS). Even though the EU's strategic goals include fostering active citizenship, no specific metric or reference benchmark has been made on the European level for active citizenship.[6] For this reason the metric in this paper hereafter will be designed in a way that it is composed of students who failed to reach the first proficiency level of civic knowledge in the ICCS study.



## International Civic and Citizenship Education Study and Low Student Achievements

Despite the lack of a specific benchmark within the European framework, CRELL designed two composite indicators of active citizenship and civic skills. The first refers to active citizenship, meaning the activities of adults, and the second to the civic skills of students. The latter was designed on the basis of data obtained by an IEA International Civic and Citizenship Education Study (Progress towards the Lisbon objectives in education and training: Indicators and benchmarks, 2009: 92).

The ICCS international study is coordinated by the IEA. Slovenia took part in data gathering in 1999 (when the study was called CIVED) and 2009 and is scheduled to take part in 2016. This paper focuses on the data obtained by the 2009 study.

The ICCS study is based on a research framework which considers both the context of civic and citizenship education that describes the constructs that must be included in the student cognitive test and a questionnaire; and a contextual framework, which includes factors that could influence student achievements and explain the differences between them. The youth develop their understanding of their role as citizens in a contemporary society on

6 Some authors (e.g. Idnurm and Toots, 2013) use data obtained by the ICCS study alongside data obtained by the PISA study when examining low achievement groups.

the basis of numerous activities and experiences at home, in school, class and the wider community. This is why it is important to recognise that knowledge, competences, attitudes and self-beliefs are influenced by numerous factors on various levels of a multi-tiered structure (Schulz et al., 2008: 30). The research framework is shown in the table below.

Table 10: Assessment framework in the ICCS

| Context | Antecedents | Processes | Outcomes |
|---|---|---|---|
| National and other communities | Democratic history<br>Structure of education | Intended curriculum<br>Political Developments | Test results<br>Student perceptions<br>Student behaviour |
| School/classroom | School characteristics<br>Resources | Implemented curriculum<br>Policies and practices | |
| Student | Gender<br>Age | Learning activities<br>Practices engagements | |
| Home environment | Parent SES<br>Ethnicity<br>Language<br>Country of birth | Communication<br>Peer-group activities | |

Source: Schulz et al., 2008: 32

If the ICCS study assessment framework is considered, the test results (cognitive achievements) present only one of the items being assessed and one of the achievement types. The ICCS study uses proficiency levels when assessing the students' cognitive achievements.

The scale of civic knowledge thus reflects progress, from the ability to face tangible, known and mechanical elements of citizenship, all the way to the understanding of a wider political climate and the institutional processes that determine the condition of a citizens' community. An analysis of achievements by students thus led to the establishment of three proficiency levels of civic knowledge (Schulz, Ainley, Fraillon, Kerr and Losito, 2010: 16):

- Proficiency Level 1: Engagement with the fundamental principles and broader concepts that underpin citizenship and a mechanistic working knowledge of the operation of civic, civil, and political institutions.
- Proficiency Level 2: Knowledge and understanding of the main civic and citizenship institutions, systems and concepts as well as of the interconnectedness of civic and civil institutions and relevant operational processes;
- Proficiency Level 3: Application of knowledge and understanding to evaluate or justify policies, practices, and behaviours based on students' understanding of civics and citizenship.

The educational systems are placed on the scale in accordance with the average score of the highest achievement students (the third proficiency level).

The ICCS discovered that the average level of students that failed to reach the first proficiency level stands at 16% and is higher in some European countries (Malta, Greece, Bulgaria, Luxembourg and Cyprus). The share of students in Slovenia that fail to reach the first proficiency level at the exam is below the international average at 9%. Meanwhile, 30% of students in Slovenia reached the highest proficiency level. Amongst European countries a higher percentage is recorded by Finland, Denmark, Ireland, Liechtenstein, Poland, Sweden, Italy, Switzerland, Slovakia, Estonia, England and Norway.[7]

Even though Slovenia has a slightly lower than average share of students who failed to reach the first proficiency level, improvements in this area require a more detailed examination of the characteristics of these students. Test results (i.e. civic knowledge) must be studied in close connection with other outcomes (students' perceptions, behaviours, attitudes, etc.) and within various contexts. Due to what is stated above, the research framework of the ICCS study is based on various contexts (national and community contexts, school/classroom, student, home environment contexts, predispositions (such as SES, language, school characteristics) and processes (educational policy, teaching styles, experience regarding participation etc.)).



## Low Achievements Regarding Civic Knowledge, Beliefs, Attitudes and Readiness for (Future) Actions

The literature that sums up the research in the field of active citizenship and focuses on individual characteristics (Mascherini, Manca in Hoskins, 2009) shows the following:

- Age – youths participate less (Putnam, 2000);
- Gender – not important (Norris, 2002);
- Education – a very important characteristic on an individual level (Dee, 2004; Galston, 2001);
- Income – those with a higher income are more inclined to participate in society (author's note) (Verba, Slozman and Brady, 1995);
- Family is also among the commonly listed sources of active citizenship learning. Political socialisation, which starts in early childhood and includes identification and transfer of values, is dealt with as an important element in developing active citizenship (Lauglo and Oia, 2002; Kahne and Sporte, 2008; Mascherini, Manca and Hoskins, 2009: 8).

7 The whole league table can be found in Schulz, Ainley, Fraillon, Kerr and Losito, 2010: 79.

What is the connection between various outcomes, i.e. civic knowledge, attitudes, engagementst? Gril (2011) researched the connections between civic knowledge of Year 8 students and other elements of civic competencies.[8] She discovered that civic knowledge of Year 8 students is formed in reciprocity with students' attitude towards democracy, how well they are informed, recognise their own political effectiveness and experiences in school participation. The author also pointed out that all three components of civic competencies (knowledge, attitudes, engagements) were connected to the readiness of youths to acquire the role of active citizens in the future (ibid.:182, 183).

## Results for Slovenia

The links between various achievements and the assessment framework of the ICCS study have already been expressed in the previous section. This part will meanwhile focus on the connection between low cognitive test results by students[9] and their characteristics (socio-economic status (SES), their attitudes regarding various social and political issues and readiness for action). A secondary analysis was performed on the ICCS data.[10]



SES has today become a recognised factor that impacts student achievements in various diverse and complicated ways (Saha, 1997). A general accordance does exist, i.e. that the SES represents income, education level and job (Gottfried, 1985; Hauser, 1994; Schulz et al., 2010: 32).[11] Data for Slovenia show that students who failed to reach the first proficiency level in the ICCS study have the lowest SES and vice versa – higher SES can be found in groups of students who reach a higher level of civic knowledge.

The following paragraphs focus on the characteristics of students with low achievements, organised according to sets as found in the ICCS study.

8 In her analysis Gril also used data obtained by the ICCS study, but focused on the link between these items, while the current paper focuses on the characteristics of the lowest-achievement students and differences between the various groups.

9 This paper deals with groups of students in relation to their (in)ability to reach civic knowledge proficiency levels.

10 The analysis is based on the level of achievements of Slovenian students, with the achievements computed in accordance with the provided proficiency levels (failure to reach the first proficiency level, reaching the first, second and third proficiency levels, respectively). The analysis used data from the ICCS study – the questionnaire for Year 8 students and a publicly accessible analysis tool (which includes all the required parameters, the correct weights etc.), i.e. IDB Analyser (available at http://rms.iea-dpc.org/). It also checked the confidence intervals between individual groups.

11 For the purposes of the ICCS study, the SES has been calculated on the basis of the following variables: Parents' professional status, parents' educational level and the number of books at home (Schulz, Ainley, Fraillon, 2011: 193).

### a) Student activities

A comparison of separate student groups has shown that the context of their activities presents a very diverse picture. While debating the political and social questions, differences appeared amongst groups of students. They were significantly different only between the group of students that failed to reach the first proficiency level of civic knowledge (i.e. the students with the lowest cognitive achievement in this field) and the group of students with the highest level of civic knowledge. The students in the latter group are characterised by the fact that they talk more often with parents and friends about political and social issues, as well as about events in other countries. Also regarding participation in the wider local community, a statistically significant difference exists between the group of students that failed to reach the first proficiency level and the groups that reached the second and third proficiency levels. Another peculiarity regarding this scale is that the group with the lowest civic knowledge achievements is above the national average in respect of student participation in the local community. Thus these students, on average, participate more often in environmental protection and human rights organisations, voluntary groups for helping others, organisations that collect money for charity, cultural associations, groups of the youth who stand for certain ideas etc. However, this group of students also lies furthest below the national average regarding participation in school. This clearly showed when answering questions regarding how often they participate in school (in debates, class president elections/the school parliament, decisions on school management, running for class president etc.) that the group of students with the lowest average civic knowledge participate less in school than students, or groups of students, with higher achievements in the area of civic knowledge. The students with the highest proficiency level of civic knowledge participate the most in school, and the students with low achievements participate the least (this group's average results are statistically different from all the three remaining groups). Regarding the participation of these students, it might even be concluded that their activities in the local community are centred more on satisfying their personal interests, while less participation in school is noticeable when it comes to linking up with others, working for the common good etc.



### b) School

The perception of how often teachers encourage students to form their own attitudes, express their opinions, take part in *pro et contra* debates etc., in short, how often teachers facilitate open communication, has shown statistically significant differences between the students that failed to reach the first proficiency level and the two groups of students who reached the second and third proficiency levels. Students with the highest achievements feel that

teachers foster open debate more often during regular class (regarding various political and social issues, teachers present several views on an issue being explained to the class etc.). Contrary to this, the lowest achievement group believe that they participate less in school. The reason for this could be attributed to a lack of teacher initiatives for student participation. This group also holds an interesting opinion that their positions on teaching/learning methods, contents and materials, timetable and class as well as school rules, are accepted more often than that is believed by the highest achievement students. The latter group is also the most critical regarding those issues. The perception regarding the acceptance of their opinion of school activities is the highest for the group of students with the lowest achievements. The perception of students regarding the student-teacher relationship at their school will now be discussed. It is interesting that statistically significant differences on this topic do not exist between the groups, meaning that the lowest achievement group does not differ from other groups in their belief that the majority of teachers are fair towards them; that they get along well with them; that the teachers are interested in the students' benefits, and their opinions etc. This is slightly worrying because a relatively negative perception of the relationship between a teacher and a student exists in all groups of students (the groups with differing civic knowledge). It can at the same time be an encouraging piece of information for teachers, pointing them towards facilitating the students' participation to a larger extent. The perception of students regarding the value of participation in the school is as follows: low achieving students are less inclined to agree with the claims that student participation in school management can improve the running of the school; that student cooperation can bring about numerous positive changes; that organised groups in the school, which express their opinions, can contribute; and that they can impact the functioning of the school more by participating rather than by acting alone. The perception of students regarding the value of participating in the school is the most positive for students with the highest achievements. It is also important to note that perception of the value of participation increases in line with exam results in the area of civic knowledge. This allows a conclusion to be drawn that students with greater civic knowledge can increase the positive impact of participating in school.



### c) Citizens and Society

Moving on to students' support for democratic values, i.e. on what a society should look like (regarding the right to freedom of expression, respect of social and political rights of all people, freedom in electing leaders and criticising authorities, enabling of protests), the lowest achieving students felt these questions to be the least important and their results were below the national average. The highest achieving students agreed more with those points and

their scores were above the national average. Differences were also apparent between all groups, meaning that the groups are different in their perception of the importance of democratic values, with the students with higher civic knowledge being more positively inclined. The students' perception of the importance of conventional citizenship painted a different picture. Regardless of where the group falls on the scale of achievements, there were no differences amongst them on this issue. However, contrary to this, the low achievement group stated that on average it found it less important to take part in peaceful protests against unjust laws, participate in activities that benefit people in the local community, join activities in favour of facilitating human rights, and protect the environment, than did the highest achievement group. The higher the achievements in the area of civic knowledge, the more important the actions of a social movement seem to be for a good citizen.

Students who failed to reach the first proficiency level of civic knowledge are not as inclined towards favouring common democratic values, which supports a democratic society, as are their highest achieving counterparts. The lowest achievers also do not place that much importance on social movements which are connected to citizenship. If a conclusion were to be drawn from this, it would be possible to say that this is a group of students that are not as inclined to participate in school and therefore do not see the value of this for the functioning of a democratic society. There is a lack of transfer of knowledge and experiences, which were supposed to be gained in school for their functioning in the future. This, however, can certainly be addressed by valuing these activities and the motivation that channels them.



### d) Students and Society

The two groups of students do not show statistically significant differences regarding their interest in political and social issues (within the local community, country, international politics). However, statistical differences have been discovered in students' sense of the efficiency of international politics. Compared to the highest achieving students, on average those who did not reach the first level of civic knowledge believe that they know less about international politics than their peers; they agree less that they might have something to say about that; they agree less that they understand these questions or that they have political opinions that are worthy of being listened to; and in general they agree less with the statement that they will be capable of taking part in politics etc. when they grow up. This can be interpreted as a realistic self-assessment of civic knowledge.

### e) Rights and Obligations

Statistically significant differences between groups of students also appear in the students' attitudes towards gender, ethnic and racial equality. The group

of lowest achieving students agrees least with claims that men and women should have equal opportunities to hold a government post, get the same payment for performing the same job and have equal rights in all aspects (as well as, for example, being equally trained for political leadership). The higher the level of civic knowledge achievement, the more the students espoused the equal role of men and women, ethnic and racial groups. In a similar vein, the attitudes of the lowest achieving students regarding the equality of migrants are lower than the national average. The claims that immigrants should have equal opportunities to continue speaking their mother tongue; the option to vote in elections (after they have lived in a country for several years); the right to retain their customs and ways of life; have the same rights as all other inhabitants; and that immigrant children should have equal education opportunities, are most approved of by those students having achieved highest civic knowledge. Meanwhile, those scoring most below the national average on this topic were the lowest achievers. Regarding migration, the lowest civic knowledge achievement students differ from the second and third proficiency level students. The results of this set are important because they point to a significant link between attitudes in respect of the rights and responsibilities – more precisely the area of various (in)equalities and knowledge.



### f) Institutions and Society

No significant statistical differences exist between the students with the lowest civic knowledge achievement and other groups regarding their trust in institutions (the Slovenian government, local authorities, courts, the police force, political parties and the national assembly) and the country (the Slovenian flag is important to them, the country's political system is functioning well, they feel great respect towards Slovenia, they are proud of the country's achievements and the fact that they live in Slovenia etc.). This is an important finding because it points to the fact that groups with different proficiency levels of civic knowledge do not diverse on this matter. The highest achievement group does not trust institutions more than others and vice-versa.

### g) Participation in Society

The attitudes of students with the lowest achievements regarding civic knowledge are below the national average in respect of their civic efficiency. Their attitudes also differ significantly from the group of the highest achieving students. This scale is composed from answers to questions on how well the students believe they would do (how successful they would be) while debating a newspaper article that reports a conflict between countries; advocating their own opinion on a contentious political or social issue; running for school election; organising a group of students with the aim of making a change at the

school; watching a TV debate on a controversial topic; writing a letter to the editor detailing their attitude on a disputed topic; giving a talk in front of a classroom on a social or political issue. This means that political self-efficiency regarding the issues that are out in the open has been perceived as weaker by the lowest achieving students than their higher-achieving counterparts, who are also more convinced of their own civic efficiency.

No statistically significant differences were discovered about the expected participation of students in legal protests in the future (such as writing a letter to the editor; wearing a badge or T-shirt expressing a certain opinion; getting in touch with an elected representative; taking part in a peaceful protest/gathering; collecting signatures for petitions; deciding to boycott certain products). However, students with the highest proficiency level are more convinced of joining legal protests in the future. The picture is diametrically opposite regarding the attitudes on taking part in illegal future protests (i.e. spraying protest slogans on walls; stopping traffic; occupying a public building). Here, statistically significant differences between all groups of students can be found. The lowest achieving students are the most certain that they will take part in illegal protests in the future (this is also the issue in which their average score hovers most above the national average score). The highest achieving students are meanwhile the least convinced. The median value of the scale falls in concert with the increase of civic achievement levels. This means that students with lower knowledge are more certain to take part in illegal protests in the future. Maybe such an attitude is the consequence of an unfavourable learning environment for those students, who are at the same time aware that they have less civic knowledge than their peers. It should also be kept in mind that this is a group that is less tolerant towards those who are different. In regard to the expected participation of students at elections (after they grow up) it needs to be stressed that the lowest achieving students in the area of civic knowledge are less sure that they will vote on a local or national level and will obtain information about the candidates before the election, as is the belief of their peers with a second or third proficiency level of civic knowledge. The highest certainty in respect of their political participation at elections has been expressed by the students with the highest achievement, with the greatest apathy being expressed by their lower achieving counterparts. Similar and statistically significant differences between the three groups have also been found regarding the expected participation of students in political activities after they grow up. It is interesting to note that the lowest achieving students are more certain that they will take part in political activities after they grow up (helping a candidate/political party during a campaign, membership in a political party and a trade union, standing at local elections). The lower their achievement, the higher their certainty that they will take part in such activities in the future. Differences between the groups in future informal political

participation are not statistically significant between them. This means that the groups do not differ regarding their anticipated future informal political participation, e.g., whether they will speak to others about their political and social issues, write letters to the editor or take part in a forum on social or political issues and (likely) join an organisation with political or charitable goals.

While students with the lowest civic knowledge achievements are less sure that they will vote in future elections, they are more convinced that they will take part in political activities in the sense of supporting a political campaign, party membership, standing at a local election. It is especially noteworthy that they are less sure about going to the elections.

## Instead of a Conclusion – Implications for Educational Policy and Practice

When civic education is discussed in the context of formal education, it is defined as knowledge, attitudes and engagement, i.e. acquiring the required skills for participating in society. According to Gril, Klemenčič and Autor (2009: 131) the Slovenian educational system, both legally and in its curricular dispositions and lesson plans, includes the teaching of students for active inclusion into society, not only regarding the subject-matter of individual subjects but also within the framework of student participation in classes, shaping classroom and school community and planning as well as implementing joint activities in a school.[12]



12 The research results are based on the report of a study, carried out in the municipality of Ljubljana, on a sample of primary and secondary-school students as well as university students (Gril and Klemenčič, 2008). The study, carried out in schools in Ljubljana, the Slovenian capital, has shown that teachers who combine social interaction with participation, solidarity and critical thinking, tend to involve students more frequently in civic education and that the teachers' opinion on social engagement in general is a positive one. These teachers are furthermore inclined towards fostering and teaching the youth to participate in society while retaining the view that political and social participation are equally important. Inadequate participation of youths in solving social issues is mainly attributed by primary/lower-secondary school teachers to the youths' lack of interest and the lack of the skills to participate, while upper-secondary school teachers believe that a larger role is played by social obstacles in the participation of the youth, such as unequal treatment, lack of support by adults etc. According to study findings, the youth could see teachers as a source of support and a role model in social participation (Gril, Klemenčič and Autor, 2009: 132). A study in Ljubljana's upper secondary schools discovered that social activity is the major factor in political participation and the second most important factor in students' participation in voluntary activities. For university students, however, social understanding and being informed did not significantly influence their participation. This is why it is extremely important that primary and secondary education shape youths' knowledge, as their own (relatively scarce) experiences of being active within society would be hard to come by (ibid.: 134). Social participation in the classroom is, of course, limited by the framework of hierarchic relations in a school which also plays a major role in determining relationships in this institution. Nevertheless, a school's main duty in training the youth to become active citizens is to provide quality knowledge, teach critical thinking and behaviour in accordance with the accepted social norms and values (ibid.: 132, 133).

The aim of the analyses in this chapter of the paper was to present various characteristics of students with the lowest civic knowledge achievement. For this purpose, a group that did not attain the first proficiency level of civic knowledge was identified. There are about 9% of such students in Slovenia, which means that the country is below the international ICCS average and that the number of such students in Slovenia stands lower than the average for all countries (or educational systems) in the study. The analysis of the ICCS data exposed statistically significant differences in the majority of cases between the lowest and the highest achieving groups in the field of civic knowledge, and their attitudes and engagements. This means that the two groups of students genuinely differ.

The lowest achieving students differ from the highest achieving students in all aspects of their activity (debating political and social issues, participation in the community, participation in school) as well as from the second proficiency level group regarding participation in the community or school. They more rarely debate social and political issues with their friends and parents and participate less in school, but are, on the other hand, more active in the local community. This leads to the conclusion that students who cannot handle the basic principles and the wider concepts of citizenship, as well as having no knowledge about the functioning of social, civic and political institutions, on average participate to a lesser degree in school, talk less about such topics with their friends and parents, but are already more active in participating in the local community. Such activities might, of course, be more centred on their own interests rather than the interests of community development. Nevertheless, the fundamental question that needs to be asked in that regard is 'What does the lack of participation in school and debating about social and political issues mean?'. This is especially pertinent if we are aware of the importance of the direct experience of participation as one of the components of civic and social competencies. If we were to talk about educational practices within this context, it would be in the form of a call to teachers to be aware of that and try to include students to a greater degree in talks about political and social issues and potentially combine the former with students' experience of participation in the wider community. According to Hahn (1998), school can develop civic competences of the youth through direct teaching of social subjects, active teaching methods, creation of a climate of trust and connectedness in a classroom, as well as including students in the decision-making process on education (Gril, 2011: 159). Extracurricular activities are a very important part of acquired social knowledge (Gril, 2011). Another aspect of the issue is discussions at home or with friends. The analysis stresses that students with the lowest achievements in the area of civic knowledge talk less about social and political issues with their friends or parents, which means that they cannot get this experience at home. One of the possible interpretations could also be that

the latter is connected to socialisation itself, of which SES forms a major part. The results of the SES analysis for the lowest achieving group of students have shown that they have the lowest SES. SES itself is probably less influenced by educational rather than other policies. However, its influence is not negligible and must also be taken into account on the level of education practice, which means that overcoming the deficit that restrains better cognitive and other achievements,[13] presents a specific challenge for schools and teachers. In this context it is also necessary to mention inequality, which schools must overcome on all levels (especially when thinking about a social state in which case the latter is imperative), be it levelling the playing field or eliminating the production of inequality. It is also necessary to consider all other dimensions of active citizenship and enable the development within the frame of this complex system for all students, i.e. cognitive test results on the one hand, on the other the importance of fostering positive attitudes, critical thinking, active participation and activities etc.

The educational context itself is also important. The lowest-achieving students do not notice open debates in the classroom so often, however, believe that their opinion on the school's functioning is considered more often than is the opinion of students with the highest achievements in the area of civic knowledge. The groups do not differ in their perception of the student-teacher relationship. However, more civic knowledge also means higher valuation of participation in school. In suitable structured learning interactions (in the school), which allow exchange of opinions, equal participation in problem solving and co-decision making in mutually appreciative and respectful relations between teachers and students, students learn tolerance (Torney-Purta et al., 2001), taking responsibility for common goals (Flanagan, Jonsson, Botcheva, Csapo, Bowes and Macek, 1998; Torney-Purta, 2009), solidarity (Flanagan, Cumsille, Gill and Gallay, 2007), trust in others (Flanagan, Stoppa, Syvertsen and Stout, 2010; Battistich, Solomon, Watson and Schaps, 1997) as well as developing a feeling of belonging to the school community (Vieno, Perkins, Smith and Santinello, 2005; Gril, 2011: 159). Based on this it can be concluded that educational context is extremely important when teaching active citizenship and that it can be improved through increased inclusion of topical subject matter, which pertains to the students in this age group, and through more active teaching methods. The direct experience of participation will not only improve the perception of positive valuation of participation but also increase the readiness to be more engaged.



Students who failed to reach the first proficiency level of civic knowledge are not so inclined towards common democratic values which support a democratic society, compared to the highest-achieving students. The social movement that is connected to citizenship is also not so important to them. If a con-

13 Ignoring the resilient students.

clusion were to be drawn from this, it would be possible to say that this is a group of students that is not so much incited to participate in school and thus do not see the value of participation for the functioning of a democratic society. There is no transfer of knowledge that they are supposed to learn at school towards their future activities, which is definitely fostered through the valuation of activities and the motivation that spurs such activities. According to Flanagan et al. (2010), a democratic school practice is an important source of self-confidence into one's own political efficiency, as it helps youths to express their opinions and face various dispositions as well as the experience of participating in decision making.

In the area of rights and responsibilities (gender, ethnicity, race, migrant equality), it can be said that there is a general tendency to increase the level of civic knowledge achievements, which contributes to a greater tolerance of students. This is in line with the findings of an analysis (Klemenčič, Štremfel and Rožman, 2011) on the connection between prejudices on multicultural topics and knowledge of these topics.

Statistically significant differences exist between the lowest and highest-achieving groups of students regarding anticipated future participation in elections and political participation. Mirazchiyski, Caro and Sandoval-Hernándes found that a similar general trend exists for all European countries participating in ICCS 2009 (except Denmark):[14] the less civic knowledge the students have, the higher their anticipation to engage in formal political activities (2014). However, there are no differences among the groups regarding informal political participation in the future. This also agrees with various studies of social and political interaction, which shows that the detected self-efficiency in political or social areas is one of the key factors of an individual's decision to participate in public (Diener, Noack and Gniewosz, 2011; Snyder and Omoto, 2006; Torney-Purta, 2009; Gril, 2011: 180).



Acquiring new (more complex) knowledge and (active and more critically-thinking) attitudes as well as values and readiness to engage can be influenced through a more facilitating educational policy and educational practice, which means that policies have to be accepted and then implemented. It is, of course, necessary to keep in mind that more knowledge on a specific theme means a better, more critical and more positive attitude towards social and political issues. The scope of knowledge (which also impacts all other dimensions of active citizenship, as has been shown in this chapter) could be improved by educational policy through inclusion of more of the above mentioned subject matter into classes and doing so across various education levels, however, this is not something to be particularly optimistic about. Full political and expert consensus is needed in order to change a curriculum and it seems that this has so far remained elusive in the field of civic education in Slo-

14 Not taking into consideration the proficiency levels, but the whole continuum of civic knowledge.

venia. All this can, however, be partially compensated through such didactic approaches, methods and forms of the topics already in the curriculum that will activate the students as much as possible during their learning, activities and participation. It should also be noted that not every action contributes towards active citizenship. Some forms of practice can also harm social development. Thus educational policy and practice should cause concern about the fact that students with lower levels of proficiency regarding the fundamental principles and wider concepts of active citizenship, as well as the operational mechanisms of knowledge on the functioning of social, civic and political institutions, to a larger degree, support illegal activities in the future and possess more negative attitudes towards the values of a democratic society and the perceptions of their actions in the future and attitudes in the school. If nothing else, it can be concluded that students perhaps do not have sufficient knowledge regarding the mechanisms of the functioning of a democratic society to use mechanisms that would lead to a more peaceful conflict resolution and a more tolerant and cohesive society. It is impossible to envisage how such students could contribute towards a reduction of democratic deficits in the EU if they already feel a similar deficit in school and their immediate community. In regard to future development of educational policies and practices, more attention should be paid to improving students' cognitive achievements. Students with higher achievements are, as a rule, recognised as those who participate more in society, i.e. take a more active citizen role. It could perhaps, also be hoped, that the more active individuals (or groups) in society have better knowledge of social issues and concepts that touch us all. Societies of the future cannot be built on ignorance, incompetence and apathy towards society.



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# conclusion

# Student (Under)achievement as a Challenge in Development of Educational Policies and Practices

**Urška Štremfel**



This scientific monograph presents various perspectives, approaches and challenges in relation to student (under)achievement. The European benchmark formed the primary basis for this, in accordance with which 'by 2020, the share of 15-year-old 'low achievers' in the basic skills (i.e. reading, maths and science literacy) in PISA should be under 15%.' Reports of the European Commission about the progress of member states reveal that Slovenia fails to reach this European benchmark in the fields of reading and maths literacy. The share of Slovenian students who failed to achieve the basic levels of reading and mathematical literacy in PISA 2012 were 21.2% and 20.1% respectively (European Commission, 2013).

International reports (OECD, EU) indicate that countries endeavour to improve their achievements, on the PISA international comparative achievement scale, in a number of different and unique ways. The PISA scale is considered the benchmark among the contemporary standards of academic achievement of individuals, the success rate and effectiveness of educational systems and even the economic competitiveness of modern societies.

During the course of the project *Raising Awareness and Opportunities of Lifelong Learning for Low Achievers,* as part of which this scientific monograph was created, the authors also attempted to develop various different and unique approaches that could - based on scientific analyses, data from international comparative assessment studies and other research in the field of education - contribute to fostering student achievement, yet have so far been inadequately developed, or even disregarded, within the Slovenian educational space. The focus in doing so was mostly on various non-cognitive factors and aspects of student achievement. The main aim was to develop various rele-

vant perspectives and approaches in terms of different scientific disciplines and, simultaneously, ensure practical implications for the development of educational policies and practices, which are presented below, could be derived from them.

International comparative insights into student (under)achievement, which were made possible by means of participation in PISA and member states' involvement in the EU, are an important source of identification of the factors that are related to the academic (under)achievement of Slovenian students. However, at least two challenges are faced with regard to the perceived policy problem of student underachievement in Slovenia (usually based on a below-average ranking on international comparative achievement scales). The first challenge pertains to the fact that no simple solutions can be derived from the results of international comparative assessment studies, nor can any one-sided policy measures be developed that would contribute to improving students' outcomes. The second challenge is in relation to the existence of simplistic and scientifically unsubstantiated solutions at an international level, put forward to the member states by the EU as recommendations. From the above it can be inferred that international comparative insights into adolescents' academic (under)achievement are indispensable in both identifying the factors, and searching for, solutions for improving the academic achievement of Slovenian students. However, in order to maintain the autonomy of the national educational system, special attention needs to be devoted to selective adoption of such internationally formed solutions within the national educational space. Consequently, close attention also needs to be given to in-depth analyses of outcomes and to developing solutions that are scientifically substantiated and take into account the specific nature of the complex national context.



The significance of the selective adoption of European agendas in the Slovenian educational space has been highlighted in this monograph by the example of Slovenian students' attitude to knowledge. On account of the predominance of values of efficiency and usefulness of education (author's note: as also emphasised by OECD and the EU), the school is increasingly subordinate to the interests shaping the labour market, and the underlying question is about the fundamental function of education as the development of an environment for spreading knowledge, social integration, moulding man in terms of morals, and informing the enlightened citizen (Laval 2005; Kodelja, Marjanovič Umek and Krek, 2006). Based on an empirical study on the attitude to knowledge, Alenka Gril establishes that the predominance of such value-based orientations of society is reflected in a pragmatic attitude to knowledge, and the lack of value attached to knowledge and education among Slovenian students. The author demonstrates that giving priority to applied (practical and procedural knowledge) over basic knowledge may lead to pragmatism which does not develop any of those students' competencies defined among the ed-

ucational aims. She believes educational endeavours should therefore be focused on improving the positive value of knowledge and education in all students, not only underachievers. At the level of educational policy, the desired aims of educational reforms, that are supposed to support the economic development of the knowledge society, need to be reconsidered.

The significance of in-depth insights into the results of international comparative assessment studies have been pointed out in the monograph by means of an analysis of the factors correlated with the performance of Slovenian students in reading literacy in PISA. Reading literacy is defined as a key competence that 'each individual needs for his/her personal fulfilment and development, active citizenship, social inclusion and employment' (Šterman Ivančič, 2013) and consequently holds an important part in discussions about the economic and social development of modern societies. In this respect, special attention has been devoted to the below-average performance of Slovenian students in PISA reading literacy in comparison with the international (OECD, EU) average.

In her chapter, Mojca Štraus addresses the question in relation to which factors from students' environments and attitude to reading can differences be observed if the group of low-achieving students is compared with groups of higher-achieving students. Based on the results of an analysis of a number of different factors correlated with reading literacy, the author infers the conclusion that low-achieving students are less familiar with reading strategies. She appraises this as encouraging, as attempts can be made to try and compensate for this and develop these strategies through students' work along with work at school. Endeavours to improve the levels of reading competencies must therefore include careful consideration of students' varying interests as well as their initial competencies. High reading competence is a result of persistent practice and engagement, which is closely related to high motivation for reading and learning.



Motivation as an important factor in reading literacy was the focus of the chapter by Klaudija Šterman Ivančič. Both at an international level and in secondary analyses of PISA 2009 in Slovenia, students' motivation for reading proved to be one of the most important factors in reading performance. Simultaneously, the results of secondary analyses indicate that in Slovenia a greater frequency of online reading activities generally results in a higher reading achievement. In view of the results of the analyses conducted, the author believes that reading electronic texts and using ICT can become one of the sources of motivation for reading, especially for students who are less motivated to read and who demonstrate a lower reading performance - providing it is carefully planned in terms of didactic and methodological elements and appropriately applied, and that teachers are suitably trained.

Both in relation to motivation for reading and fostering student achievement in general, a very important role is played by teachers' competencies. In her paper, Tina Vršnik Perše establishes teacher professional development is not only limited to acquiring content-based and didactic-methodological knowledge, but rather it is focused on wider professional competencies, which also include self-evaluation competencies. Among the measures pointed out by the author are: facilitating teachers' critical thinking, reflection, acceptance of changes and reshaping of their own teaching practice, which may, in the context of changes in society and conception of knowledge, lead to improvements in teaching practice and also the academic achievement of all students. In order to achieve this, the author believes a suitable system of conditions for the further professional development of teachers is needed, as is strengthening the awareness of the significance of process-orientation in teaching and learning, and that of the different views teachers and students hold of teaching, learning and achievement.

The significance of the relationship between teachers and students is highlighted in the chapter by Tina Rutar Leban, wherein the author focuses on the correlation between teaching styles (as well as parenting styles) and student achievement. The two factors of teaching and parenting styles pointed out by the author as highly significant (in students' home and school environments) in relation to achievement in school are: a high level of student autonomy and high expectations and demands of adults (teachers and parents) in their attitude to students. As a logical measure with regard to this, the author highlights suitable and in-depth activities for raising parents' and teachers' awareness of the significance of parenting and teaching styles for student achievement, and the development of education and training, as part of which they could be made familiar with practical means of fostering student autonomy.



The significance of social and emotional learning and reducing students' anxiety for academic achievement and general success in life is the focus of the chapter by Ana Kozina. The author emphasises that social and emotional learning not only enables better-quality and more efficient teaching and learning within schools, but by means of it schools also pursue their aim of educating caring, responsible students through quality and long-term knowledge. As a universal prevention programme that would be advisable to be introduced into Slovenian schools, without any substantial intervention into the existing educational practice, the author proposes the FRIENDS programme, which is based on the cognitive-behavioural approach and has been proven to have positive impacts on both individuals and the school as a whole. In addition to students' greater social and emotional competence, social and emotional learning also improves their views of themselves, others and school, and, at a school level, also decreases the frequency of aggressive behaviour, encour-

ages cooperative behaviour within the classroom and, last but not least, improves academic achievement (Durlak et al., 2011).

In addition to attitudes, relationships, and social and emotional learning, special attention in the monograph has also been devoted to other diverse non-cognitive approaches to fostering student achievement.

Janja Žmavc highlights rhetoric and argumentation as significant content elements that are, in the context of the subject matters within humanities and social sciences, impossible to separate from other subject matters prescribed by the curricula. However, the author presents them as methodological tools that enable co-creation of the learning situation and knowledge in every educational process, regardless of any specific characteristics of the subject matter, whereby they also leave a direct mark on student achievement. For a more conceptually suitable use in practice, rhetoric and argumentation - as important educational factors in student achievement - require mainly: a) teachers who are sensitive to rhetoric and argumentation; b) long term and systematic teaching with a special focus on practical activities; and c) a productive wider public environment, where they could be performed effectively.



An important strategy for work with underachieving students, highlighted by Blaž Zupan and Franc Cankar in their chapter, is the development of entrepreneurship, wherein the emphasis is on fostering creative and innovative problem-solving as a universally applicable skill that everyone needs in everyday life, and one that requires no broad knowledge of the conventional contents taught at school or any great ability for retention or analytical thinking. However, in spite of the significance that the development of entrepreneurship may have for fostering academic achievement of Slovenian students, the authors point to the data indicating that a certain deficiency of the educational system in this field is perceived by schools and students. The authors highlight the need for a concrete incentive that could, based on practical activities, bring schools closer to the latest findings in relation to the development of creativity, innovation and entrepreneurship and thus enable and accelerate the emergence of best practice in this field.

The chapter by Polona Kelava is based on the presumption that non-formal and informal knowledge is multicomponent and boasts certain advantages that can be used to foster motivation for further school work. The author links the fields of non-formal and informal knowledge with children's, students' and adolescents' self-concept and shows how identifying, and subsequently validating, adolescents' non-formal and informal knowledge could be used to reinforce their motivation for school work. She believes it would be advisable to conceive recognition of the significance of non-formal and informal knowledge and record it at a level that would make it possible for youths to assert this knowledge, both in proving their qualifications and as a basis for broadening their knowledge and competencies.

The importance of fostering extensive civic knowledge for achieving active citizenship is, based on secondary analyses of the ICCS data, highlighted in the chapter by Eva Klemenčič. In accordance with the conducted analyses, the author establishes that students with lower levels of proficiency regarding the fundamental principles and wider concepts of citizenship, to a larger degree, support illegal activities in the future and also posit more negative attitudes towards the values of a democratic society and the perceptions of their democratic actions in the future. She infers students perhaps do not have sufficient knowledge regarding the mechanisms of the functioning of a democratic society to use mechanisms that would lead to peaceful conflict resolution and a more tolerant and cohesive society. She concludes that the educational context is extremely important when teaching active citizenship and that it can be changed by means of active teaching methods and participation of all students.

The perspectives and approaches presented in the monograph represent scientifically substantiated implications for an upgrade and improvement of the existing educational policies and practices within individual segments of the educational process. In this respect, they do not signify any large-scale system interventions in relation to improving the academic achievement of Slovenian students. Moreover, by mostly highlighting the non-cognitive aspects of student (under)achievement, they are certainly not a sufficiently wide foundation for a comprehensive strategy or a national programme for confronting the low learning outcomes of Slovenian students. However, they do highlight diverse, yet significant, open challenges in relation to fostering student achievement within the Slovenian and European educational space.



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# Index

## D



## E



## F



## G



## I



## K



## L

## T



## V

# Index of Authorities

## W



## Z



## Ž

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