C·E·P·S *Journal*

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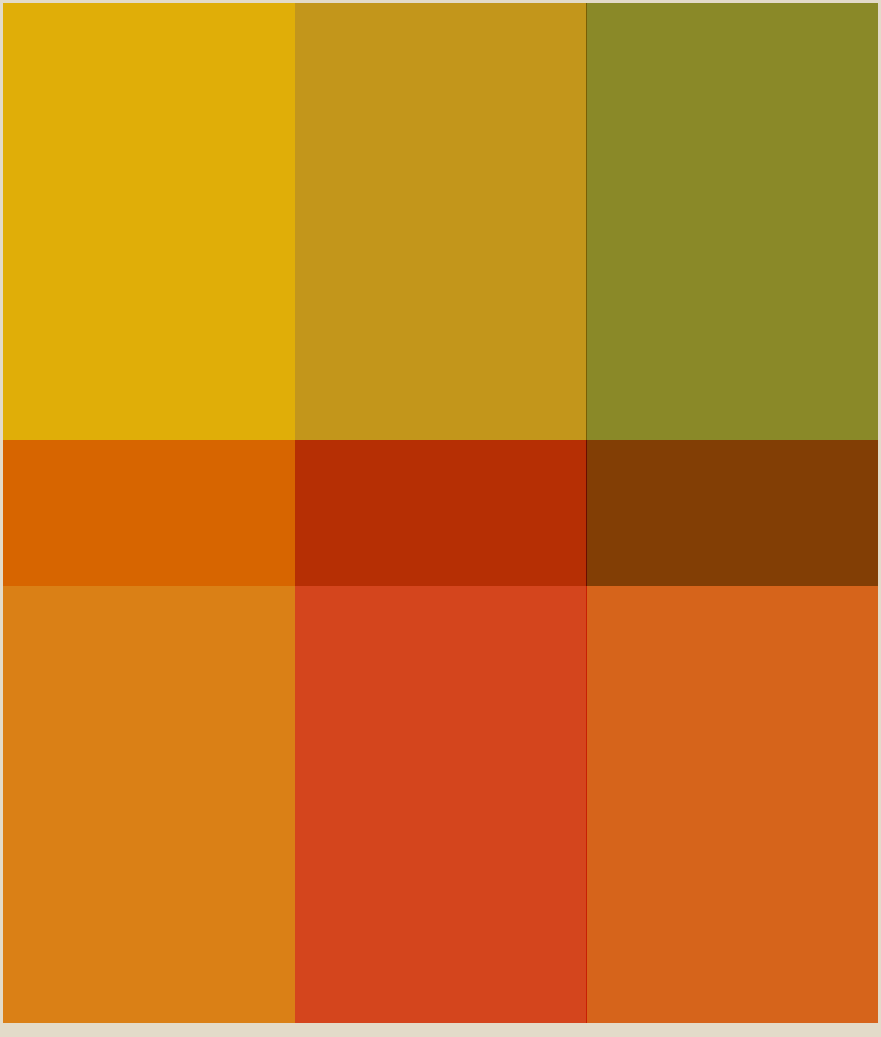

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The CEPS Journal is an open-access, peer-reviewed journal devoted to publishing research papers in different fields of education, including scientific.

Aims & Scope

The CEPS Journal is an international peer-reviewed journal with an international board. It publishes original empirical and theoretical studies from a wide variety of academic disciplines related to the field of Teacher Education and Educational Sciences; in particular, it will support comparative studies in the field. Regional context is stressed but the journal remains open to researchers and contributors across all European countries and worldwide. There are four issues per year. Issues are focused on specific areas but there is also space for non-focused articles and book reviews.

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The University of Ljubljana is one of the largest universities in the region (see www.uni-lj.si) and its Faculty of Education (see www.pef.uni-lj.si), established in 1947, has the leading role in teacher education and education sciences in Slovenia. It is well positioned in regional and European cooperation programmes in teaching and research. A publishing unit oversees the dissemination of research results and informs the interested public about new trends in the broad area of teacher education and education sciences; to date, numerous monographs and publications have been published, not just in Slovenian but also in English.

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Revija izide štirikrat letno. Številke so tematsko opredeljene, v njih pa je prostor tudi za netematske prispevke in predstavitve ter recenzije novih publikacij.

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Editorial

Teaching and Learning through Art

This special issue of the CEPS Journal focuses on specific approaches related to teaching and learning about content and objectives from all school subject areas by transferring artistic expressive activities at the primary and secondary school levels, as well as in teacher training education. The aim of the issue is to present research examples of the resolution of didactic questions through the implementation of methods, activities and approaches that are characteristic of the arts, in order to improve teaching and learning in other educational areas with various goals.

Especially noteworthy in today's school is the fact that the majority of students are in daily contact with television, video and video games, with their colourful, fast-moving sequences of images, and, of course, with computers, which provide a wide range of possible uses and experiences. Scanning and combining images and experimenting with the tools offered by different programmes, as well as exploring the possibility of multiple printings and the divergence between printed and screen images, are just a few possible areas to consider. These experiences not only imply an increasing speed of changing images, mechanical simplicity and broad possibilities in the resolution of different technical processes, but above all a specific experience of space perception and representation, which every pupil brings to the classroom, and which is essential to the different school subjects and to education in general.

We are referring to a group of competencies that a human being can develop by seeing, as well as by having and integrating other sensory experiences. The development of these competencies is fundamental to normal human learning. When developed, they enable a person to discriminate and interpret the visible actions, objects and symbols – whether natural or man-made – encountered in the environment. Through the creative use of these competencies, the individual is also able to communicate with others. The ability to analyse and interpret images and other visual material, although critical, is not sufficient in itself; it must be accompanied by an ability to create visual material, in order to use a specific language that allows the individual to consider synthesised images that stimulate hybrid sensitive experiences and operative experiences in a holistic way.

The described spatial experiences are important not only in the case of art education but for other school subjects, as most of them deal with visual representations of all kinds. This proposition is important when talking about

the development of the capacity to imagine spatial relationships in the fields of geometry, geography, biology, physics, chemistry or sports; not to mention visualisation within history, literature or learning a foreign language. On the other hand, refined means of visual and auditory perception – along with all of the content this concept involves and supposes – are required in almost all activities, and school must therefore offer students proper operative experiences and must develop specific competencies.

The need for individualisation of the educational process demands creating flexible, alternative and dynamic teaching and learning strategies. Art expression in all of its variants offers a path to deep insight into and reflection on a range of content from different points of view, fostering integrative and multisensory experiences. In this way, the artistic experience accumulated through various modalities of transfer becomes a connection issue between different content and objectives, a support and point of departure in the design of didactic materials for different subjects, and a source of motivation to improve teaching and learning in other educational areas. However, this is based on the recognition that new media and digital technologies deal mostly with visual images of all kinds and their combination with other expressive instruments, as well as with auditory, kinaesthetic and verbal experiences, as an essential element in the interpretation and comprehension of data within different school subject areas.

Transferring perceptual experiences that have a starting point in artistic subjects allows a kind of complementary relation between "the world of art" and "the world of science". This is particularly important due to the increasingly necessary individualisation of teaching and learning, addressing the different styles of teachers and students and their previous experience in the field, as well as the individual development of spatial representation, motor abilities, etc. It becomes even more important if we consider the individuality of each student, his/her needs, affinities, cultural background, gender, etc. In this context, the role of teacher guidance using artistic approaches in relation to the pupil's performance at school, and the support of teachers in developing appropriate teaching and learning strategies through the arts, are questions that remain open. Much more research is needed to clarify elemental issues within this problem.

The creation of new knowledge has the potential to change the way we see and think, communicating new insights into the ways that content bears meaning about ideas, themes and issues. Historical research provides an array of ways that images can bear meaning, whether by means of description, representation, expression or symbolisation. More recent cultural discourse provides

much more scope in the potential for meaning-making that might result from an encounter with a work of art.

This fact inevitably opens a number of very interesting and highly significant inquiries applied to the various fields of art education and of education in general; for example: How can perceptual experiences be stable and continuous in the presence of other interpretations? The barriers that once separated the various fields of art no longer exist. Dynamic sociocultural changes have affected artistic expression of all kinds; debates about the cultural identity of minority groups, issues of national identity, rapid changes in technology, and the advent of the postmodern philosophy of fragmentation and plurality have reshaped the assumptions underlying art and education. These transformations affect the way we approach, learn and transfer experiences that originate in the arts.

On the other hand, it is important to approach art education from critical perspectives regarding the complexity of experiences deeply integrated in current, everyday life. Not only are we all bombarded with visual, auditory and verbal images – by way of multimedia technologies, amongst other sources – but we must respond to them at every step, making decisions that involve creativity, originality, spatial visualisation, motivation and imagination.

The aesthetic dimension is a unique process of cognition that can be developed by art education and exploited by other fields. In effect, a global understanding of our past as well as our contemporary world demands this set of complex elements and rich connecting experiences, which should be one of the principal objectives of education at all levels, and a key to personal and social growth, and to emancipation from the various forms of "cultural slavery" that are imposed at every step of our "globalised world".

At this point, we can argue that education would be more readily served by embracing far-reaching holistic forms and practices that can be critically examined through the interdisciplinary, multidisciplinary and transdisciplinary methods associated with the different scope of studies. Education should be approached from critical views regarding the complexity of actual experiences. An efficient critical attitude encourages the education of critical perceivers of the world as a whole, who are able to deal with eventual dissonances in a constructive way.

The aim of this issue of the CEPS Journal is to present research examples of the resolution of questions through the implementation of methods and approaches that are characteristic of artistic expression in order to improve teaching and learning in other educational areas. The first article, entitled The Benefits of Fine Art Integration into Mathematics in Primary School, written by Anja Brezovnik, who is currently completing her PhD on art and mathematics

at the University of Ljubljana, Slovenia, is a presentation of research demonstrating the positive effects of fine art integration into mathematics on students, proving that long-term participation in fine art offers advantages related to mathematical reasoning, such as intrinsic motivation, visual imagination and the generation of creative ideas. Three researchers – Tomaž Zupančič from the University of Maribor in Slovenia, Annely Köster from the Department of Art Education of the Estonian Academy of Arts, and Teresa Torres de Eça from the Universities of Évora and Minho in Portugal and president of InSEA (International Society for Education through Art) – join forces to present a comparison of the attitude of grammar school students towards the art curriculum. Through their research, it was established that students place the highest value on developing creativity, as well as on the use of new media and digital technologies, which are competencies that promote interdisciplinary approaches to content. The third contribution was made by another international team: Sonja Vuk from the Academy of Fine Arts in Zagreb, Croatia, and Tonka Tacol and Janez Vogrinc, both from the University of Ljubljana. The title of the article is Adoption of the Creative Process According to the Immersive Method. This method transfers creative processes from art to processes of creation elaborated by the students themselves. It should be implemented in a critical manner through analysis, aesthetic interventions, and ecologically and socially aware inclusion in the life of the community. In this way, students gain crucial metacompetences, starting by implementing a connective creative thinking process in all learning situations. Zlata Tomljenović from the Faculty of Teacher Education of the University of Rijeka, Croatia, focuses mainly on the professional development of teachers. Her research results can help shape an optimised model for the planning and performance of visual arts education, and provide guidelines for planning the further professional education of teachers, with the aim of establishing more efficient learning and teaching processes. Another very interesting contribution is from Romania. In her article Teaching Literature through the Arts – A Few Notes on Teaching Aldous Huxley's Point Counter Point through Beethoven's Music, Dana Bădulescu, from the Alexandru Ioan Cuza University of Iași, examines different artistic languages, pointing out not only the importance of the arts and aesthetics, but also their limitations. The author also argues that, despite these limitations, the spirit of the arts opens us up to freedom and flexibility. At the end of the first part of the publication, Irena Lesar from the Faculty of Education and the Academy of Music, University of Ljubljana, Slovenia, discusses The Role of the Arts in Tagore's Concept of Schooling. She recalls Tagore's idea that the arts should be an essential part of life and education, as it is only through the arts that it is possible to express one's

experience and recognition of the harmonious connection between the universe, the individual reality and immortality, in addition to their being a source of pleasure. Only the arts and nature as a teacher enable the development of the entire personality, as well as the perception of reality and truth, the final objective of every research project, and certainly of education as well.

The *Varia* section of the present issue contains two articles that raise questions about teacher competencies from different points of view. With her contribution entitled Forms of Cooperative Learning in Language Teaching in Slovenian Language Classes at the Primary School Level, Alenka Rot Vrhovec, from the Faculty of Education, University of Ljubljana, Slovenia, reports on her research attempting to determine the extent of the use of cooperative learning in language classes. Cooperative learning is essential when the objective of the teaching-learning process is to develop communicative competences in students. The last contribution, written by Cirila Peklaj from the Faculty of Arts, University of Ljubljana, Slovenia, and entitled Teacher Competencies through the Prism of Educational Research, focuses on teacher competencies as an important factor impacting student learning. The teacher manages the class, structures the learning environment, chooses working methods and shows his/her communicative competencies at each step of the educational process. The author presents a model of teacher competencies that serves as a framework for understanding their effects on students' cognitive, affective and social processes.

Finally, in the third part of the journal, there is a review of the monograph *A Treatise on Detail in Architecture* (2015) (Brezar, V., Ljubljana: Faculty of Architecture, University of Ljubljana, ISBN 978-961-6823-56-2). With this book review, in which the author reflects on the nature of different teaching methods through artistic means such as drawing, we conclude this issue of our journal.

Beatriz Gabriela Tomšič Čerkez

The Benefits of Fine Art Integration into Mathematics in Primary School

Anja Brezovnik[1]

The main purpose of the article is to research the effects of the integration of fine art content into mathematics on students at the primary school level. The theoretical part consists of the definition of arts integration into education, a discussion of the developmental process of creative mathematical thinking, an explanation of the position of art and mathematics in education today, and a summary of the benefits of arts integration and its positive effects on students. The empirical part reports on the findings of a pedagogical experiment involving two different ways of teaching fifth-grade students: the control group was taught mathematics in a traditional way, while the experimental group was taught with the integration of fine art content into the mathematics lessons. At the end of the teaching periods, four mathematics tests were administered in order to determine the difference in knowledge between the control group and the experimental group. The results of our study confirmed the hypotheses, as we found positive effects of fine art integration into mathematics, with the experimental group achieving higher marks in the mathematics tests than the control group. *Our results are consistent with the findings* of previous research and studies, which have demonstrated and confirmed that long-term participation in fine art activities offers advantages related to mathematical reasoning, such as intrinsic motivation, visual imagination and reflection on how to generate creative ideas.

Keywords: primary school education, integration, fine art, mathematics, creativity

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Prednosti vključevanja likovne umetnosti v matematiko na razredni stopnji osnovne šole

Anja Brezovnik

Namen raziskovanja je bil raziskati učinke vključevanja likovne umetnosti v matematiko na učence razredne stopnje osnovne šole. Teoretični del vsebuje definicijo vključevanja likovne umetnosti v pouk raznih šolskih predmetov, proces razvijanja ustvarjalnega matematičnega razmišljanja, pojasnilo današnjega položaja likovne umetnosti in matematike v izobraževanju ter prispevek likovne umetnosti in njene pozitivne učinke na učence. Empirični del obsega pedagoški eksperiment, ki vključuje dva različna načina izvajanja učnega procesa pri pouku matematike učencev petih razredov osnovnih šol. Kontrolna skupna se je učila matematiko na tradicionalen način, v eksperimentalni skupini pa so bili učenci posebej usmerjeni v učenje matematike z vnašanjem vsebin likovne umetnosti. Poučevanju so sledili štirje različni testi znanja, s pomočjo katerih je bila vidna razlika v znanju med učenci, ki so bili izpostavljeni novostim učiteljevega angažiranja v poučevanju, in tistimi, pri katerih omenjenega ni bilo. Rezultati naše raziskave potrjujejo obe zastavljeni hipotezi. Našli smo pozitivne učinke vnašanja likovne umetnosti v matematiko na učence, saj je eksperimentalna skupina pri reševanju matematičnega preizkusa znanja dosegla višje rezultate kot kontrolna skupina. Številne predhodne raziskave so dokazale in potrdile, da dolgoročno udejstvovanje v likovnih dejavnostih učencem daje prednosti, kot sta notranja motivacija in vizualno predstavljanje, navaja pa jih tudi na iskanje ustvarjalnih idej.

Ključne besede: osnovnošolski pouk, integracija, likovna umetnost, matematika, ustvarjalnost

Introduction

Giaquinto (2007, p. 1) states that the importance of the integration of visual content into learning mathematics is nothing new, while Gustlin (2012, p. 8) and Catterall (2002) indicate that this way of teaching is a developing field in contemporary education systems. Below we shall see that fine art and mathematics have been connected throughout human history, and that such a connection represents an important area in the development of education today.

Fine art and mathematics are intertwined and have complemented each other from the very beginning (Bahn, 1998, p. VII). The oldest finding is a 70,000-year-old stone from the Blombos cave in Africa, which is an example of abstract art, while at the same time also being a mathematical pattern. Since the beginning of antiquity, we have recorded cases of entertainment mathematics: examples that are only intended to amuse the reader and do not have mathematically useful aims (Berlinghoff & Gouvea, 2008). The belief that artistic expression contributes to the moral development of society first arises in the Romantic era (Efland, 1990). Both the Eastern and Western worlds connect and integrate the knowledge of artistic and mathematical areas, as is evident in patterned textiles that express traditions, ornaments for religious purposes, the decoration of walls, floors and furniture, etc. An extensive mathematical component can be found in all of these artistic creations, many of which are based on the symmetrical relationships of their patterns (Nasoulas, 2000, p. 364).

Mathematics has been used to create works of art – perspective (Barnes-Svarney, 2006), the golden ratio, division, and the illustration of the fourth dimension – while it has also been used for art analysis, such as to reveal relationships between objects or body proportions. Art is useful as a complement to and illustration of mathematical content: diagrams, the golden ratio, trigonometric functions, etc. Revolutionary changes in the fields of art and mathematics have often been closely connected; for example, Renaissance art and the mathematics of that time, new four-dimensional mathematical ideas and Euclidean geometry (The Math and Art and the Art of Math, n.d.).

Throughout history, both artists and mathematicians have been enthusiastic about the same natural phenomena: why flowers have five or eight petals and only rarely six or seven; why snowflakes have a 6-fold symmetric structure; why tigers have stripes and leopards have spots, etc. Mathematicians would say that nature has a mathematical order, while artists would interpret this order as natural beauty with aesthetic value. Both descriptions are possible and reasoned. Children curiously ask the teacher why honeycomb cells always have a hexagonal shape, as they enjoy exploring nature and human creations through

visual perception, as well as through smelling, touching, tasting, listening to how an object sounds, etc. These experiences lead students to the first mathematical concepts, elements of composition and of patterns containing lines, shapes, textures, sounds and colours. All of this artistic-mathematical beauty reveals itself in the form of shells, spider webs, pinecones and many other creations of nature, all of which teachers can use in class. These objects have been mathematically organised by humans; for example, shapes were mathematically organised in cave paintings in Lascaux, France, and in Altamira, Spain, more than 10,000 years ago (Bahn, 1998; Gardner & Kleiner, 2014).

In the course of history, society has always included people who have thought in different ways, who have solved problems or undertaken research with the help of previously untried methods. One such person is Escher, who took advantage of his artistic prints to illustrate hyperbolic geometry. Complementing professional mathematics, Escher's circle limit and his patterns demonstrate that art is an efficient transferor that brings mathematics and creative thinking closer to students. His examples demonstrate difficult learning topics, and are therefore an aid to students (Peterson, 2000). Another interesting author is Mandelbrot, who poses the question: "Can a man perceive a clear geometry on the street as beautiful or even as a work of art? When the geometric shape is a fractal, the answer is yes (SIGGRAPH, 1989, p. 21)."

Bill, Mandelbrot, O'Keeffe, Pollock, Vasarely, Warhol and many other artists today create specific artistic works through which teachers successfully teach mathematical content (Ward, 2012).

Theoretical Background

Defining Arts Integration

Arts integration is "an *approach* to *teaching* in which students construct and demonstrate *understanding* through an *art form*. Students engage in a *creative process* which *connects* an art form and another subject area and meets *evolving objectives* in both" (Silverstein & Layne, 2010).

Fine art is what brings creative thinking into mathematics. The word creativity originates in the Latin word "cero", which means "to do". Lutenist (2012) defines creativity as the ability to look at one thing and see another. As Tucker, President of the National Center on Education and the Economy, said in an interview for the New York Times, the thing we know for sure about creativity is that it typically occurs in people who have graduated from two

completely different areas. These people use the content of one study as the basic knowledge, and integrate this perspective into another field with a new, expanded view (Friedman, 2010).

The Gradual Acquisition of Artistic-Mathematical Experiences by Students

Parents have been telling stories about heroes to their children since prehistoric times. After listening, children supplement, define and deepened these stories, expressing the characters personally through their imagination. People have a constant need to find meaning, to link time and space, to fully experience events, bodies, the spiritual, intellect and emotions. Art helps to interlink these elements, many of which would remain unexpressed without it. Since prehistoric times, art has offered a unique source of pleasure and has increased our ability of observation.

From time immemorial, generations have immersed themselves in art, because it reveals the creator's inner self and expresses what is hidden within the personality. However, it is mathematics that is responsible for maintaining the orderliness of what art offers (Gelineau, 2012, p. 3).

Mathematical thinking in children begins with the objects that surround them. They observe these objects, arranging and classifying them according to formal equality or other similarities. Thus children begin to understand the first mathematical concepts. When students see a certain object physically presented, they are able to create an appropriate mental image for it. Its quantity may then also be named and labelled in terms of length, time, mass, etc. (Bristow et al., 2001; Root-Bernstein & Root-Bernstein, 2013). Simple fine art content in textbooks and notebooks often attracts students to read the accompanying text. A picture can serve as a key, facilitating the interpretation of the text and easing memorisation of the concept. The evaluation of paintings and sculptures in the art class teaches students to read illustrations, drawings and other types of image printed in the teaching material of various school subjects. Students tend to transfer these reading techniques to other forms, such as mathematical graphs. In this way, they are able to read what a graph might represent at first glance. In the process, when students use their imagination to draw what they have heard firstly in their minds and then draw their conceptions on paper, they make a product that they are able to evaluate effectively. Later, when they read the text, it is easier for them to convert words into mental images, which is an important reading skill for mathematical texts as well as other types of text (DaSilva, 2000, p. 40).

Mathematics can be very creative. Although there is usually only one correct answer, there are many possible ways to find it, one of which can often be through fine art. However, the visual nature of mathematics in schools is often lost in traditional symbols and in instructions with gradual steps. Consequently, students lose opportunities to develop spatial perception and to search for a practically applicable sense of mathematical meaning. Inserting fine art into mathematics classes makes the learning experience more inwardly active and the subject matter more comprehensible. This connection enables different views and approaches to knowledge, deepening and personalising the learning experience. Such a perspective in mathematics opens opportunities for exciting discussions in which students enthusiastically report the different methods they have found leading to the same solution. Students enjoy participating in artistic activities, irrespective of their abilities. The most important and pleasurable thing for them is *attending* art classes; it does not bother them if they have to solve mathematical problems in parallel or to learn. What they strive to memorise is interesting material (Sylvester, 1998).

The Position of Fine Art in Primary Education Today

In developed countries, art (fine art, music, dance and drama) is pushed to the edge of formal education for three reasons: art is understood as a leisurely activity, a non-academic activity and an activity that is insignificant for the market economy. It is separated from fundamental education, which is focused on language and mathematics (Burnaford, 2013). DeLeo (2002/2003, p. 2) states that the results of standardised tests are solid evidence of the fact that art does not distract from key academic learning, as is claimed by those who cut school funding for the arts education curriculum. Research shows that art provides additional channels enabling many students to better understand the meaning of various subjects and topics, including mathematics. Eisner (2001, p. 82) says that education in our schools should look more like art, rather than art looking more like our schools. Fine art should be more than something to hang on a billboard; it should be used as a basic framework through which information for all school subjects is transmitted. The art product information (e.g., drawing) should be available to all of the students in a class, not just to the artist or a privileged group of students. While observing Canadian school curricula and students, Pitman (1998) realised that the establishment of elite schools with a rich artistic programme exclusively for students who intend to work in a specific area of the arts throughout their lives does not achieve its real purpose. Every student – not just the elite students – should receive a level of arts education

that would bring him/her pleasure and increased productivity at work.

Greenspan, an American economist and president of the Federal Reserve of the United States from 1987 to 2006, explained that the emphasis of the US economy is shifting from manufacture-oriented to service-oriented enterprises. If a young person wants to succeed in contemporary jobs, he/she needs an education that develops imagination, ideas, flexibility and a prudent way of thinking. Regular participation in the arts is necessary for the efficient development of the economy, as Riley and Greenspan unanimously continued (Fiske, 1999, p. VI).

In reality, however, the fact is that leaders want to strengthen the economy. For this reason, they first remove the fine art curricula, and only then remove the curricula of other subjects that are not directly connected to the economy (e.g., physical education, music and psychology). The money that was previously assigned to art is then used for additional subjects directly connected to the economy (Gelineau, 2012; Gustlin, 2012; Burnaford, 2013).

The Benefits of Fine Art Integration into Mathematics

The power of art for the development and well-being of children and adults (as well as plants and animals) has already been widely discovered and confirmed (Dewey, 1934; Gardner, 1973; Dissanayake, 1995; Greene, 1995). The first two noticeable results of fine art integration into teaching are students' increased motivation and curiosity in learning. The main results (creative thinking and the transfer of creativity to other fields) become highly salient within a few years (approx. one to four). Students perceive themselves as successful learners due to this kind of repeated learning experience (Gelineau, 2012).

In order to obtain effective results in fine art, however, the frequent use of fine art lessons alone is not enough; the teacher should develop skills in manifold techniques. Barone (2001), for example, describes an Appalachian teacher of fine art who was aware of this principle and taught his students a range of skills, including traditional knot patterns (macramé), pottery, fibre processing, work on looms, drawing, photography, printing, paper-making, a Malay technique of dyeing fabric (batik), collage, calligraphy, spraying, etc. When students experience sufficient diversity in the arts curriculum and in the types of artistic expression, differences in their interest in specific techniques are revealed, along with gender differences and differences in the quality of artistic performance, as well as differences in the power of the influence of art on individual learners with regard to the aims of teaching content that is not directly related to the arts.

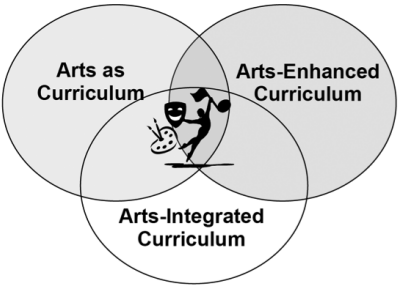

Figure 1. Arts Integration: Three Variations (March 2, 2015). Where to use art in school: in the arts curriculum, in the arts-integrated curriculum and in the arts enhanced curriculum.

Richard Riley, United States Secretary of Education from 1993 to 2001, wrote that the basic challenge of education is to put students on the path of education, on which they will reach both academic success and success in life. Students can easily begin the lifelong journey towards developing their potential and towards cooperation with the environment through learning connected with art. Art teaches students how to learn. It delivers the first step: the desire to learn (Fiske, 1999).

Positive Effects of Fine Art on Mathematics Education

Research shows that classes that achieve better results in national exams share a cross-curricular integration of all subjects. It seems unfair that only a small proportion of students receive such teaching. Teaching and expecting from students only basic skills and memorising leads away from creativity. Classes that accustom students to creative thinking involve the teacher assisting students to create, research, present and arrive at conclusions. Students need to become familiar with flexible thinking and with looking at things not only as they are but as they could be (Sternberg, 1985).

Davis (2008) writes that, at her school in New York, art is the basis from which a successful curriculum is implemented.

University mathematics lecturer McColm from Florida describes the situation of his students, who each year despair in geometric drawing activities due to their poor spatial ability. This kind of knowledge is the basis of mathematics, but its roots are in artistic content. McColm believes that students would not struggle as much if they had rich previous artistic experience (Gustlin, 2012).

When Gustlin (2012) became a teacher, she noticed that some of the students in the class were a long way from the blackboard. She saw the solution in

cross-curricular integration, in hands-on activities, in the use of the arts, and in capturing students' imaginations. In order to awaken the students' attention, she began to integrate art into all school subjects on a daily basis. Instead of asking the students to copy from the blackboard into their notebooks, on the first day, she prepared crayons and large-size paper to work on. Thus, a new atmosphere was created in the class. Gustlin proceeded with the regular integration of creativity and arts into teaching and noticed how the students were more intensely involved in the learning process, as well as being pleased to take part in the classes. In 2012, Gustlin asked her own child's teacher why the students did not draw in the mathematics class. The teacher replied that the school did not have enough money to buy art material, simply because mathematics is not a fine art.

Mathematics teacher Guerrero (2004) struggled with similar difficulties when he came to a new primary school. In order to improve classroom discipline, he began to arouse interest, motivation and curiosity by integrating art into teaching. His most important finding was that the students began to learn and gained considerably more knowledge.

A three-year study conducted by Posner, Rothbart, Shees and Kieras (2008, p. 6) reaffirms that motivation keeps students focused. Learning by integrating artistic content is usually a stronger motivation than teaching mathematics alone. Students perceive fine art as an absorbing and emotional game. Furthermore, people tend to remember theoretical concepts or knowledge better when it is touched by emotions. Sylvester (1998) believes that emotions lead to attention, and attention leads to learning. Thus, games have an important role in the learning of theoretical concepts, as they motivate and activate several sensory areas at the same time. Students are not as narrowly limited in expression through art language as they are in verbal language. Teachers should therefore encourage students to constantly search for different ways of expression, and to create new forms and structures.

In research involving 2,000 students, Burton, a professor of fine art at Columbia University, also came to the conclusion that subjects like mathematics, science and languages require the complex cognitive and creative skills that are typical of art learning. Compared with students who had not received arts education in the learning process, students who had participated in the arts curriculum at primary school showed significantly greater creativity in their way of thinking, as well as in perception, problem solving and expressing themselves. In addition, they were more confident when taking risks and collaborated better with classmates (Burton et al., 1999).

Since the 1990s, many models have been made with the intention of developing artistic skills in public schools in Canada (Vagianos, 1999). One of them

is Learning Through the Arts (LTTA), whereby professional educators of artistic content (fine art, music, dance, drama and media) directly taught students in collaboration with their homeroom teachers in order to jointly develop the best possible knowledge required by the curriculum (Elster, 2001). Another LTTA study involved over 6,000 students, parents and educators. According to the authors of the study, the most important finding was that students who had participated in the LTTA primary school programme enriched with art did not become exhausted and give up when learning mathematics and languages, as did the other students who had not received artistically enriched lessons. The second LTTA results showed that their programme had a positive effect on the results of mathematics tests. The third important finding was that intensive effects began to appear after three years of teaching the same students in this way. Therefore, the overall improvement does not become evident immediately, but only gradually. Although one can observe enhanced learning motivation in the first lesson, the transfer of independent creative thinking from artistic creating to, for example, learning about powers, can only be seen after some years. The LTTA's research has had a positive impact on socio-economic changes and on changes in the selection of student activities both within and outside school (Learning Through the Arts, n.d.).

As we can see from the above, a great deal of research demonstrates the positive effects of arts integration into mathematics. However, Hetland et al. (2007), as well as many other teachers around the world, wonder how to explain to school management that it is worth experiencing art in everyday school activities in conjunction with other subjects, and that the visual conceptions of art offer a useful basic understanding and experience of human life.

In order to improve the quality of teaching mathematics, we have undertaken research in ten fifth-grade classes in primary schools (five control classes and five experimental classes), examining the positive effects of the integration of fine art into mathematics. The findings and conclusions of previous research show that today's education neglects creativity and art in education (Gelineau, 2012; Gustlin, 2012; Fiske, 1999; Sternberg, 1985). At the same time, many educators point out that student participation in art encourages more rapid progress in mathematics and critical thinking, as well as in other cognitive skills. We therefore carried out mathematics instruction underpinned with fine art, as a combination of both activates multiple brain areas at the same time. We wanted to facilitate the more efficient processing of information in students by strengthening connections. In this way, the brain is able to combine information and memorise data in multiple ways at the same time. In order to execute the study, we first taught students using the proposed method, after which we tested their knowledge in order to see whether our method encouraged greater academic achievement in mathematics.

Hypotheses

- H1 = The experimental group of students, who receive instruction in mathematics with the integration of fine art content, will achieve better results in mathematics tests than the control group, which does not benefit from the aforementioned approach.
- H2 = The students in the experimental group who perform better in fine art will achieve better results in mathematics tests while learning mathematics with integrated fine art content than students who perform better in fine art in the control group.

Research Method

We used the descriptive and the causal-experimental method and performed a non-probability pedagogical experiment within two comparison groups (the experimental group and the control group).

Sample

The target population of the survey was fifth-grade students of primary schools in the Republic of Slovenia. A total of 210 students participated: 105 in the control group and 105 in the experimental group. The survey was conducted in ten randomly selected classes from different regions in the country. The students were taught by their homeroom teachers, who had many years of teaching experience. Fifth-grade students were selected for the research because the mathematical subject matter in this grade is no longer as playful as in the lower grades and is less frequently presented visually. Consequently, we expected these students to experience less artistic content in mathematics than those in previous grades.

Table 1. *Structure of the Sample by Group*

GROUP	f	%
Control	105	50
Experimental	105	50
Total	210	100

Measurement Instruments

We conducted four mathematics tests.

- The sensitivity of the tests was checked by Ferguson's coefficient delta.
- The objectivity of execution was ensured by clear and unambiguous instructions, questions and problems. The students of both groups completed the same exercises and had an equal amount of time at their disposal.
- The reliability of the tests was verified using Cronbach's coefficient alpha.
- The validity of the content was verified by three experts, and the construct validity was determined by a factor analysis.

Research Method and Data Collection

Prior to the experiment, we compared the control group and the experimental group based on the students' marks in fine art and mathematics programmes from the previous school year.

During the pedagogical experiment, the teachers of the control group and the experimental group simultaneously taught students four new mathematical learning topics: equations, inequations, powers and perimeter. The teachers of the control group taught lessons in the traditional way (without arts integration), while the teachers of the experimental group taught in a new way, with integration of fine art content into mathematics: artistic balance was integrated into equations, imbalance into inequations, rhythm into powers and architectural space into perimeter. We prepared detailed lesson plans for the teachers and instructed them in the new teaching strategies before they started teaching the students. The students sat a mathematics test after each of the completed learning topics, thus sitting a total of four tests. The tests were prepared in advance, and structured using Gagne's taxonomy. The experiment was carried out during regular school lessons.

Results

Analysis Prior to the Experiment

In order to find relationships between student knowledge in the control group and the experimental group, we used the final marks of fine art and mathematics programmes from the academic year directly prior to realising the experiment.

Table 2. *The average scores of the control and experimental groups in the year prior to the experiment*

	Group	*N*	*M*	*SD*
Previous year fine art marks	Control	105	4.410	0.781
	Experimental	105	4.610	0.563
Previous year mathematics marks	Control	105	3.857	1.042
	Experimental	105	3.971	0.995

A study of group statistics shows that the average scores of the control and experimental groups in the year prior to the experiment are different in fine art but similar in mathematics. The experimental group achieved higher scores (M = 4.410) in fine art than the control group (M = 4.410). Both groups scored higher marks in fine art than in mathematics.

Table 3. *T-test for Independent Samples*

	Group	F	*p*	*t*	*df*	*p*
Last year fine art marks	Control Experimental	11.68	0.001	-2.129	189.179	0.001
Last year mathematics marks	Control Experimental	0.433	0.511	-0.813	208	0.511

T-test for independent Samples shows that there were statistically important differences between the control group and the experimental group in the previous year's fine art marks (F = -2,129, p = 0.001). Comparing the control group and the experimental group, the values of the previous year's mathematics marks were not statistically important.

Pedagogical Experiment Results

We marked the students' mathematics tests with scores from zero to twelve because we wanted to obtain more precise results than we would with marks expressed from one to five.

Table 4. *The Criterion*

Points	Mark
0–6.49	1
6.50–8.49	2
8.50–10.49	3
10.50–11.49	4
11.50–12	5

Hypothesis 1

We confirm the first hypothesis.

Table 5. *Descriptive Statistics*

Mathematics test	Group	*N*	*M*	*SD*
Equations	Control	105	6.9429	3.21902
	Experimental	105	9.4571	2.03823
Inequations	Control	105	6.7333	2.68996
	Experimental	105	9.3238	2.34314
Powers	Control	105	6.6476	2.69251
	Experimental	105	9.3333	2.51024
Perimeter	Control	105	8.4857	2.37420
	Experimental	105	9.9429	2.08856

Descriptive statistics in all four mathematics tests in the control group and the experimental group show: $N = 105$ in the control group and the experimental group in all four mathematics tests. The mean for the condition Equations in the control group is 6.94 and in the experimental group is 9.46. The experimental group achieved better results in the mathematics tests than the control group. The experimental group also achieved better results in the other three mathematics tests. *SD* for all of the tests is between 2.04 and 3.22.

Table 6. *T-test for Independent Samples*

Mathematics test	*t*	*df*	*p*
Equations	-6.762	175.844	0.000
Inequations	-7.441	208	0.000
Powers	-7.476	208	0.000
Perimeter	-4.722	208	0.000

Table 6 shows a comparison of whether the control group and the experimental group have different average values. We can see that the means of all four mathematics tests are significantly different, as $p < 0.05$. Looking at the Descriptive Statistics table, it is evident that those students who attended the lessons taught in the traditional way achieved fewer points in the mathematics tests than those who experienced the new way of learning with the integration of fine art content into mathematics.

Table 7. *Levene's Test for Equality of Variances*

Mathematics test	F	*df1*	*df2*	*p*
Equations	21.607	1	208	0.000
Inequations	0.319	1	208	0.573
Powers	0.139	1	208	0.709
Perimeter	2.740	1	208	0.099

Table 8. *Multivariate Tests: The Effect of Fine Art*

	Value	F	$df_{(Hypothesis)}$	$df_{(Error)}$	*p*
Wilks' Lambda	0.657	26.703	4.000	205.000	0.000

The multivariate test shows that we obtained a statistically significant result for the first hypothesis. This means that the null hypothesis is discarded. The groups of students were statistically significantly different in relation to their academic achievements, which supports our first hypothesis. The null hypothesis of the multivariate test Wilks' Lambda shows that there is no statistically important difference between the groups.

The multivariate test shows that we obtained a statistically significant difference in academic achievements, $F(4.205) = 26.70$, $p < 0.0005$; Wilk's $\Lambda = 0.657$.

Table 9. *Tests of Between-Subject Effects*

Source		F	*df*	*p*
Co-Ex	Equations	45.725	1	0.000
	Inequations	55.367	1	0.000
	Powers	55.891	1	0.000
	Perimeter	22.297	1	0.000

From Table 9 we can see that the integration of fine art into mathematics has a statistically significant effect on all of the research topics: Equations (F (1. 208) = 45.73; $p < 0.0005$), Inequations (F (1. 208) = 55.37; $p < 0.0005$), Powers (F (1. 208) = 55.89; $p < 0.0005$), Perimeter (F (1. 208) = 22.30; $p < 0.0005$).

We found the greatest difference in the fine art effect on mathematics between the control group and the experimental group in the topic Powers, and the smallest difference in Perimeter. The latter is a topic that is already visual by nature, which could explain the smaller difference in the mathematics test results.

Hypothesis 2

We confirm the second hypothesis.

Students who had achieved a mark of 5 in the previous year's fine art programme were considered to be successful students. In the experimental group, such students achieved better results in all four mathematics tests in comparison to those in the control group. The biggest difference was found in the topic Powers, and the smallest in Perimeter.

Table 10. *Descriptive Statistics*[a]

Control or Experimental Group		*M*	*SD*	*N*
Equations	Control	7.8814	2.88925	59
	Experimental	9.7941	1.88124	68
	Total	8.9055	2.57717	127
Inequations	Control	7.2203	1.95702	59
	Experimental	9.7059	2.35669	68
	Total	8.5512	2.50304	127
Powers	Control	6.9153	2.40895	59
	Experimental	9.6765	2.23568	68
	Total	8.3937	2.69084	127
Perimeter	Control	8.7627	2.51437	59
	Experimental	10.1029	2.17955	68
	Total	9.4803	2.42621	127

a. Previous year's mark in fine art = 5.00

Descriptive statistics in the mathematics tests in the control group and the experimental group for students with a fine art grade of 5 show: $N = 59$ in the control group, $N = 68$ in the experimental group in all four mathematics tests. The mean for Equations in the control group is 7.88 and in the experimental group is 9.79. The experimental group therefore achieved better results in mathematics tests than the control group. The experimental group also achieved better results in the other three mathematics tests. *SD* for all of the tests is between 1.88 and 2.89.

Table 11. *Multivariate Tests*

	Value	F	$df_{(Hypothesis)}$	$df_{(Error)}$	p
Wilks' Lamba	0.654	16.153	4.000	122.000	0.000

The multivariate test shows that we obtained statistically significant result for the second hypothesis, which means that the null hypothesis is discarded. The groups of students were statistically significantly different in terms of academic achievements, which supports our second hypothesis. The null hypothesis of the multivariate test Wilk's Lambda shows that there is no difference between the groups.

There was a statistically significant difference in the effect of fine art: $F(4.\ 122) = 16.15$, $p < 0.0005$, $V = 0.346$.

Table 12. *Tests of Between-Subject Effects*

Source		F	df	p
Co-Ex	Equations	20.030	1	0.000
	Inequations	41.052	1	0.000
	Powers	44.838	1	0.000
	Perimeter	10.355	1	0.001

Table 12 shows that the integration of fine art into mathematics has a statistically significant effect in all research topics on students with a fine art mark of 5: Equations ($F(1.\ 125) = 20.03$; $p < 0.005$), Inequations ($F(1.\ 125) = 41.05$; $p < 0.005$), Powers ($F(1.\ 125) = 44.84$; $p < 0.005$), Perimeter ($F(1.\ 125) = 10.36$; $p < 0.005$).

Art Results of Students in the Experimental Group

The experimental group created different fine art products to achieve fine art effects while learning mathematics.

Example 1: When the students in the experimental group were learning about equations, they painted a view out of a fairy-tale window. The window had two parts – the left and the right casement – which divided the paper into two equal parts. This helped the students to paint balance. The left and the right side of the casement included the same painting, but with one difference, which represented the unknown (x) in equations.

- As the first student example below shows, there are four planets in the space on the left casement. On the one on the right, we see the same view, but a lunar eclipse occurs and hides some planets. We can see that only two planets are left. How many of them are hidden under the moon? The answer is:
  4 planets = 2 planets + x
  4 planets – 2 planets = x
  x = 2

The students glued the x (the moon) onto the painting, so that if it was lifted from the bottom side, the equation written under the moon was visible. In this way, the students observed their paintings (equations), tried to solve them, and at the end checked the answer under the glued x.

- The second student example shows shells on a beach, some of which are hidden by a ball. Writing the equation gives the answer to the question "How many shells are under the ball?" To check the answer, the ball is lifted up and the answer under it is revealed.

Pictures 2 and 3. Paintings by fifth-grade students from Slovenia, 2014/2015 school year.

Example 2: When they were learning about powers, the students made up a story about "small on smallest" and drew it with crayons.

- The first student example below shows a story about two spaces. Each space has two planets. Each planet has two continents with two countries. Each country has two communities with two houses. This story represents the power 2^6.
- The second student example below shows a story about a farm. There are three sheep pens. Each has three sheep. Each sheep has three lambs. This story represents the power 3^3.

Pictures 4 and 5. Paintings by fifth-grade students from Slovenia, 2014/2015 school year.

Conclusion and Final Thoughts

We can confirm that our method of teaching mathematics with fine art integration enabled greater academic achievements in the experimental group than in the control group, where the students had not benefitted from the above approach. This was established with the first hypothesis. The experimental group achieved better results in all four tests. We also confirmed the second hypothesis. Our research shows that, after learning mathematics integrated with fine art content, the students of the experimental group who were successful in fine art achieved better results in all four tests than those of the control group.

Our research reveals important positive effects immediately after teaching just a few mathematics topics. Other research shows that even more significant results occur 3–5 years after arts integration into teaching the same students (Chapman, 1998; Gelineau, 2012; Learning Through the Arts, n.d.). In order to determine the long-term effects, it would be interesting to continue our method of teaching, and to examine the students and verify their knowledge and their way of thinking again after four years.

The basic purpose of the connection between these two subjects for students is to make education effective and absorbing. Primary school mathematics teaches fundamental knowledge that an individual uses daily throughout his/her life. Students who feel the beauty, playfulness, challenge and utility of mathematics from the early school grades onwards would be more prepared to work harder on mathematics in the later grades, when the content becomes less visibly imaginable and more symbolic. Students will also become more inclined to become involved in related fields, such as architecture, physics, engineering, economics, computer science and other fields that are important today. Students need both knowledge and creativity to satisfy the comprehensive needs of today's rapidly changing society.

"If a child can't learn the way we teach, maybe we should teach the way they learn" (Ignacio Estrada).

Literature

Arts Integration Three Variations (n.d.). Retrieved 02.03.2015 from http://www.middleweb.com/wp-content/uploads/2013/03/arts-integration-three-variations.jpg

Bahn, P. G. (1998). *The Cambridge Illustrated History of Prehistoric Art.* Cambridge: Cambridge University Press.

Barnes - Svarney, P. (2006). *The Handy Math Answer Book.* Detroit: Visible Ink Press.

Barone, T. (2001). *Touching Eternity: The Enduring Outcomes of Teaching.* New York: Teachers College Press.

Berlinghoff, W. P., & Gouvea, F. Q. (2008). *Matematika skozi stoletja.* Ljubljana: Modrijan.

Bristow, J., Cowley, P., & Daines, B. (2001). *Spomin in učenje.* Ljubljana: Educy.

Burnaford, G. E. (2013). *Renaissance in the classroom: Arts integration and meaningful learning.* Mahwah, N.J: L. Erlbaum.

Burton, J., Horowitz, R., & Abeles, H. (1999). Learning in and through the arts: Curriculum implications. In *Champions of change: The impact of the arts on learning* (pp. 35–46). Columbia: Columbia University.

Catterall, J. S. (2002). The arts and the transfer of learning. In R. J. Deasy (Ed.), *Critical links: Learning in the arts and student academic and social development* (pp. 151–157). Washington: Arts Education Partnership.

Chapman, R. (1998). The Arts Improve Student Performance. *Education Digest,* 63(8), 58–60.

DaSilva, K. E. (2000). Art in Your Curriculum "From Words to Images". *Teaching Pre K 8, 31,* 40–43.

Davis, J. H. (2008). *Why our schools need the arts.* New York, NY: Teachers College Press.

Dewey, J. (1934). *Art as experience.* New York: Putnam.

Dissanayake, E. (1995). *Homo aestheticus.* Seattle: University of Washington Press.

Efland, A. (1990). *A history of art education: Intellectual and social currents in teaching the visual arts.*

New York: Teachers College Press.

Eisner, E. (2001). Should we create new aims for art education? *Art Education, 54*(5), 6–10.

Elster, A. (2001). Learning Through the Arts™: Program Goals, Features and Pilot Results. *International Journal of Education and the Arts, 2*(7).

Fiske. E. B. (1999). *Champions of Change: The Impact of the Arts on Learning.* Retrieved 11.05.2014 from http://eric.ed.gov/?id=ED435581

Friedman, T. (2010). Newspaper interview, Tucker Marc. *New York Times (OpEd*), 4 August 2010.

Gardner, H. (1973). T*he arts and human development: A psychological study of the artistic process.* New York: Wiley & Sons.

Gardner, H., & Kleiner, F. S. (2014). *Gardner's art through the ages: The Western perspective*. Boston, MA: Wadsworth/Cengage Learning.

Gelineau, R. P. (2012). *Integrating the arts across the elementary school curriculum.* Belmont CA: Wadsworth.

Giaquinto, M. (2007). *Visual Thinking in Mathematics; An Epistemological Study.* Oxford: Oxford University Press.

Greene, M. (1995). *Releasing the Imagination: Essays on Education, the Arts, and Social Change.* New York: Teachers College Press.

Guerrero, J. S. (2004). *Learning Math through Visual Art and Hands on Projects*. Spring Valley: Xlibris Corporation.

Gustlin, D. Z. (2012). *Why Can't We Paint in Math Class? Integrating Art into the Core Curriculum:* masterclass work. Gainesville: [Gustlin, D. Z.].

Hetland, L., Winner, E., Veenema, S., & Sheridan, K. (2007). *Studio thinking: The real benefits of visual arts education.* New York, NY: Teachers College Press.

Learning Through the Arts, Royal Conservatory of Music - Learning (n.d.). Retrieved 30.04.2015 from http://learning.rcmusic.ca/ltta

Peterson, I. (23 December 2000). Visions of Infinity Tiling a hyperbolic floor inspires both mathematics and art. *Science News Washington, 158,* 408–410.

Pitman, W. (1998). *Learning the arts in an age of uncertainty*. Toronto: Arts Education Council of Ontario.

Posner, M., Rothbart, M. K., Sheese B. E., & Kieras, J. (2008). *How Arts Training Influences Cognition. Learning, Arts and the Brain. The Dana Consortium Report on Arts and Cognition.* New York: Dana Press.

Root - Bernstein, M. M., & Root - Bernstein, R. S. (2013). *Sparks of genius: The thirteen thinking tools of the world's most creative people*. Boston, Mass: Houghton Mifflin Harcourt.

SIGGRAPH. (1989). *Computer art in context: SIGGRAPH'89 art show catalog.* Oxford: Pergamon Press.

Silverstein L. B., & Layne S. (2010). *Defining Arts Integration*. Retrieved 15.09.2014 from http://www.kenndy-center.org/education/partners/definimg_arts_integration.pdf

Sternberg, R. J. (1985). *Beyond IQ: A triarchic theory of human intelligence*. Cambridge

[Cambridgeshire]: Cambridge University Press.

Sylvester, R. (1998). Art for the brain's sake. *Educational Leadership*, *56*(3), 31–35.

Vagianos, A. (1999). *Professional development and training for teachers and artists.* A preliminary proposal for a Laidlaw Foundation arts education program. Unpublished manuscript. Laidlaw Foundation, 365 Bloor Street East, Suite 2000, Toronto, ON M4W 3L4.

Ward, R. A. (2012). *Math Art Fun: Activities for Discovering Mathematical Magic in Modern Art.* Houston: Bright Sky Press.

Biographical note

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Grammar School Students' Opinions on the Art Curriculum: An Estonian, Portuguese and Slovenian Comparative Study

Tomaž Zupančič*[1], Annely Köster[2], and Teresa Torres de Eça[3]

The article presents the attitude of grammar school students towards the art curriculum. It first provides an overview of the characteristics of contemporary art education, with an emphasis on the postmodern art curriculum and on linking course content with students' interests. The study is based on the descriptive and causal non-experimental method, with a sample comprising 387 Slovenian, Estonian and Portuguese students. It was established that the students place the highest value on developing creativity, and are less interested in art history content and learning about the basics of the formal art language. They are attracted to contemporary topics, such as graffiti, multicultural art, the use of new media, and digital technologies. The results of the study provide opportunities for future comparative analyses and starting points for updating art curricula.

Keywords: art education, the art curriculum, grammar school, motivation, students' interests

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Mnenja dijakov o vsebinah pouka umetnosti: primerjava med Estonijo, Portugalsko in Slovenijo

Tomaž Zupančič*, Annely Köster in Teresa Torres de Eça

V članku predstavljamo odnos dijakov srednjih šol do vsebin pouka likovne umetnosti. Najprej podamo pregled značilnosti sodobne likovne edukacije, s poudarkom na postmodernem likovnem kurikulumu in povezovanju vsebin predmeta z interesi dijakov. Raziskava temelji na deskriptivni in kavzalno-neeksperimentalni metodi. V vzorec je bilo vključenih 387 slovenskih, estonskih in portugalskih dijakov. Ugotovili smo, da dijaki najvišje vrednotijo razvijanje ustvarjalnosti. Manj so navdušeni nad umetnostnozgodovinskimi vsebinami in učenjem osnov formalnega likovnega jezika. Privlačijo jih sodobne teme, kot so: grafiti, multikulturalnost, uporaba novih medijev, digitalna tehnologija. Izsledki raziskave nudijo možnost za nadaljnje primerjalne analize in izhodišča za posodabljanje likovnih kurikulumov.

Ključne besede: likovna edukacija, likovni kurikulum, srednja šola, motivacija, interesi dijakov

Introduction

The last thirty years have seen major changes to teaching art at the global level. The main changes have been influenced by the ideas of the postmodern visual arts curriculum (Efland, 1992; Boughton & Mason, 1999; Hickman, 2005; Hardy, 2006b), which emphasises the importance of contemporary art, visual culture and popular culture, as well as the value of connecting art education with the social, cultural and political problems of contemporary society. In accordance with the postmodern doctrine, the curriculum emphasises concepts and ideas (Dawtrey, 1996), transcending the prevailing modernist focus on formal visual elements, grammar and language, and erasing distinctions between high and low/popular art (Boughton, 1999). It is very open, fluid and without strict or enduring rules (Blohm, 1995). Efland (1992) provides an answer to the question of the purpose of art – and therefore also of art education – in the postmodern era. In his view, "the function of the arts continues to be reality construction. And hence we teach art to widen and deepen our understanding of the cultural landscape we inhabit" (Efland, 1992, p. 118). The importance of contemporary art practices is emphasised by many authors (Cole, 1996; Dawe Lane, 1996, etc.), with these practices being seen as a crucial part of motivation in the classroom. Hardy (2006a) wrote: "Recent research by the National Foundation for Educational Research convincingly concludes that schools which incorporate CAP [contemporary art practice] into their curriculum see an improvement in the motivation and enthusiasm of students while encouraging creativity and thinking skills and widening students' social and cultural knowledge. The NFER'S Dick Downing elaborates: "Young people are exposed to contemporary art practice all the time, for example through its influence on advertising, the internet and pop video; when it's included in the curriculum, contemporary art practice appears to provide a very accessible route to learning" (Hardy, 2006a, p. 12).

Burton (2004) emphasises that engagement in the arts has an impact on young people's motivation for school, especially on how they develop and manipulate imagery and how they perceive and think about their world. Linking art to everyday life and popular culture, as well as to the political and social problems of the contemporary world, is an important part of today's art education (Boughton, 1999; Jagodzinski, 1999). Stokrocki (2004) links art education to school, community, intercultural and electronic contexts. The multicultural aspect of contemporary education and art education (Boughton & Mason, 1999; Blocker, 2004; Krek & Metljak, 2011) is emphasised together with the importance of sustainable development in art education (Duh & Herzog,

2011; Jabareen, 2012). The sustainable paradigm in art education intertwines with contemporary social issues. Tomšič Čerkez (2013, p. 94) emphasises that the commitment to authentic and current problems in our societies must be amongst the main objectives of sustainable art education.

Parsons (2004) tries to articulate the vision that lies within the current interest in integrated curricula in art education, stating: "It is a vision that harks back to the progressive era and at the same time responds to the contemporary developments in the art world and in society in general. It connects integrated curriculum with a focus on significant ideas, an interest in social problems, and a concern for students' struggle for a stable and healthy identity. It focuses on students' understanding of important topics and on their ability to connect school learning with their real daily world" (Parsons, 2004, p. 791).

In light of these findings, the characteristics of contemporary art curricula are that they are set very broadly and inclusively, they are open to different content and current issues, they are associated with the interests of youth, and they are adaptable and responsive to current social events. The main objectives and directions of teaching art do, of course, remain in the professional domain, while the methods, content and examples of how to realise these objectives are increasingly becoming the domain of individual teachers. The choice of content depends on the affinity of the teachers, the students' interests and the characteristics of the environment, time and society.

Teacher autonomy

One of the general principles of education, as provided by the White Paper on Education in the Republic of Slovenia (Krek & Metljak, 2011), is the autonomy of the educational institution and the individual employed by it. This also includes the professional autonomy of teachers (Krek & Metljak, 2011, p. 14), a factor that is emphasised by contemporary art education professionals. An important characteristic of contemporary art curricula is "the aim of reducing prescription and allowing schools to decide how to teach whilst refocusing on the core subject knowledge that every child and young person should gain at each stage of their education" (Steers, 2014, p. 9). Furthermore: "To nobody's surprise the DfE [2011] reported that there was broad support for reducing unnecessary prescription and bureaucracy and for giving teachers greater freedom to use professional knowledge and for the principle of a National Curriculum" (Steers, 2014, p. 9). Freedom is an important part of the art educational process as a whole. On the grounds of their complexity, contemporary works offer rich possibilities of interpretation on multiple levels. Jagodzinski (1999) wrote: "how

the artworks are structured and the effects of its viewing should remain the art educator's priority" (Jagodzinski, 1999, p. 316) .

The challenge for contemporary art teachers is the unbearable lightness of the freedom to develop their own methods and interpretations of artworks, as well as the freedom to choose topics that are current and interesting to young people. "If we were to adopt the idea that a curriculum is also a narrative, a kind of a fiction we use to portray possibilities for teaching and learning, we might also assume that no universal curriculum is likely ever to meet the needs and interests of all individuals, anymore than one universal kind of art is likely to satisfy the needs of all cultures and persons" (Efland, 1992, p. 119). Many authors emphasise the importance of art teachers' autonomy in areas of curriculum planning and implementation in school (Short, 1995). In his book, Dunn (1995) offers strategies that art educators can use to build up their own curricula.

Slovenian art curricula are facing similar problems to those faced in other countries, some of which arise from the (still) prevailing formalist paradigm that bases visual arts in schools on knowledge and practical work on formal art language. The result is that contemporary "art can seem both mystifying and irrelevant to many young people who see little or no relation between it and the things that are important to them" (Cole, 1996, p. 146). Bračun Sova and Kemperl (2012) emphasise that, despite the reform, "the curriculum for art education does not realise selected components of the competence of cultural awareness and expression, largely due to the curriculum's conceptual structure. Art education is centred principally on art-making activities" (Bračun Sova & Kemperl, 2012, p. 71). The second problem is that numerous syllabi are still too detailed and exhaustive and do not provide teachers with enough freedom in choosing content and work methods.

The modernisation of art curricula considers these contemporary professional findings while also giving teachers increasingly more autonomy in choosing work methods and content. Knowing and understanding students' notions of and interests in content, topics and teaching methods is an important part of developing students' intrinsic motivation. Intrinsically motivated students show a higher level of interest in the subject. Furthermore, it is easier for a teacher who knows the students' interests to link the content more effectively and position it within the students' system of values, and to develop suitable didactic strategies. However, as has already been pointed out (Tomšič Čerkez, 2013, p. 79), it is not possible to create strategies without proper information about the views of students. The understanding and attitude of students towards the art curriculum were thus the main focus of the study that is presented below.

Research

We were interested in the views of secondary school students regarding the content taught in art education, as well as their attitudes towards the existing art curriculum and what they find more and less important. We were also interested in the content that they would like to learn about and their attitudes towards content that is traditionally not part of art curricula. We wanted to find topics of interest in art education classes in order to improve students' intrinsic motivation, and to determine the topics, aspects and aims of art education that students consider important. This would give us an insight into how students comprehend art education. We were also interested in possible differences between the Slovenian, Estonian and Portuguese respondents.

The research method

The study is based on the descriptive and causal non-experimental method.

Research sample, population

The studied population covers grammar school students aged 15–18, with a random sample of 378 students: 142 from Slovenia, 122 from Estonia and 114 from Portugal. By choosing a sample of three European countries, we sought to establish whether there are any common tendencies. We were also interested in the eventual differences with regard to the country and its education system.

Data collection and instrument

We prepared a questionnaire, the first part of which includes questions on age, school, gender and nationality. In the main part, the respondents used two different 3-point scales. In the first scale, they rated the importance of individual aspects of art education, and in the second they rated their interest in individual aspects, with 1 representing the least important/least interesting and 3 the most important/most interesting aspect.

The questionnaire includes 20 topics and aspects related to grammar school art education: (1) Analysing contemporary artworks; (2) Analysing classical artworks; (3) Art history topics (Antiquity, Renaissance, Baroque, etc.); (4) Learning about graffiti; (5) Art-making with digital media; (6) Social questions (addictions, unemployment, violence, etc.); (7) Different art techniques;

(8) Developing creativity; (9) Learning art language (drawing, colour theory, compositions, etc.); (10) Visiting contemporary art exhibitions (performances, installations, etc.); (11) Visiting classical art museums; (12) Art-making in co-operation with the local community (public art, etc.); (13) Working on personal artistic portfolios (artistic diary, etc.); (14) Drawing skills (realistic and perspective drawing, etc.); (15) Learning and art-making in different sculpture techniques (16); Understanding concepts of contemporary art (17); Making art with the use of new media (video, internet, etc.); (18) Multicultural art (familiarisation with the art of other cultures); (19) Learning classical printing techniques (woodcut, etching, etc.); (20) Art-making and sustainable development (art and the environment, ecology, etc.). The topics in the questionnaire were randomly ordered.

Three different sources were used in preparing the questionnaire, the first of which was art curricula. According to the 2009 Eurydice Report on Arts and Cultural Education at School in Europe (Arts and Cultural Education at School in Europe, 2009, p. 15), the main aims of art education are quite similar in all of the countries studied. Nearly all of the countries mention "artistic skills, knowledge and understanding", "critical appreciation", "cultural heritage", "individual expression/identity", "cultural diversity" and "creativity" as objectives. The Slovenian, Estonian and Portuguese grammar school art curricula were scrutinised, focusing on individual common parts. In the questionnaire, these are expressed as: developing creativity, learning visual language, art history topics, contemporary art and contemporary visual culture. Secondly, we interviewed different (Slovenian, Austrian, Belgian, Estonian) students of art education from grammar schools and universities, discussing topics related to art education that they find interesting and that they miss and would like to discuss. In the questionnaire, the most frequent answers are expressed in three terms: learning about graffiti, the use of new media and art-making with digital media. Thirdly, we followed contemporary educational and art education theory. In the questionnaire, the most emphasised ideas are expressed as sustainable art education (Krek & Metljak, 2011, p. 39), the use of portfolios (Torres de Eça, 2005; Powell, 2013), multiculturalism, social topics, and local community and public art. The importance of frequent direct contact with classical and contemporary art (Kemperl, 2013, p. 112) is expressed in terms of visiting classical art museums, visiting contemporary art exhibitions (performances, installations), analysing classical artworks, art history topics (Antiquity, Renaissance, Baroque, etc.) and understanding the concepts of contemporary art.

Data processing

Data were processed employing the following procedures:

- means ($\bar{x}$) of the levels of importance and interest in an individual topic on a scale of 1 to 3;
- means ($\bar{x}$) of the absolute difference between importance and interest in an individual topic;
- means ($\bar{x}$) of differences between the expressed importance and interest for every variable;
- graphic display of answers for each national sample (differences in the answers provided by Estonian, Portuguese and Slovenian students).

The sample is too small to offer the possibility for generalisation; therefore, statistical significance cannot be established.

Results and discussion

The results are presented in three sections. The first offers an analysis of the importance of the topics, the second analyses the interest in the topics, and the third provides an analysis of the relationship between importance and interest. Each section provides the distribution of means of the attributed fields' importance, as well as a diagram of the relationship between the Slovenian, Estonian and Portuguese respondents.

Rating of the importance of the topics

Table 1. *Topics ranked according to the mean attributed importance ($\bar{x}$)*

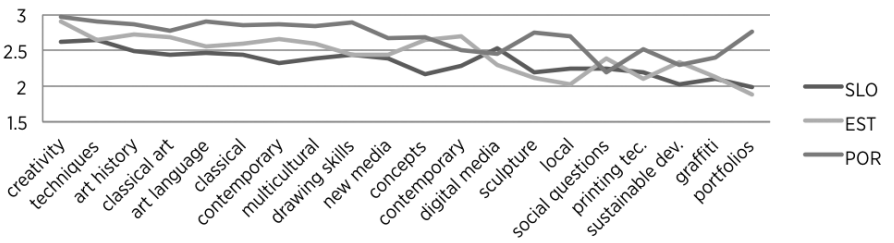
	Topic/aspect	$\bar{x}$
1	Developing creativity	2.833
2	Different art techniques	2.735
3	Art history topics (Antiquity, Renaissance, Baroque, etc.)	2.691
4	Analysing classical artworks	2.666
5	Learning art language (drawing, colour theory, compositions, etc.)	2.641
6	Visiting classical art museums	2.627
7	Visiting contemporary art exhibitions (performances, installations, etc.)	2.618
8	Multicultural art (familiarisation with the art of other cultures)	2.609
9	Drawing skills (realistic and perspective drawing, etc.)	2.593
10	Making art with the use of new media (video, the Internet, etc.)	2.503

11	Understanding concepts of contemporary art	2.502
12	Analysing contemporary artworks	2.497
13	Art-making with digital media	2.428
14	Learning and art-making in different sculpture techniques	2.349
15	Art-making in cooperation with the local community (public art, etc.)	2.323
16	Social questions (addictions, unemployment, violence, etc.)	2.274
17	Learning classical printing techniques (woodcut, etching, etc.)	2.273
18	Art-making and sustainable development (art and the environment, ecology, etc.)	2.220
19	Learning about graffiti	2.213
20	Working on personal artistic portfolios (artistic diary, etc.)	2.208

As shown in Table 1, on a scale from 1 to 3, all of the fields are rated highly (average 2.490); hence, the students find all of the topics important. The topic regarded as the most important is the development of creativity, while the next five topics are connected with learning visual language, art techniques, art history topics and classical art. It can therefore be said that the students' awareness of art education is rather narrow and classical: they link art education with their own creativity and consider it to be a subject in which they learn about visual language, use different art techniques and obtain information pertaining primarily to classical art (ranks 3, 4 and 6) and only partly on contemporary art (rank 7).

On the other side of the scale, the six least important topics are: using different types of portfolios, learning about graffiti, art-making in connection with sustainable development, social questions and cooperation with local communities, and public art. Students less frequently link art education to present social, environmental and other *non-artistic* topics. The only exception is learning printing techniques (rank 17). The reason could be that students find learning about printing techniques to be too specialised a topic, more suitable for art schools. Visiting contemporary art exhibitions, learning about the concepts of contemporary art and using new, digital media are ranked in the middle.

Graph 1 shows a similar tendency by Slovenian, Estonian and Portuguese respondents. Portuguese students rank the majority of items higher than Slovenian and Estonian students, especially learning and art-making in different sculpture techniques, social questions and working on personal artistic portfolios.



Graph 1. Topics ranked according to the mean attributed importance: the Slovenian, Estonian and Portuguese samples

Rating of interest of topics

Table 2. *Topics ranked according to the mean attributed interest ($\bar{x}$)*

	Topic/aspect	$\bar{x}$
1	Developing creativity	2.737
2	Learning about graffiti	2.585
3	Different art techniques	2.561
4	Multicultural art (familiarisation with the art of other cultures)	2.548
5	Visiting contemporary art exhibitions (performances, installations, etc.)	2.541
6	Making art with the use of new media (video, the Internet, etc.)	2.518
7	Art-making with digital media	2.517
8	Drawing skills (realistic and perspective drawing, etc.)	2.500
9	Visiting classical art museums	2.452
10	Analysing contemporary artworks	2.423
11	Learning art language (drawing, colour theory, compositions, etc.)	2.411
12	Art-making in cooperation with the local community (public art, etc.)	2.348
13	Social questions (addictions, unemployment, violence, etc.)	2.311
14	Analysing classical artworks	2.304
15	Learning and art-making in different sculpture techniques	2.302
16	Understanding concepts of contemporary art	2.276
17	Art history topics (Antiquity, Renaissance, Baroque, etc.)	2.250
18	Learning classical printing techniques (woodcut, etching, etc.)	2.238
19	Working on personal artistic portfolios (artistic diary, etc.)	2.212
20	Art-making and sustainable development (art and the environment, ecology, etc.)	2.092

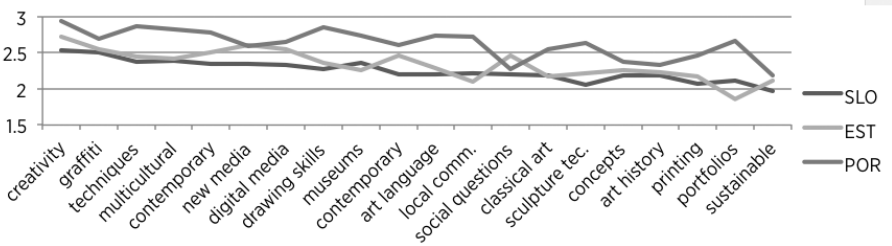
As shown in Table 2, on a scale from 1 to 3, all of the fields are rated highly (average 2.406); hence, the students find all of the topics/aspects interesting. The development of creativity is again ranked as the most interesting. The

different art techniques are also considered important and interesting (importance rank 3, interesting rank 3). The second most interesting topic is learning about graffiti (importance rank 19), the fourth is multicultural art (importance rank 8), the fifth is visiting contemporary art exhibitions (importance rank 7), and the sixth is making art with the use of new media (importance rank 10).

Less interesting (compared to the importance) are the following topics: visiting classical art museums (interest rank 9 – importance rank 6), learning art language (interest rank 11 – importance rank 5), analysing classical art (interest rank 14 – importance rank 4) and art history topics (interest rank 17 – importance rank 3). The results show that students consider art history topics important, but not so interesting.

In Graph 2, a similar tendency by Slovenian, Estonian and Portuguese respondents is again evident. Portuguese students rank the majority of items higher than Slovenian and Estonian students, especially learning about art techniques, drawing skills, learning about art language, cooperating with local communities, classical art, sculpture techniques and working with the use of different types of portfolios.

A lower value of answers provided by Portuguese students is mostly evident in social questions and in art-making and sustainable development. The reason for this might lie in the fact that, in Portugal, art education is present only in individual secondary school programmes that are more oriented towards expressive modules, and students decide on these modules prior to enrolling in secondary school. This might also be why Portuguese students express greater interest in traditional art content (art techniques, drawing skills, classical art) and less in content that is not directly linked to the notion of art.



Graph 2. Topics ranked according to the mean attributed interest: the Slovenian, Estonian and Portuguese samples

The relationship between the rating of importance and interest

Table 3. *The relationship between the importance of and interest in the topics ranked according to the mean differences*

	Topic/aspect	importance	interest	difference
1	Learning about graffiti	2.213	2.585	.372
2	Art-making with digital media	2.428	2.517	.089
3	Social questions (addictions, unemployment, violence, etc.)	2.274	2.311	.037
4	Art-making in cooperation with the local community (public art, etc.)	2.323	2.348	.025
5	Making art with the use of new media (video, the Internet, etc.)	2.503	2.518	.015
6	Working on personal artistic portfolios (artistic diary, etc.)	2.208	2.212	.004
7	Learning classical printing techniques (woodcut, etching, etc.)	2.273	2.238	-.035
8	Learning and art-making in different sculpture techniques	2.349	2.302	-.047
9	Multicultural art (familiarisation with the art of other cultures)	2.609	2.548	-.061
10	Analysing contemporary artworks	2.497	2.423	-.074
11	Visiting contemporary art exhibitions (performances, installations, etc.)	2.618	2.541	-.077
12	Drawing skills (realistic and perspective drawing, etc.)	2.593	2.500	-.093
13	Developing creativity	2.833	2.737	-.096
14	Art-making and sustainable development (art and the environment, ecology, etc.)	2.220	2.092	-.128
15	Different art techniques	2.735	2.561	-.174
16	Visiting classical art museums	2.627	2.452	-.175
17	Understanding concepts of contemporary art	2.502	2.276	-.226
18	Learning art language (drawing, colour theory, compositions, etc.)	2.641	2.411	-.230
19	Analysing classical artworks	2.666	2.304	-.326
20	Art history topics (Antiquity, Renaissance, Baroque, etc.)	2.691	2.250	-.441

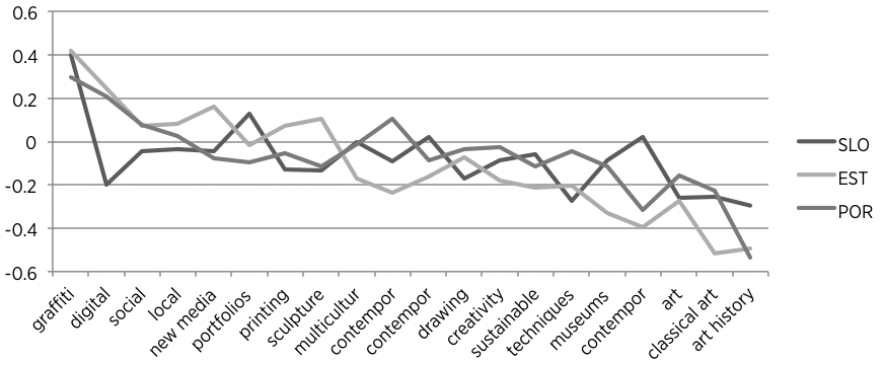
In Table 3, the mean attributed interest in comparison to the mean attributed importance is lower for the following topics: art history topics (-.446), analysing classical artworks (-.326), learning art language (-.230), understanding concepts of contemporary art (-.226), visiting classical museums (-.175) and different art techniques (-.174). The results are similar to the results regarding interest (Table 2). We can assume that respondents see classical art content (art history, knowledge of classical artworks, art language and art techniques) as important but less interesting. The only exception is understanding the concepts

of contemporary art. The importance of understanding the concepts of contemporary art was ranked 11 and the interest for the same was ranked 16. This was surprising, as the interest in other topics somehow connected with contemporary art was high (Table 2: graffiti, rank 2; multicultural art, rank 4; visiting contemporary art exhibitions, rank 5; new media, rank 6; digital media, rank 7). It can be assumed that students do not connect the term concepts of contemporary art with popular culture, new media and social topics, and consequently do not see the connections between contemporary artistic concepts and their own interests. This is not good, as contemporary art content is an indispensable part of art education of today. It is also due to the fact that "the most compelling reason for including contemporary art in the secondary school curriculum is that it reflects on current cultures" (Dawe Lane, 1996, p. 138).

As anticipated, activities that are related to the use of new digital media are very interesting to students (rank 2 and rank 5). The White Paper (Krek & Metljak, 2011, p. 19) emphasises the importance of using new digital media and technologies as one of the more important strategic challenges and directions of the education system. The development potential of information and communication technology (ICT) and the strengthening of its creative use are a necessity in modern societies. ICT is used in teaching and represents an important means of motivation as well as being a means of artistic expression. "Many international and domestic exhibitions have shown that the purposeful use of computer tools for artistic creation stimulates the fine arts creative and formative development of children" (Duh, 2006, p. 289).

The less interesting topics in Table 2 are learning classical printing techniques (rank 18), working on personal artistic portfolios (rank 19) and topics connected with sustainable development (rank 20). With the exception of graffiti, these three topics are also considered less important. The five topics with the greatest difference between importance and interest (Table 3) are learning about graffiti, art-making with digital media, social questions, art-making in cooperation with the local community, and making art with the use of new media.

It can be said that the respondents are highly interested in topics connected with popular culture and their own interests outside school (graffiti, new media, different cultures, etc.), but they do not see them as important parts of art education. As is evident from Table 3, the mean attributed level of interest is ranked higher than the mean attributed importance in six topics, with the biggest difference being attributed to learning about graffiti and art-making with new media. In Graph 3, a similar tendency by Slovenian, Estonian and Portuguese respondents is seen.



Graph 3. Topics ranked according to the importance-interest relationship: the Slovenian, Estonian and Portuguese samples

The following needs to be said regarding the strongly expressed interest in learning about graffiti. The inclusion of popular phenomena that are very interesting to youth in the content and work in art education classes must be deliberate and well grounded. On the one hand, this represents the positive application of the principle of interest in art education. By addressing current phenomena from youth culture, it is possible to achieve a higher level of motivation. Students can find connections between course content, which is often alien, and their interests and their world. The excessive implementation of content that is entirely derived from students' interests could, however, lead to the simplification, banalisation and infantilisation of the content and objectives of art activities. In this respect, Hope (2004) states that "It is not unusual to hear the admonitions that educators should meet students where they are. This sounds reasonable, even logical. However, accepting this view means that both policy and educational challenges are defined by how far students are from the nature of the discipline to be studied. Particularly powerful questions arise here if one believes that education is to lead people to knowledge and skills they do not currently have" (Hope, 2004, p. 104).

The low ranking of working with different types of portfolios in Table 1 and Table 2 is surprising, as the use of various types of portfolios offers a lot of creativity for students. The reason may lie in the students' lack of experience with using developmental, creative portfolios. It is also possible that students consider the term portfolio only as storage of their own artworks, or connect it primarily with assessment processes at school. The attitude towards the portfolio is more positive only in the Portuguese part of the sample (Figures 1 and 2), which may be due to more positive experiences and more frequent and diverse use of this didactic artistic tool in class (Torres de Eça, 2005).

Conclusion

Students regard the development of creativity as the most important and most interesting part of art education, which is an interesting and welcome fact. Art subjects at primary and secondary school level must differ from other, more factually-based subjects, a fact that students are aware of and welcome. This speaks in favour of even greater emphasis on the creative components of art education, as well as the need for a larger share of practical artistic expression and independent thinking. The low level of expressed interest in art history content, in knowing art history periods and in working on portfolios indicates that this otherwise important content could be implemented differently in practice, i.e., in a more interesting and attractive manner, perhaps being linked with content that has been established as interesting to students. Art history content can be linked to current street art and graffiti, to multicultural content, and to the use of new media and digital technologies.

The differences between what students find important and what they would be interested in within the framework of art education show that they have a very narrow view of the subject, a view that is also typical of some teachers. Contemporary theory emphasises the opposite, and openness and the contemporary world should therefore be emphasised in art curricula, with course content also being linked to current social issues.

The low level of interest in the development of drawing skills, learning different art techniques and emphasising art practices within the rules of formal art language indicates that there is a need for greater distinction between primary and secondary school art curricula. Drawing and technical skills and the knowledge of using formal art language represent basic artistic knowledge at the elementary and, to some extent, the lower secondary level. Art subjects in general upper secondary schools should be more directed towards concepts and ideas, towards linking art to the life and interests of youth, and towards current social issues.

References

Arts and Cultural Education at School in Europe – Eurydice Report (2009). Education, Audiovisual and Culture Executive Agency. Retrieved 16.03.15 from http://eacea.ec.europa.eu/education/eurydice/documents/thematic_reports/113EN.pdf DOI 10.2797/28436

Blocker, G. H. (2004). Varieties of Multicultural Art Education: Some Policy Issues. In E. W. Eisner & M. D. Day (Eds.), *Handbook of research and policy in art education* (pp. 439-466). New York, London: Routledge.

Blohm, M. (1995). *Vermittlung zeitgenössischer Kunst in Kunstunterricht - Probleme, Fragen und Denkalternativen*. Abteilung V, Beitrag 1. Heidelberg: RAAbits Kunst.

Boughton, D., & Mason, R. (Eds.) (1999). *Beyond Multicultural art education: International Perspectives. (European studies in education,* vol. 12). Münster, New York, München, Berlin: Waxmann.

Boughton, D. (1999). Framing Art Curriculum and Assessment Policies in Diverse Cultural Settings. In D. Boughton & R. Mason, (Eds.), *Beyond Multicultural art education: International Perspectives. (European studies in education,* vol. 12*)* (pp. 331-348). Münster, New York, München, Berlin: Waxmann.

Bračun Sova, R., & Kemperl, M. (2012). The Curricular Reform of Art Education in Primary School in Slovenia in Terms of Certain Components of the European Competence of Cultural Awareness and Expression. *CEPS Journal, 2*(2), 71-90.

Burton, J. M. (2004). The Practice of Teaching in K-12 Schools: Devices and Desires. In E. W. Eisner & M. D. Day (Eds.), *Handbook of research and policy in art education* (pp. 553-575). New York, London: Routledge.

Cole, I. (1996). Young People and Contemporary Art. In L. Dawtrey, T. Jackson, M. Masterton, & P. Meecham (Eds.), *Critical Studies and Modern Art* (pp. 145-151). New Haven and London: Yale University Press.

Dawe Lane, L. (1996). Using Contemporary Art. In L. Dawtrey, T. Jackson, M. Masterton, & P. Meecham (Eds.), *Critical Studies and Modern Art* (pp. 137-144). New Haven and London: Yale University Press.

Dawtrey, L., Jackson, T., Masterton, M., & Meecham, P. (Eds.) (1996). *Critical Studies and Modern Art*. New Haven and London: Yale University Press.

Duh, M., & Herzog, J. (2011). Ekoart in likovnopedagoška praksa [Eco-art and art education practice]. In M. Duh (Ed.), *Raziskovalni vidiki ekologije v kontekstu edukacije [Research in ecology from an educational viewpoint]* (pp. 17-30). Maribor, Rakičan: Pedagoška fakulteta; RIS Dvorec.

Duh, M. (2006). New qualities of using computers in fine arts teaching. *Informatologia, 39*(4), 286-289.

Dunn, P. C. (1995). *Creating Curriculum in Art.* VA: National Art Education Association.

Efland, A. (1992). Curriculum Problems at Century's End: Art Education and Postmodernism. In L. Piironen (Ed.), *Power of Images* (pp. 114-120). Helsinki: INSEA Finland, The Association of Art Teachers in Finland.

Hardy, T. (2006a). Introducing: Nailing Jelly: Art Education in a postmodern World. In T. Hardy (Ed.), *Art Education in a Postmodern World: Collected Essays* (pp. 7-15). Bristol, UK; Portland, OR, USA: Intellect.

Hardy, T. (Ed.) (2006b). *Art Education in a Postmodern World: Collected Essays*. Bristol, UK; Portland, OR, USA: Intellect.

Hickman, R. (Ed.) (2005). *Critical Studies in Art & Design Education*. Bristol, UK, Portland, OR, USA: Intellect.

Hope, S. (2004). Art Education in a World of Cross-Purposes. In E. W. Eisner & M. D. Day (Eds.), *Handbook of research and policy in art education* (pp. 93-114). New York, London: Routledge.

Jabareen, Y. (2012). Towards a sustainability education framework: Challenges, concepts and strategies-the contribution from urban planning perspectives. *Sustainability, 4*(9), 2247-2269. Retrieved 15.03.15 from doi: 10.3390/su4092247

Jagodzinski, J. (1999). Thinking Through /Difference/ in Art education Contexts: Working the Third Space and Beyond. In D. Boughton & R. Mason (Eds.), *Beyond Multicultural art education: International Perspectives.* (European studies in education, vol. 12) (pp. 303-330). Münster; New York; München; Berlin: Waxmann.

Kemperl, M. (2013). Contemporary Art and Citizenship Education: The Possibilities of Cross-Curricular Links on the Level of Content. *CEPS Journal, 3*(1), 97-117.

Krek, J., & Metljak, M. (Eds.) (2011). *Bela knjiga o vzgoji in izobraževanju v Republiki Sloveniji.* Ljubljana: Zavod za šolstvo.

Parsons, M. (2004). Art and Integrated Curriculum. In E. W. Eisner & M. D. Day (Eds.), *Handbook of research and policy in art education* (pp. 775-794). New York, London: Routledge.

Powell, T. (2013). The important of Assessment: How Portfolios Can Impact Students' Self-Efficacy and Comprehension in an Online Graphic Design Course. Online Submission. Retrieved 28.02.15 from http://files.eric.ed.gov/fulltext/ED543853.pdf

Short, G. (1995). Understanding domain knowledge for teaching: Higher-order thinking in pre-service art teacher specialists. *Studies in Art Education, 39*(3), 154-169.

Steers, J. (2014). Reforming the School Curriculum and Assessment in England to Match the Best in the World – A Cautionary Tale. *International Journal of Art & Design Education, 33*(1), 6-18.

Stokrocki, M. (2004). Contexts for teaching Art. In E. W. Eisner & M. D. Day (Eds.), *Handbook of research and policy in art education* (pp. 439-466). New York, London: Routledge.

Tomšič Čerkez, B. G. (2013). Visual Art Education: Between Spatial Sustainable Development and the Image of Architecture. *CEPS Journal*, *3*(1), 79-96.

Torres de Eça, T. (2005). Using Portfolios for External Assessment: An Experiment in Portugal. *International Journal of Art & Design Education, 24*(2), 209-218. Retrieved 16.03.15 from doi: 10.1111/j.1476-8070.2005.00441.x

Zupančič, T., & Köster, A. (2014). A comparison between Estonian and Slovenian secondary art curriculum from the viewpoint of structure and content. In M. Aleksandrovich, R. Seebauer, & H. Zoglowek (Eds.), *Diversity in Europe – Insight from Pedagogy and Psychology* (pp. 270-277). Berlin – Münster – Wien – Zürich – London: Lit Verlag.

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Adoption of the Creative Process According to the Immersive Method

Sonja Vuk*[1], Tonka Tacol[2], and Janez Vogrinc[3]

The immersive method is a new concept of visual education that is better suited to the needs of students in contemporary post-industrial society. The features of the immersive method are: 1) it emerges from interaction with visual culture; 2) it encourages understanding of contemporary art (as an integral part of visual culture); and 3) it implements the strategies and processes of the dominant tendencies in contemporary art (new media art and relational art) with the goal of adopting the creative process, expressing one's thoughts and emotions, and communicating with the environment. The immersive method transfers the creative process from art to the process of creation by the students themselves. This occurs with the mediation of an algorithmic scheme that enables students to adopt ways to solve problems, to express thoughts and emotions, to develop ideas and to transfer these ideas to form, medium and material. The immersive method uses transfer in classes, the therapeutic aspect of art and "flow state" (the optimal experience of being immersed in an activity)/aesthetic experience (a total experience that has a beginning, a process and a conclusion)/immersive experience (comprehensive immersion in the present moment). This is a state leading to the sublimative effect of creation (identification with what has been expressed), as well as to self-actualisation. The immersive method teaches one to connect the context, social relations and the artwork as a whole in which one lives as an individual. The adopted creative process is implemented in a critical manner on one's surrounding through analysis, aesthetic interventions, and ecologically and socially aware inclusion in the life of a community. The students gain the crucial meta-competence of a creative thinking process.

Keywords: context, creative process, ideas, immersion, teaching process

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Uvedba ustvarjalnega procesa po imerzivni metodi

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Imerzivna metoda je obravnavana kot nov koncept v likovnem izobraževanju, ki bolj ustreza potrebam dijakov v trenutni postindustrijski družbi. Izhaja iz naslednjih postavk: 1) interakcija z likovno kulturo; 2) spodbujanje razumevanja sodobne umetnosti (kot integralni del likovne kulture); 3) implementiranje strategij in procesov prevladujočih tendenc v sodobni umetnosti (umetnost novih medijev in relacijska umetnost) s ciljem uvedbe ustvarjalnih procesov, ki poudarjajo izražanje posameznikovih misli in čustev ter komuniciranje z okoljem. Metoda omogoča transfer ustvarjalnih procesov s področja umetnosti na proces samostojnega ustvarjanja učencev. To se zgodi s pomočjo mediacije algoritemske sheme, ki omogoči študentom, da prevzamejo poti reševanja problemov, izražajo misli in emocije, razvijajo ideje in jih prenesejo v oblike, medije in v materiale. Metoda uporablja transfer v razredu, terapevtski vidik umetnosti in »stanje toka« ter estetsko in imerzivno izkušnjo. To je stanje, ki vodi k sublimitivnim učinkom ustvarjanja (identifikacija s tistim, kar je bilo izraženo) pa tudi k samorealizaciji. Imerzivna metoda uči posameznika, da poveže vsebino, socialne odnose in umetniško delo v celoto, v kateri živi kot posameznik. Prevzeto je implementirano na kritičen način glede na posameznikovo okolje prek analiz, estetskih posegov ter ekološke in socialno zavedne inkluzije v življenje skupnosti. Učenci pridobijo bistvene metakompetence, procese ustvarjalnega razmišljanja.

Ključne besede: kontekst, ustvarjalni proces, ideje, imerzija, proces poučevanja

Introduction

Visual education does not typically incorporate the strategies students use in everyday life in the visual culture that has been created by new media technologies. The production and development of ideas is omitted, there is no discussion on ways of creating art (Freedman, 2003), no analysis of art's connections with social, cultural and political subjects and contexts, and no perception of society and the individual as a whole. Mere data transfer omits emotions from the learning process, it fails to develop intuitive processes, flexibility, fluency, originality or operationalisation capabilities, and it does not prepare students for active participation in society. The impression of an artwork as a communication channel with the environment is missing; there is not expression of thoughts and feelings, so there is no sublimation effect and self-actualisation. Visual education must therefore be steered towards the development of cognitive processes that include the psycho-biological and socio-cultural aspects necessary for orientation in contemporary postmodern society, so that students can become involved in their environment on multiple levels. With this in mind, visual education should take into account the powerful didactic character of visual culture and adopt creative processes and strategies from contemporary art in the development of students' creativity, enabling expression and communication with the environment and its active modification in order to establish a contemporary society with better qualities. All of this is taken into account in the immersive method.

The Immersive Method

The term "immersion" (Lat. *immergere*) primarily describes the effects of digital technology (new media): description of VR (virtual reality), installation art, video games, user interfaces, 3D computer graphics and various types of simulators (e.g., driving, flying, educational content simulators). It is a term that defines a mental condition in which consciousness of the physical "I" vanishes or is lost in thoroughly penetrating the environment. The experience of immersion includes total presence and separation from the external physical world, deep inclusion and preoccupation; it provides information or multiple-sensory stimulation. Immersion is among the key strategies of contemporary new media art (Strehovec, 2003).

In educational philosophy, the "immersive" experience – comprehensive immersion in the contemporary new media environment (Strehovec, 2003) – is an aesthetic experience, a total experience that has a beginning, a process and a conclusion

(Dewey, 1934/2005). In the case of art, this is the experience of a thorough creative process that has self-actualisation and sublimation as its ultimate effect, in the sense of identification with that which is expressed (Maslow, 1968/1999). In psychology, it is an "optimal experience based on the concept of flow – the state in which people are so involved in an activity that nothing else seems to matter" (Csikszentmihalyi, 1990, p. 4), "Concentration is so intense that there is no attention left over to think about problems. Self-consciousness disappears, and the sense of time becomes distorted. An activity that produces such experiences is so gratifying that people are willing to do it for its own sake" (Csikszentmihalyi, 1990, p. 71). Didactics achieves a similar effect in classes that include not only intellectual (cognitive), but also emotional experiences (Poljak, 1991), transfer (Tacol, 2003) and intrinsic motivation.

The starting points of the immersive method are:

1) From visual culture and contemporary new media art, the immersive method borrows the communication effects of images as an exchange of meanings and concepts. It also takes algorithmic thinking in the sense of a permanent selection of ways to handle visual, verbal and audible "units" of information (Strehovec, 2003), that is, figurative, symbolic, semantic and behavioural information (Guilford, 1968). The brain performs similar information processing in the cognitive and creative process when it selects and chooses, analyses, separates, filters, reduces, thickens, abstracts and looks for common denominators. The immersive method adopts the use of new media and communication technologies from the students' everyday lives because "schools should utilize advantages of the new media and become an active part of the postmodern culture of the young people " (Ule, 2008, p. 197). Didactically speaking, the immersive method assumes the interactive and interdisciplinary approach characteristic of visual culture and art. It includes problem solving, experience, exploration, dialogue, cooperative learning, independent learning, selection and decision, connections between different subjects and an individualised approach to the student. An algorithmic approach is used in the division of the creative process and project-based classes (clear problem idea and goal/problem learning, exploratory work/exploratory learning, an algorithmic approach, predefined methods and evaluation criteria). The advantages of such division are known: "The students who were given well-structured and precise instructions for work demonstrated significantly more creativity in realization of tasks than the students who received less structured instructions" (Niu & Liu, 2009; according to Juriševič, 2010, p. 422). The process implements analytical thinking, which divides the given problem into more familiar smaller parts, while the development of new free associations enables the creation of a synthesising capacity to reconstruct the whole by collecting information in new ways.

2) Contemporary art enables students to learn forms of social relations that emerge in relational art, and to manage the strategies of contemporary new media art, which is essential for orientation in new media environments. There is no difference between contemporary art and so-called popular culture (Carroll, 1998), which is today predominantly visual. Through understanding contemporary art, students adopt tools that can be used for the critical evaluation of visual culture.
3) The immersive method implements the creative process of art in the creative process of students' artwork creation. The creative processes of contemporary art are based on new solutions for societal problems, the production of ideas and the creation of new relations, while the focus is transferred from the artefact to the process, as "there can be creative thinking even when there is no tangible product" (Guilford, 1968, p. 121). Education that emerges from all of this is based on a postmodern dimension of art; namely, the interaction between individuals, groups, cultures and their contexts, as well as between various types of professional disciplines (Freedman, 2003). Given that "individuals in general possess some degree of the same creative trait or traits" (Guilford, 1968, p. 98), education that is based on the development of creativity allows all students – regardless of their talent-based preconditions, average grades, motivation or problems – to achieve a basic level of creative thinking.

The immersive method concerns the adoption of a creative process aimed at the comprehensive expression of students' thoughts and feelings in artwork, their communication with the environment through an active attitude towards it, and their self-actualisation. It allows us to divide the creative process in teaching into specific stages, which are then used to guide students towards aesthetic experience/flow state/immersive experience. There are several linear forms of creativity models that, in combination with Guilford's non-linear creativity factors, can be connected with the stages of the immersive method. The linear models are Dewey's model (1910) of problem-solving, Wallas' model (1945) of creative production, and Rossman's model (1931) of invention (according to Guilford, 1968), while creativity factors are "sensitivity to problems, ideational fluency, flexibility of set, ideational novelty, synthesizing ability, analysing ability, reorganizing or redefining ability, span of ideational structure, and evaluating ability" (Guilford, 1968, p. 95). Problem solving, which forms the basis of Dewey's model, overlaps with Guilford's claim that "creative thinking and problem solving are essentially one and the same phenomenon" (Guilford, 1968, p. 122). Dewey divides the initial phase of the creative process into: the problem (difficulty) is felt, the problem is located and defined. Similarly, in Rossman's model we have:

the problem is formulated. In the immersive method, the problem is extrapolated from 1) *universal themes* through "'filtering'... new and more operational name for 'attention'" (Guilford, 1968, p. 41). This is the starting point and fundamental question, the basic items of a successful learning process (Gardner, 2004). The information and impressions on a given or selected universal theme are first gathered. This takes place in parallel with the preparation stage of the gathering, sorting, reduction and evaluation of the encompassed information and materials in Wallas's model, and the stage of "available information surveyed" in Rossman's model. The problem that functions as the initial subject of the student's artwork is then extrapolated. This learning process is based on shifting from the universal to the particular, from the whole to the detail. Universal themes have nurture value and pose ethical and moral questions (Gardner, 2004). This corresponds to the concept of Guattari's "three ecologies": the environmental, the social and the mental (Baudrillard, 1972/2013). These are the so-called universal themes of truth, goodness and beauty (Gardner, 2004), e.g., environmental pollution, interpersonal relations, tolerance towards difference, etc. Thinking about the creation of new forms of social relations aimed at inspiring understanding and responsibility among students is encouraged through the detection of problems in the universal themes (Gardner, 2004). A problem extrapolated from a universal theme is connected with the personal experience of the students, thus giving us 2) a *generative theme* (Freire, 1970/2010), which connects the universal questions with the students' practical, emotional and intellectual experience. At this stage, a framework goal is defined within the immersive method: that which one aims to communicate, the message that one wishes to send to the surroundings. Through free associations, metaphors, symbols and codes, the generative theme is extrapolated into 3) an *idea*, which must be both new and useful in a certain social environment (Flaherty, 2005). This process of the development and production of ideas most resembles Wallas's incubation stage, which is unconscious work. At this stage of the immersive method, the students learn and implement techniques for idea production, such as brainstorming and techniques for stimulating lateral thinking (De Bono, 2007), so that work on the development and production of ideas is not limited to the unconscious level. This enables the development of divergent production, the "generation of ideas, as in solving a problem, where variety is important" (Guilford, 1968, p. 142). In divergent production, "the goal is to produce a variety of ideas, all of which are logically possible in view of the given information" (Guilford, 1968, p. 156). In order to define the best possible solution – that is, to select the most original idea – convergent thinking, in sense of the recognition of the best solution, is implemented (Guilford, 1968). This is defined as suggesting the possible solutions

in Dewey, as illumination (solutions emerge) in Wallas, and as formulation of solutions in Rossman. The immersive method adds two segments to this linear stage; namely, the transposition of the idea into 4) *form*, for which appropriate 5) *media and material* have been found. Here, too, the establishment of an appropriate form for the given content, along with the divergent thinking, develops complementary cognitive thinking aimed at finding the best possible solution. During the entire process, the student is encouraged to engage in 6) *reflection*, which constantly diverts his/her attention towards the connection between what has been done and what has been experienced, towards a subjective feeling of satisfaction with work and the association of this feeling with the result. In linear models, this can be seen as realising the consequences in Dewey, as verification (solutions tested and elaborated) in Wallas, and as solutions critically examined in Rossman, while Guilford sees it as evaluation. Discovering a conclusion in this process creates a sense of surprise, which is a source of satisfaction and self-actualisation. Identification with what has been expressed, 7) *sublimation*, occurs, and this is the therapeutic effect of art. 8) *Analysis of results and remediation* (Bolter & Grusin, 2000) in the immersive method correspond with acceptance of the solution in Dewey, and with formulating new ideas and their testing and acceptance in Rossman. In the immersive method, this is the stage in which the entire process is reconstructed, in which the ideas and the message of the work are recognised, while the relation between the form, the content and the media is analysed. A division into visual language, symbolic language and semantic language – in the sense of decoding the meaning – takes place. One discovers the causalities in one's own work, the sequence of work, and the motivation; various ways of presentation are realised, along with the relationship between character and style, material and media, as well as the interpretation of the initial theme; the handwriting, emotional impression, etc. are analysed, all of which are connected with the given teaching content (remediation), comprising formal analysis (division into visual language), analysis of the media and material (technical aspects), and analysis of the aesthetic component (composition elements in relation to the intuitive processes). This is a comprehensive process that encourages and develops creativity (the process of connecting previous experience with responses to stimuli, and the creation of at least one unique combination), originality (the production of unusual, hard to achieve, farfetched and ingenious solutions), fluency factors (idea, association, expression), flexibility factors (spontaneous, adaptive), redefinition, sensibility towards problems, perceptive capabilities, elaboration and critical position (Guilford, 1968).

In formal implementation, the immersive method is supported by the everyday language of the students' visual environment, which is created though

new media and communication technologies, and is close to the strategies of contemporary new media art: immersion, acts of dispersion, recycling, mixing and sampling, tactility, simulation, suspense, interactivity, action, ludic, performative, fluid and processual character (Strehovec, 2007), as well as to strategies of relational art, in the sense of transferring the relations to a material framework (aesthetics), their incorporation into artistic references (historical), and finding a consistent position in relation to current social relations (social). In the immersive method, the strategies of contemporary art serve as mediators in the transfer of teaching content, ideas and messages (cognitive and emotional content) to the result of the creative process (form). These strategies represent a way of dealing with forms, materials and media.

Empirical Research

The number of subjects: The immersive method was implemented in regular art classes in the 2012/2013 school year. The part of the research presented here (action research) encompasses three fifth-grade classes (students aged 11 years) of compulsory eight-year primary schools located in Zagreb, Croatia, as well as three specialised art teachers.

Problem and research questions: In relation to the basic problem of the research – how to improve implementation of art classes in practice – the goals of the research provide answers to the following questions: 1) How can the immersive method be implemented within the framework of the existing teaching programme? 2) How can the focus of the classes be shifted towards the stimulation of creativity (the adoption of the principle of creative/lateral thinking, i.e., the scheme of the creative process)? 3) How can the affective aspect of classes be encouraged (encouraging interest in moral and ethical issues, forming positive attitudes, establishing a critical attitude towards one's environment, developing an ability to connect art-related activities with life in order to achieve transfer and sublimation of the influence of creativity in the students' inner development, and establishing visual communication with the environment)? 4) How can teachers utilise the new media and the new media strategies found in the students' surroundings in their artistic expression? 5) Does implementation of the immersive method in art classes influence the students' interest in artistic expression, the independence in their work, the application of what has already been acquired in previous classes to tasks in new classes and creativity (the process of connecting one's previous experience with responses to stimuli and forming at least one unique combination), originality (production of the unusual, farfetched, remote or clever responses), factors of fluency (ideational, associational,

expressional), flexibility factors (spontaneous, adaptive), redefinition, sensitivity to problems, perceptual capabilities, elaboration and critical attitude?

Research Methods: action research, four-step developmental approach (Vogrinc, 2008); so-called performative research (Vogt, Pfeil, & Seitz, 2009, p. 26);

Research techniques: questionnaire polling, grading, knowledge verification, interviewing, observation, content analysis;

Research instruments were developed in order to implement the research: questionnaire, grading scales (for artwork), Likert-type scales, tasks for students, interviews (non-structured and semi-structured), observation (written and photo documentation), written notes, written and oral observations of the teachers; instruments specific to performative research.

Common instruments in all action steps: written observations from attending all classes during the entire school year. Following Kirkpatrick (1954/2014), four levels of evaluation of studying were monitored: reaction of the students (subjective feeling of success and satisfaction with the process and work, strong and weak points of the tasks, adjustment to personal styles of learning, non-verbal communication, relationship towards teaching and creative process), behaviour (method and scope of using the adopted content in furthering the teaching process, implementation of positions and behaviour, awareness of one's own changes), results (presentation and analysis of one's own work); notes on the reactions of the teachers; results of tasks (written, audio and photo documentation); non-structured interviews with the teachers; semi-structured and non-structured interviews with the students; written follow-up analysis of the works (level of adoption and implementation of the teaching process, understanding of the idea and message of each work; interpretation of universal themes; the relationship between content and form, media and material); students' artwork (analysis of transfer of symbolic form to the material forms of mobile and static pictures, sounds, live action and digital code); grading scale for artwork; written tasks for the students (practices for the development of creative/lateral thinking).

The questionnaire at the end of each project consisted of the following groups of questions, tasks and Likert-type scales: 1) understanding of the universal theme; 2) understanding of how the universal themes (motives) are associated with generative topics from the student's personal experience; 3) verification of the teaching content (test of knowledge); 4) connecting the teaching content with the visual culture in one's own surroundings; 5) subjective experience of the teaching process (motivation, level of attractiveness of the teaching content and new type of classes, applicability of the teaching content in further life, experience of learning).

Specific instruments for action steps: 1st action step – written and oral tasks for the students; *2nd action step* – ludic and exploratory performative tasks; *3rd action step* – taking notes on reactions and results achieved by the students after receiving written and verbal instructions for group work (written solutions by the students, drafts, idea-development); written and audio notes of the creative process and analysis of work (self-evaluation and independent insight during the creative process; notes on self-motivated student initiatives regarding insight during the creative process and collection of additional material for classes; independence within the groups; cooperation with other group members); *4th action step* – written tasks for the students (production of a certain number of different ideas aimed at the adoption of patterns regarding the need to create multiple ideas and select an idea that is appropriate to the work's message; classification of the applicability of the ideas, the literal aspect and the farfetchedness of the associations); notes on self-motivated students' initiatives regarding insight during the creative process and collection of additional material for classes; independence during implementation of the algorithmic scheme of the creative process; sensitivity towards the universal theme.

Procedure: During classes, the students used their mobile telephones for specific visual tasks, documenting the creative process and the artwork, and executing Internet searches in order to collect the information and visual materials necessary for the teaching process. Each action step corresponded with a project within the teaching subjects that had been organised and presented.

The following changes were introduced according to the action steps:

1st action step: introduction of teaching methods (Mattes, 2007) and strategies (Marzano, Pickering, & Pollock, 2006) corresponding to the subject, and introduction of strategies of contemporary new media art corresponding to the formal aspect of the tasks and exercises for encouraging lateral thinking (De Bono, 2007). This was introduced in the classes with the use of oral, written and performative tasks, as well as communication technologies (mobile telephones).

The first action step/project included teaching the subject point and line, as well as units from the teaching plan and programme: Shape Lines, Flow and Character of Lines; Structural Points and Lines; Structural Lines. Duration of the project: six teaching hours.

Universal theme: Introduction to the subject of affirmative communication (the communication chain begins when the teacher gives an example, after which the students devise complex affirmative questions focused on the positive characteristics of the person they address); ways of communicating as

a means of expressing thoughts and feelings (encouraging the students to performative expression of their feelings and behaviour in communication with the others, recognition and analysis of relationships, connection with visual metaphors in everyday speech); visual communication (verbal and non-verbal types of communication, inclusion of all of the senses in communication and connection with visual expression).

Generative theme – connecting with the students' personal experience: connection with examples from the students' everyday life (class, school, friends, etc.); written notes on the events, whether real or imaginary (technique for stimulating lateral thinking: random word technique in which each student draws a piece of paper containing five random words and chooses two of them, of which they must put one at the beginning of the story and the other at the end);

Setting the goal and idea extraction: extracting the basic feeling from a story aimed at its non-verbal presentation (stimulating lateral thinking: string technique in which five associations on feelings are defined); extraction of the main feeling, discussion on the message, on how to visually present a feeling that it could be recognised by others;

Searching for the appropriate form for given content; Media and materials: art task 1) visual message through a point and line – mobile phone text message *(example:* sorrow %[˙I¨].!*_*,?? }!!!!-----} ɔ...); 2) visualisation of abstract notions (feelings) through traditional media, drawing and collage (within a drawn silhouette of their own bodies, the students positioned extrapolated emotions and visualised them through the technique of collage of the photocopied examples of visual communication reduced to point and line, pictures of nature, artwork and their text messages); two examples are given in Figure 1 and Figure 2;

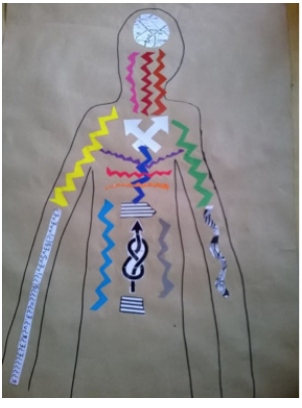

Figure 1

Figure 2

Reflection and analysis; remediation: During practical work, the students were encouraged to proceed with the deliberation and analysis of their works, and to consider which of the materials offered they would use for expressing the foreseen content. Analysis of the students' artwork through pre-prepared tasks, and recording their answers to given tasks; reconstruction of the results, i.e., processing of the teaching content, the strategy of contemporary new media art and implementation in visual culture: dispersion (composition), recycling, mixing and sampling (collages). Verification of what has been adopted.

2nd action step: encouraging of intrinsic motivation among the students (generative themes); introduction of clear rules on steering the students' emotional and cognitive content towards appropriate forms and media; contemporary new media art strategies implemented in processing the teaching content (performativity, interactivity).

The second action step/project included teaching the subject colour, as well as units from the teaching programme: Light Values of Clear Colours; Clear Colours, Warm-Cold Contrast; Complementary Contrast. Duration of the project: six teaching hours.

Universal theme: Continuation from the universal theme in the 1st project on communication

(discussion on colours people like to wear and the reasons for this, as well as what our choices

communicate to the surroundings; discussion on colours found in the environment);

Generative theme – connecting with the students' personal experience: Performative tasks related to the implementation of colour in the students' lives and association plays that connect colours with emotions; written tasks that require presenting one's favourite colour (students write a short story on their favourite colour, explaining why and when it became their favourite colour and describing an event in their lives from the time this colour became their favourite);

Setting the goal and idea extraction: extracting the basic idea and message from each story; discussion on visualisation of ideas through colours;

Searching for the appropriate form for given content; media and materials: visual task – visualisation of one's personal story through colour, expression of the dominant emotions in a story, tempera technique (basic parameters for using the technique are given; directions for at least three clear colours and three mixed colours). Examples in Figure 3 and Figure 4.

Figure 3

Figure 4

Reflection and analysis; remediation: During the practical work, the students were encouraged to proceed with the deliberation and analysis of their own works, as well as to think about their next steps. Analysis of the students' artwork through pre-prepared tasks and recording their answers to given tasks (recognition of emotion in the painting emerging from the combination of colours, idea recognition; discussion on expressing feelings in an acceptable way); reconstruction of the results – processing of the teaching content. Verification of what has been adopted.

3rd action step: introduction of self-evaluation and independent deliberation during the creative process. The third action step/project included the teaching subject surface and flat space, as well as units from the teaching plan and programme: Static and Dynamic Plane; Figures on a Plane; Redefinition of a Plane; Graphic Modelling; The Rhythm of Shapes and Textures; Painting Textures. Duration of the project: 12 teaching hours.

Universal theme: Continuation from the universal theme in the 1st project on visual communication (posters and messages, impact on the environment); connection with a subject related to ecology and health (the groups received three themes and appropriate materials, written tasks and lists of roles within each group, which the students divided among themselves); conversation on the connection between the individual and society, as well as on how much each individual can contribute to general progress in the preservation of the immediate environment; how to influence others in order to increase awareness on the importance of environmental protection; each group presents their theme from the materials they have received or collected independently (the Internet).

Generative theme – connecting with the students' personal experience: written tasks related to one's own experience about the given subject (students write short stories on their own experiences connected with the data included in the informative materials);

Setting the goal and idea extraction: extracting the basic idea and message from each story; discussion on visualisation, as well as ideas and messages in the form of a poster aimed at warning other students in the school;

Searching for the appropriate form for given content; media and materials: tasks preceding the main task and aiming at physical (unconscious) perception of the teaching content: 1) conceiving and developing a board game (strategies of new media art – action and ludic character); 2) finalising the given detail; 3) main artwork task: each group is given a particular task (in terms of both form and theme) according to which it visualises the extracted idea into a poster with a clear message (strategies – tactility, simulation). Examples of posters are presented in Figures 5 and 6;

Figure 5

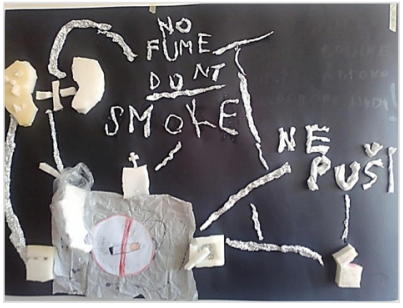

Figure 6

Reflection and analysis; remediation: During the practical work, the students were encouraged to proceed with the deliberation and analysis of their own works, as well as to think about their next steps. Analysis of the students' artwork through pre-prepared tasks and recording their answers to given tasks; reconstruction of the results – processing of the teaching content. Feedback from the surroundings. Verification of what has been adopted.

4th action step: introduction of partial independence of the students in creating and managing their own projects: teacher becomes a mediator, while the students adopt and independently implement an algorithmic scheme of the creative process; sensibility to universal themes (independence in selection, sensibility towards the context, empathic insight, flexibility, critical attitude towards the surroundings).

The fourth action step/project included teaching the subject mass/volume and space, as well as the teaching units: Basic Three-Dimensional Forms; Proportions of Three-Dimensional Forms (Bodies) in Space; Complex Space

Structures and Constructions. Duration: six teaching hours.

Universal theme: Discussion on the situation of students and children in other parts of the world, as well as on the right to and availability of schooling (analysis of examples of stories of children working in toy factories and cocoa plantations);

Generative theme – connecting with the students' personal experience: the students' attitude towards school (comparison of one's own living conditions with those of the children in the stories, discussion on one's own capabilities and encouraging empathy for others); written tasks (production of a given number of ideas focused on helping the children from the stories; divergent thinking); performative tasks (body perception of the teaching content: development of layout and establishment of a relationship between the figures and the space based on data from the given story);

Setting the goal and idea extraction: students choose the most interesting ideas in the group, extracting the basic idea and message from each group work session; discussion on visualisation of ideas and messages in the form of an animated video; development of a storyboard;

Searching for the appropriate form for given content; media and materials: artwork task – making individual shots for an animated video and editing them into an animated video (strategies of new media art – suspense, process), stills from animated videos are presented in Figures 7 and 8;

Figure 7

Figure 8

Deliberation and analysis; remediation: the students were expected to proceed with independent deliberation and analysis of their own works, and to implement the stages of the creative process. Analysis of the students' artwork and reconstruction of the results – processing of the teaching content. Verification of what has been adopted.

Results and interpretation

The results based on all of the instruments used show that the students adopted the immersive method as a way of creative thinking. Positive reactions and high intrinsic motivation were recorded for all four action steps, particularly during the visualisation of the students' own cognitive and emotional content. The results obtained from the instruments of written tasks (practice for encouraging lateral thinking and idea development, brainstorming), performative tasks and ludic tasks show that all of the students accepted these tasks as an integral part of the classes, and that they accepted guidance in defining clear visual messages.

The results confirming the successful implementation of the visual tasks with the majority of the students were obtained through instruments such as the students' artwork, the evaluation scale for the artwork, and the written and verbal insight of the teachers. It was not difficult to understand the ideas and messages contained in the artwork, while the solutions – according to the goals – were pronouncedly individual and original. For the purposes of the research, an evaluation scale for artwork was devised that comprised the following categories: understanding and implementing key terms and other teaching content; conceptual thinking (transfer of ideas into form); variation in the process of transfer of ideas into form; originality (production of unusual, farfetched, remote and ingenious solutions); perception of the whole (details subordinated to the whole); deliberation on one's own creative process; sensitivity towards guiding through the process (from being dependent to being independent); reaction to criticism during the creative process (from the teachers and the students); handling the techniques and materials (selection and implementation); variations in implementation; technical skills (orientation in already known and unknown media); completeness of the artwork (realisation of the idea in form, media and material). The majority of the criteria showed a visible increase in the grades ($1 < 5$) over the process from the 1st project to the 1st task in the 3rd project, after which the grades for all of the criteria were mainly 5. The exceptions were the criteria of originality and variations in the process of transfer of ideas into form, in which the maximum average grade (5) was only achieved in the 3rd task of the 3rd project. With regard to criteria related to the completeness of the works, conceptual thinking and the perception of the whole, all of the students received a grade of 5 in the 1st task of the 3rd project; the grades decreased slightly in the 2nd task, only to grow again to the maximum in the 3rd task. Comparison of the 2nd project and the 1st task in the 3rd project: the grades differ significantly only in the criteria of handling the techniques and materials, acceptance of guidance during the process, variations in implementation and

technical skills ($p < 0.05$), in which significantly higher grades were recorded for the 1st task of the 3rd project. No significant difference was recorded between the grades in the 1st project and grades in the 1st task of the 3rd project for the criterion of originality ($U = 252.000$, $p = 0.447$). Comparison of the 2nd task in the 3rd project and the 3rd task in the 3rd project: the grades do not differ significantly, except for the criteria of conceptual thinking, originality and completion of the works ($p < 0.05$), in which the grades are significantly higher in the 3rd task of the 3rd project. Comparison of the 3rd task in the 3rd project and the 4th project: the grades do not differ significantly (almost all of the grades are 5). The percentage of completed and defined works grows during the action steps from a larger number of unfinished works in the first action step to all of the works being finished in the third and fourth steps. Analysis of the transfer of symbolic and semantic forms to material forms shows a level of adoption of the algorithmic scheme of the creative process.

During the third action step, the students used the Internet on their mobile telephones independently in order to expand the textual and visual information on the given subject, while, in the fourth step, they independently used their mobile telephones in order to find options for better implementation of the task. During the implementation of the task, all of the groups showed independence in decision making regarding content and form, as well as self-organisation in terms of work discipline and insight, discussion on the clarity of the message and formal quality of the works. An increase in empathy between the students, cooperation and mutual respect was noticed. Based on the instruments of written tasks for the students (production of a certain number of different ideas based on the same subject), it was determined during the fourth action step that the students adopted patterns of creating multiple ideas and selecting the best ideas for the message of the work. The students were also independent in their decisions when it came to the formal aspects of the works and determining the stages in the working process, connecting and including content of other classes and teaching subjects, and self-organization in the division of tasks and their implementation (either through voting or agreement). The recording of analyses throughout all four action steps shows an increased desire for equal participation in the analysis of other students' works and detailed analysis of one's own work. During the analysis at the end of the fourth action step, the students independently use teaching content and key terms. Some students work independently at home, while explanations of such work showed a need for the use of the therapeutic effect of art in classes (Bilić, 2012).

According to the questionnaire results, a high level of adoption and implementation of teaching content was determined (some 70% for all action

steps, while invalid or incorrect answers were mostly connected to a lack of understanding of the questions in the questionnaire), as well as a high level of understanding of the universal theme.

An analysis of several layers of the works (various levels of meaning and perception) was established. During the analysis, the students first read the subject of the work on an intuitive level, and then implemented the adopted information and knowledge in formal analysis and remediation. The analysis included deliberation of the entire working process, analysis of the ideas in each work and their context in real life, the method of transferring idea to form, as well as connections with the teaching content. Based on the Likert scales in the questionnaire, the following answers prevailed in all of the grades for all four projects: I had good time in the classes; I learned something and it is fun for me; I learned a lot, it is interesting and fun for me; it is sometimes fun for me; this will be useful in everyday life. The following answer was recorded in several cases: it is sometimes interesting and fun for me, I am not sure what I have learned. The results indicated the following changes: adoption and implementation of the creative process according to the immersive method (encouraging creative/lateral thinking); adoption of the techniques for idea development and production; sensitivity towards ethical and moral questions (critical thinking about one's environment and consideration of whether it is possible to intervene in it within one's own capabilities); formulation of clear visual messages; identification with one's own artwork; acceptance and adoption of the rules of project-based classes. All of the foreseen changes were achieved. In the final deliberation and analysis, the students agreed that the new type of class was interesting and fun, but that they had to think and be active constantly, which is something they were not used to doing.

Conclusion

The results of the research on the target sample and the case studies enable the introduction of an alternative method that could allow students to adopt and implement the structure of a creative process aimed at creative problem solving, creating original ideas, expressing thoughts and feelings, communicating with the environment, being sensitive to moral and social issues, forming a critical attitude and achieving self-actualisation. This type of class increases student participation in planning and implementing classes based on a social subject. Student motivation is encouraged, along with identification with one's own work (the sublimative effect of finding an appropriate form for the given content), questioning of one's own environment, assuming positions and acting

accordingly. The classes were connected with the visual culture of the students' everyday environment through the use of the strategies of contemporary new media art as mediators in idea transfer to the result of process (handling the forms, materials and media), as well as relational art (establishing social relations). The new approach offers an answer to the question of how to advance students' insight into their own thoughts, feelings and experiences, encouraging their communication with the environment and developing their critical position towards it. In the process of adopting a creative way of thinking, the students gained a crucial meta-competence that they can critically implement in their own environment though analysis, social, ecological and aesthetic awareness, problem solving, and independently changing one's own environment. The analysis of all of the results determined the successful implementation of the immersive method in the regular teaching process according to the teaching programme, while the description of the procedures and the analyses of the results provides answers to all of the research questions. To date, art didactics has not included a universal method that would be applicable to all educational levels and all educational systems, and that would take into account the creative processes, visual culture, the nurture aspect and the therapeutic effect of art.

Literature

Baudrillard, J. (1972/2013). *Simulacija i zbilja.* Zagreb: Naklada Jesenski i Turk, Hrvatsko sociološko društvo.

Bolter, D., & Grusin, R. (2000). *Remediation:Understanding New Media.* Cambridge Massachusetts: The MIT Press.

Bilić, V. (2012). *Croatian Journal of Education, 13*(4), 87-121

Carroll, N. (1998). *A Philosophy of Mass Art.* Oxford: Clarendon Press.

Csikszentmihalyi, M. (1990). *Flow: The Psychology of Optimal Experience.* NY: Harper Collins.

De Bono, E. (1970). *Lateral thinking: creativity step by step*. NY, Grand Rapids, Philadelphia, St. Louis, San Francisco, London, Singapore, Sydney, Tokyo, Toronto: Harper&Row.

Dewey, J. (1934/2005). *Art as Experience.* NY: A Perigee Book.

Freedman, K. (2003). *Teaching Visual Culture: curriculum, aesthetics, and the social life of Art.* Columbia University: Teachers College.

Flaherty, A. (2005). *Frontotemporal and dopaminergic control of idea generation and creative drive*. Journal of Comparative Neurology, *493*(1), 147-153

Freire, P. (1970/2010). *Pedagogy of the opressed,* New York: Continuum International Publishing Group.

Gardner, H. (2004). *Disciplinarni um.* Zagreb: EDUCA, d. o. o.

Guilford, J. P. (1968). *Intelligence, Creativity and their Educational Implications.* San Diego: Robert R.

Knapp.

Juriševič, M. (2010). Creativity in the Zone of Proximal Motivational Development. In M. Valenčič Zuljan & J. Vogrinc (Ed.), *Facilitating Effective Student Learning through Teacher Research and Innovation.* Ljubljana: Faculty of Education.

Kirkpatrick, D. (1954/2014). The Kirkpatrick Model. Retrieved 28.05.2014 from http://www.kirkpatrickpartners.com/OurPhilosophy/TheKirkpatrickModel/tabid/302/Default.aspx

Marzano, R. J., Pickering, D. J., & Pollock, J. E. (2006). *Nastavne strategije.* Zagreb: Educa.

Maslow, A. H. (1968/1999). *Toward a Psychology of Being.* Canada, Danvers MA, New York NY: John Wiley&Sons.

Mattes, W. (2007). *Nastavne metode.* Zagreb: Naklada Ljevak d.o.o..

Strehovec, J. (2003). *Umetnost Interneta.* Ljubljana: Študentska založba.

Strehovec, J. (2007). *Umetniško delo in besedilo v času medmrežja*. Ljubljana: Študentska založba.

Poljak, V. (1991). *Didaktika.* Zagreb: Školska knjiga.

Tacol, T. (1999). *Didaktični pristop k načrtovanju likovnih nalog, Izbrana poglavja iz likovne didaktike.* Ljubljana: Debora.

Ule, M. (2008). *Za vedno mladi? Socialna psihologija odraščanja.* Ljubljana: Fakulteta za družbene vede.

Vogt, C., Pfeil, M., & Seitz, H. (2009). *Be Unique Be Open Be Art, Urban Culture and Youth in Berlin and Beyond or How To Do Things With Art.* Potsdam/Berlin: University of Applied Sciences Potsdam.

Vogrinc, J. (2008). *Kvalitativno raziskovanje na pedagoškem področju.* Ljubljana: Univerza v Ljubljani, Pedagoška fakulteta.

Biographical note

Sonja Vuk is artist and art educator. Graduated from the Academy of Fine Arts, Zagreb, Croatia, and the Academy of Fine Arts and Art Education in Tilburg, The Netherlands, where she also finished the post-graduate studies in 3D art. Received post-graduate MA degree in video at the Academy of Fine Arts, Ljubljana, Slovenia, and is curently attending PhD studies in art education at the Faculty of Education, Ljubljana, Slovenia. She participated in numerous exhibitions and symposia at home and abroad with interdisciplinary art and art education projects. She is an docent at Academy of Fine Arts in Zagreb, Croatia.

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An Interactive Approach to Learning and Teaching in Visual Arts Education

Zlata Tomljenović[1]

The present research focuses on modernising the approach to learning and teaching the visual arts in teaching practice, as well as examining the performance of an interactive approach to learning and teaching in visual arts classes with the use of a combination of general and specific (visual arts) teaching methods. The study uses quantitative analysis of data on the basis of results obtained from a pedagogical experiment. The subjects of the research were 285 second- and fourth-grade students from four primary schools in the city of Rijeka, Croatia. Paintings made by the students in the initial and final stage of the pedagogical experiment were evaluated. The research results confirmed the hypotheses about the positive effect of interactive approaches to learning and teaching on the following variables: (1) knowledge and understanding of visual arts terms, (2) abilities and skills in the use of art materials and techniques within the framework of planned painting tasks, and (3) creativity in solving visual arts problems. The research results can help shape an optimised model for the planning and performance of visual arts education, and provide guidelines for planning professional development and the further professional education of teachers, with the aim of establishing more efficient learning and teaching of the visual arts in primary school.

Keywords: art creativity, general and specific (visual arts) teaching methods, interactive teaching and learning, visual arts abilities and skills, visual arts knowledge, teaching strategies

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Interaktivni pristop k učenju in poučevanju likovne umetnosti

Zlata Tomljenović

Raziskava v prispevku se osredinja na moderniziranje pristopa učenja in poučevanja likovne umetnosti v učiteljski praksi. Poleg tega analizira izvedbo interaktivnega pristopa učenja in poučevanja likovne umetnosti z uporabo kombinacije splošnih in likovnospecifičnih metod poučevanja. Predstavljena je kvantitativna analiza podatkov, pridobljenih v pedagoškem eksperimentu. V raziskavi je sodelovalo 285 drugo- in četrtošolcev iz štirih osnovnih šol na Reki, Hrvaška. Ocenjene so bile slike, ki so jih naredili učenci na začetku in koncu eksperimenta. Rezultati potrjujejo hipoteze o pozitivnem učinku interaktivnega pristopa k učenju in poučevanju na naslednje spremenljivke: 1) poznavanje in razumevanje terminov v likovni umetnosti; 2) zmožnost in spretnost uporabe umetniških materialov in tehnik znotraj načrtovanih slikarskih nalog; 3) kreativnost pri reševanju problemov v likovni umetnosti. Rezultati lahko služijo za optimizacijo modela načrtovanja in izvajanja izobraževanja v likovnih umetnostih ter za oblikovanje smernic za načrtovanje strokovnega razvoja in nadaljnjega strokovnega izobraževanja učiteljev z namenom vzpostavitve učinkovitejšega učenja in poučevanja likovne umetnosti v osnovni šoli.

Ključne besede: kreativnost v umetnosti, splošne in likovnospecifične metode poučevanja, interaktivno poučevanje in učenje, zmožnosti in spretnosti v likovni umetnosti, znanje o likovni umetnost, poučevalne strategije

Introduction

Rapid social change and the unpredictable future place new demands on education; schools have to teach students how to learn, think and create. Traditional education with one-way oriented communication does not satisfy contemporary needs for the integral personal development of students. The conventional approach of transmitting knowledge, where students are simply passive recipients of information, must be replaced with more effective teaching and learning based on student-centred activities and interactive, problem-solving strategies (Jagodzinski, 2009). In the visual arts teaching process, it is necessary to provide conditions for the development of the students' potential abilities to master visual arts knowledge and skills, and to acquire positive attitudes. In this process, it is necessary to encourage greater student activity, as well as emphasising the use of contemporary teaching strategies and methods, applying various styles of teaching and learning, and respecting the students' development opportunities: individual differences in adopting, understanding and interpreting the instructional content. An interactive approach to learning and teaching in visual arts education increases the interchange between all subjects in the educational process, and promotes critical and creative thinking by using active, student-centred teaching strategies such as active, experiential, independent, investigative, cooperative and problem-solving learning (Murray & Brightman, 1996). It also leads to a better understanding of the subject matter, a better ability to synthesise and integrate learning material, increased motivation, higher order cognitive skills, greater retention of material and more positive attitudes (Smilan & Miraglia, 2009; Van Dijk & Jochems, 2002). Previous evaluation studies on the appropriateness of teaching the visual arts at the single-class level of primary schools point to the fact that, during the teaching process, most single-class teachers do not sufficiently apply methodical pluralism and a creative approach to learning and teaching (Tacol & Tomšič Čerkez, 2004; Tomljenović & Novaković, 2013). Their passive attitude is reflected in the use of established teaching methods and procedures, as well as in the lack of a greater freedom and openness to the use of more effective ways of teaching and learning. An interactive approach to learning and teaching should ensure more quality implementation of the visual arts curriculum, respecting the developmental abilities of each student according to their individual characteristics.

Features of an Interactive Approach to Learning and Teaching in Visual Arts Classes

The main difference between traditional teaching methods and contemporary, interactive ways of teaching lies in changing one-way communication, in which the teacher has the authoritative and neutral role of knowledge transfer, to two-way communication, which takes place between all subjects in the educational process. In two-way communication, the teacher, through interaction and indirect guidance, helps the students to reach insights independently. This is why an interactive approach to teaching and learning is considered to be a social process (Šimić Šašić, 2011) that takes place through interaction between teachers and students, and between the students themselves. This approach is also considered to be more process-oriented (Van Dijk & Jochems, 2002) and student-centred (Shreeve, Sims, & Trowler, 2010), as teachers use various teaching strategies to involve students in cognitive and practical activities throughout the entire teaching process. The reaction of the students to the teaching activities is the most important element of the quality of teaching (Sahlberg, 2007), and the type and quality of established interaction in the classroom is directly linked to instructional outcomes (Huitt, 2003; Littlejohn & Foss, 2007). The aim of an interactive approach to learning and teaching in visual arts education is to transfer activities from teachers to students so as to achieve more active verbal/cognitive, experiential/affective and physical/motor involvement in the teaching process.

Interaction between teachers and students in visual arts classes should include a conversation in which teachers use their visual/artistic experience to assist the students to raise their awareness of the cognitive structures that they themselves create (Burton, 2000; Matthews, 1999). According to the constructivist view of learning, students are actively involved in the construction of their mental representations and in the transformation of these representations from one form to another (Baeten, Kyndt, Struyven, & Dochy, 2010; Louis, 2013). Students are seen as active knowledge constructors, who build their own personal knowledge based on their thinking, with the indirect help of the teacher. In this process, productive and receptive artistic activities should be implemented (Duh, Zupančič, & Čagran, 2014). The teacher's questions should be clear and understandable to all of the students, and his/her attitude towards the students should be friendly and stimulating, so as to help them feel safe enough to express their thoughts and ideas. This is also a good way to promote positive attitudes towards the visual arts (Pavlou & Kambouri, 2007). The teacher should ask open-ended questions that, rather than questioning knowledge, elicit the

students' opinions on particular content, enabling the teacher to obtain information about the type and quality of the students' opinions and knowledge, and not on the quantity of memorised facts (Tomić, 2003). Depending on their individual and artistic types, students have different ways of looking at reality, i.e., they link the knowledge they possess in different ways. In the case of unusual or different responses, the teacher should show flexibility and ask the students how they came up with their ideas or what made them reach their conclusion, as the teacher can learn a lot about the way students think from their responses. This is why an effective classroom conversation is always improvisational. Teaching in the visual arts should be also a creative art, an improvisational performance (Sawyer, 2004).

The socio-emotional relationship between teachers and students is also a key component that affects the success of the teaching and the learning outcomes of the students, especially in primary school. In communication with students, it is important for teachers to give students communication feedback on the effectiveness of their performance and on their understanding of the teaching content (Kumar, 2003; Pavlou & Kambouri, 2007).

Contemporary Teaching Strategies and Methods as a Factor of Successful Interactive Teaching and Learning

In visual arts education, teachers should use teaching strategies that enable a problem-solving approach to learning by way of examples, incentives, research questions, analogies and the use of acquired visual arts knowledge (Craft, 2001; Efland, 2002). Appropriate interaction in visual arts classes encourages brainstorming, analogical thinking, transformational thinking, visualisation, association and code-switching (Zimmerman, 2010). Effective teaching strategies used in interactive teaching and learning include problem-based learning, cooperative learning, experiential learning, active learning, investigative learning and learning through play.

A flexible, transformational and interactive approach to learning and teaching also requires a broader and more diverse approach to the use of teaching methods and their combination. Teaching methods used in visual arts classes should include a combination of general and subject-specific methods. Specific (visual arts) methods are modes arising from the specificities of the various artistic fields, their features and issues. Their use encourages students to think about the visual stimulus and arrive at unusual ways of observation, providing new insights and a deeper individual experience of visual and aesthetic components. These methods encourage the development of skills for solving

visual arts problems or for critical and divergent thinking, as well as the ability to connect insights in order to create applicable knowledge in the field of the visual arts (Berce Golob, 1990; Karlavaris, 1991; Tacol, 2003). The use of specific (visual arts) methods includes: aesthetic communication between teachers, students and artworks; perception and understanding of visual arts phenomena and patterns, as well as their connection with everyday life; and the independent and creative use of visual arts materials. Specific teaching methods can be used in different ways: through the observation of artworks followed by an interactive discussion between the teacher and students, through creative didactic play, and through students' own artistic expression. Aesthetic communication between the teacher and students can proceed on the basis of the reception of artworks, referring to discussion of visual elements and their relationships, and of the use of art techniques. In this way, students become sensitised to the existence of artistic values and develop the ability to verbalise their experiences in the area of the visual arts. Derived from problem-based tasks, creative play in visual arts classes is a teaching strategy that brings the learning content to students in a creative, problem-solving and interesting way through experiential learning. Specific teaching methods are an inseparable part of interactive teaching in visual arts classes, as their application is not possible without interaction with the students, who become aware of the elements of the visual arts and their relationships by observing artworks and through conversation with the teacher, thus developing artistic and aesthetic sensibility. The application of specific teaching methods in visual arts classes therefore requires artistic and didactic expertise on the part of the teachers.

Aims and Hypotheses

The present study was motivated by the current situation in Croatian educational practice, where classroom teachers persist in the role of knowledge transmitters, mostly using established teaching methods (oral presentation, demonstration, conversation) in visual arts instruction (Tomljenović & Novaković, 2013; Županić Benić, 2011). Student activity in visual arts classes is mainly limited to artistic expression, and there is an absence of teaching strategies that would activate the students throughout the learning process, taking account of their individual differences by using a range of teaching and learning styles. In 2005, an experimental programme called the Croatian National Educational Standard (Hrvatski nacionalni obrazovni standard - HNOS) was implemented in the Croatian school curriculum. It was created under the auspices of the Ministry of Science, Education and Sports as a result of changes initiated

at all levels of the education system. HNOS sets certain guidelines related to the implementation of more student activities and the use of new forms and methods of work in order to encourage these activities, as well as the development of the students' visual arts skills as part of the full development of their personality (Vodič kroz HNOS za osnovnu školu, 2005). These concepts also imply a shift towards contemporary models of the teaching process, which encourage an interactive and problem-solving approach to learning and teaching.

The aims of the research were:

- to develop a model of teaching the visual arts in classrooms that will provide a greater knowledge and understanding of visual arts terms, better development of the students' abilities and skills in the use of art materials and techniques, and greater art creativity on the part of students;
- to improve student achievement in solving visual arts problems in the area of painting, using an interactive approach as well as general and specific (visual arts) teaching methods.

Within the set tasks, the aim was to create and verify an alternative optimised model of teaching that includes an interactive approach to learning and teaching with the use of general and specific teaching methods, in order to improve the quality of visual arts education.

With regard to the research aims, the following hypotheses were formed:
H1: Students in the experimental group will demonstrate greater knowledge and understanding of visual arts terms than students in the control group.
H2: Students in the experimental group will demonstrate better abilities and skills in the use of art materials and techniques than students in the control group.
H3: Students in the experimental group will demonstrate greater creativity in solving painting tasks than students in the control group.

Methodology

In the study, which is based on quantitative research paradigms, we undertook a pedagogical experiment that was designed to evaluate the impact of an interactive approach to teaching and learning in visual arts education on: (1) the students' knowledge and understanding of visual arts terms, (2) the students' abilities and skills in the use of art materials and techniques within the anticipated painting tasks, and (3) the students' creativity in solving visual arts problems in the area of painting. For the purpose of testing the variables in the study, two different ways of teaching were included. The first was an interactive approach to learning and teaching, with the use of a combination of general

and specific teaching methods, while the second was characterised by the use of common, well-established approaches to learning and teaching. The experiment was conducted in parallel groups (control and experimental groups), which were used to test the hypotheses about the success of the experimental model of teaching. A five-point Likert scale was used for the evaluation of the variables (evaluation was conducted by three independent assessors). The objectivity of the evaluation scale was determined by clear and detailed instructions for evaluating knowledge of visual arts terms, abilities and skills in the use of art techniques, and the creativity of students. The research was conducted in 2012, and the statistical analysis was undertaken using the statistical package Statistica, version 8.0, StatSoft, Inc.

Sample

The research was conducted on a sample of 285 second- and fourth-grade students from four primary schools in the city of Rijeka (Table 1).

Table 1. *Number of participants and distribution of students by grade*

	Group		f	f %
2nd	control group	71	143	50.2
	experimental group	72		
4th	control group	68	142	49.8
	experimental group	74		
Total			285	100

Procedure

A total of 16 classes (8 in the second grade and 8 in the fourth grade) were included in the pedagogical experiment. Of these, 8 classes (4 in the second grade and 4 in the fourth grade) represented the control group, while the other 8 classes (4 in second grade and 4 in the fourth grade) made up the experimental group. On selecting the sample, an effort was made to ensure that the classes had similar characteristics (material and technical conditions of work; number, gender and achievement of the students). The classes were dislocated: the sample consisted of 285 students (139 students in the control group and 146 in the experimental group) and 16 single-class teachers (8 teachers in the control group and 8 in the experimental group). In the second grade classes, a total of 715 student paintings were created: 360 in the experimental group and 355 in the control group. In the fourth grade classes, a total of 710 student paintings were painted: 340 in the experimental group and 370 in the control group.

The students' paintings were created as a result of the execution of five teaching units from the area of painting, as provided by the mandatory National Curriculum for Primary School (Nastavni plan i program za osnovnu školu, 2006). The first unit was used to verify the initial state and was conducted in all of the classes, with the teachers teaching students according to their normal operating mode. The other four teaching units were undertaken within the control and experimental groups. Each teaching unit lasted 90 minutes; one advantage of the block schedule is that it allows teachers to engage students in various (inter)active teaching strategies that require more time than the traditional schedule allows (Jenkins, Queen, & Algozzine, 2002). In order to achieve the greatest possible objectivity of the results, the control and experimental groups were given the same visual arts problem, visual arts motif and art technique within particular lessons. Teachers in the control group (hereinafter referred to as the CG) had freedom in designing lessons and worked in the usual way. Prior to teaching in the experimental group (hereinafter referred to as the EG), teachers received specially designed instructional guidelines from the research leader professional, and were provided with assistance in the form of training, consultancy and advice. In the EG, the teaching units were implemented on the basis of detailed preparation, in which special emphasis was placed on the interactive presentation of teaching materials, the use of different teaching aids and equipment, and the use and combination of various general and specific teaching methods so that all of the learning styles of the students were represented and their involvement and activity was encouraged. The teachers in the EG used a combination of general teaching methods (oral presentation, discussion, demonstration, problem-solving) and four subject-specific teaching methods (aesthetic communication, expansion and elaboration of artistic sensibility, transposition and alternatives, and individual understanding and adoption of art techniques based on one's own experience). These methods were selected as the most appropriate for use in the field of painting in the second and fourth grades. Group work was mainly used in the execution of short creative problem-based tasks, with an emphasis on communication between the students. The educational achievements in the teaching units were: the perception, visual distinction, naming, comparing, researching and expression of different colours, shapes and other artistic elements and their relationships; the acquisition of the foreseen visual arts terms; the recognition of given visual arts problems and techniques in artworks; the research of features of visual arts material and techniques; the development of visual thinking and imagination. Certain key concepts were explained to the teachers: the importance of communication with students and ways of asking questions, encouraging active conversation as

a basis for better adoption of visual concepts, and the development of creative thinking and expression. Teachers were also made aware of the need to use various teaching aids and equipment. PPT presentations were prepared for each teaching unit, along with various reproductions of artworks, games and other teaching aids. On this basis, teachers became aware of new possibilities for the presentation of the teaching content and the organisation of the teaching process, thus modifying their instructional approach. All of the participants took part in the study voluntarily, and their anonymity was guaranteed.

The survey results are based on an assessment of the students' paintings according to the following aforementioned criteria: knowledge and understanding of visual arts terms, abilities and skills in the use of art materials, and techniques and creativity in solving visual arts problems. These criteria were set based on the main outcomes, i.e., the most important competences that students acquire in visual arts education. Knowledge and understanding of visual arts terms includes knowledge and understanding of visual language (visual and structural elements), as well as understanding the characteristics of visual concepts and their implementation in solving visual tasks. Abilities and skills in the use of art materials and techniques includes a skilled command of art materials, enabling the students to master the methods of art technique performance, and their creative use in solving visual arts problems. Creativity in solving visual arts problems includes six categories: sensitivity to problems (observation of artistic values, recognising and experiencing visual arts tasks), elaboration (organisation and use of visual elements, performance of art composition), flexibility (flexible adaption to art-expressive instruments; solving visual arts problems in a new way), fluency (richness of art ideas), originality (unusual and individual realisation of art ideas) and redefinition (connection and redefinition of previous art experiences into new artistic content/structures) (Karlavaris & Berce Golob, 1991).

Results and Discussion

The results of the pedagogical experiment are based on a statistical analysis of the students' paintings. After the completion of the experiment, the paintings were examined and assessed by three independent assessors on the basis of a five-point Likert scale. Summary assessments were designed so that the three different grades of each assessor for each rating class and for each teaching unit were totalled and the average of the three ratings for each variable was taken as the final score for that variable. The interclass correlation coefficient (ICC) was used to determine the reliability of the instrument, based on

which the three independent assessors evaluated the students' artwork. The results show that the coefficient value is very high (α > .80), which confirms the very high reliability of the evaluation scale.

Comparison of the Control Group and Experimental Group in the Initial State

The normality of the results distribution for each of the dimensions was checked using the Kolmogorov-Smirnov (KS) test. Due to abnormalities in the results distribution, the nonparametric Mann-Whitney U test was used for further statistical analysis. The Mann-Whitney U test was used to evaluate differences in mean ratings between the two groups according to knowledge and understanding of visual arts terms, abilities and skills in the use of art materials and techniques, and creativity in solving visual arts problems (which comprises six variables). The two groups were compared in each dimension, both in the initial phase and after each of the four subsequent teaching units.

Table 2. *Results of the Mann-Whitney U test in the initial state of the control group and the experimental group*

		Mann-Whitn U	Wilcoxon W	Z	p	CG Median	EG Median
KNOWLEDGE		9698.500	20138.500	-.263	0.793	2.00	2.00
USE OF ART TECHNIQUES		9805.000	20245.000	-.106	0.915	2.00	2.00
CREATI VI TY	Sensitivity	9270.000	19710.000	-.911	0.362	2.00	1.67
	Elaboration	9270.000	19710.000	-.911	0.362	2.00	1.67
	Flexibility	9088.000	18541.000	-1.320	0.187	2.00	2.00
	Fluency	9703.000	19156.000	-.249	0.804	2.00	2.00
	Originality	9703.000	19156.000	-.249	0.804	2.00	2.00
	Redefinition	9545.500	18998.500	-.570	0.569	2.00	2.00
SUMM: INIT. T. UNIT		9832.000	20272.000	-.047	0.962	1.88	1.92

N = 285

The results show that there are no statistically significant differences between the CG and the EG in the initial state (Table 2).

Comparison of the Control Group and the Experimental Group in the Final State

Data on the results of the pedagogical experiment were obtained using the same instruments as the data for the initial state.

Table 3. *Results of the Mann-Whitney U test in comparing the state in the control group and the experimental group after performing the first teaching unit*

		Mann-Whitn U	Wilcoxon W	Z	p	CG Median	EG Median
KNOWLEDGE		2417.500	11870.500	-11.602	0.000	2.00	3.00
USE OF ART TECHNIQUES		2085.000	11538.000	-11.955	0.000	2.00	3.00
CREATI VI TY	Sensitivity	2494.500	11947.500	-11.482	0.000	2.00	3.00
	Elaboration	3272.000	12725.000	-10.238	0.000	2.00	3.00
	Flexibility	2986.500	12439.500	-10.927	0.000	2.00	3.00
	Fluency	3506.000	12959.000	-10.115	0.000	2.00	3.00
	Originality	3000.000	12453.000	-11.182	0.000	2.00	3.00
	Redefinition	2569.500	12022.500	-11.735	0.000	2.00	3.00
SUMM: T. UNIT 1		1614.000	11067.000	-12.150	0.000	2.00	3.00

N = 285

Table 4. *Results of the Mann-Whitney U test in comparing the state in the control group and the experimental group after performing the second teaching unit*

		Mann-Whitn U	Wilcoxon W	Z	p	CG Median	EG Median
KNOWLEDGE		2400.500	11853.500	-11.550	0.000	2.00	3.00
USE OF ART TECHNIQUES		1511.500	10964.500	-12.940	0.000	2.00	3.00
CREATI VI TY	Sensitivity	1996.500	11449.500	-12.013	0.000	2.00	3.00
	Elaboration	2169.000	11622.000	-11.948	0.000	2.00	3.00
	Flexibility	2537.500	11990.500	-11.601	0.000	2.00	3.00
	Fluency	2576.500	12029.500	-11.508	0.000	2.00	3.00
	Originality	2360.000	11813.000	-12.208	0.000	2.00	3.00
	Redefinition	2132.500	11585.500	-12.444	0.000	2.00	3.00
SUMM: T. UNIT 2		1368.500	10821.500	-12.536	0.000	2.00	3.00

N = 285

Table 5. *Results of the Mann-Whitney U test in comparing the state in the control group and the experimental group after performing the third teaching unit*

		Mann-Whitn U	Wilcoxon W	Z	p	CG Median	EG Median
KNOWLEDGE		1480.500	10933.500	-12.986	0.000	2.00	4.00
USE OF ART TECHNIQUES		1187.500	10640.500	-13.385	0.000	2.00	3.00
CREATI VI TY	Sensitivity	1121.500	10574.500	-13.392	0.000	2.00	3.00
	Elaboration	1723.500	11176.500	-12.462	0.000	2.00	3.00
	Flexibility	1688.500	11141.500	-12.827	0.000	2.00	3.00
	Fluency	1690.000	11143.000	-12.825	0.000	2.00	3.00
	Originality	1580.000	11033.000	-13.253	0.000	2.00	3.00
	Redefinition	1455.500	10908.500	-13.375	0.000	2.00	3.00
SUMM: T. UNIT 3		792.000	10245.000	-13.396	0.000	2.00	3.25

N = 285

Table 6. *Results of the Mann-Whitney U test in comparing the state in the control group and the experimental group after performing the fourth teaching unit*

		Mann-Whitn U	Wilcoxon W	Z	p	CG Median	EG Median
KNOWLEDGE		1092.500	10545.500	-13.487	0.000	2.00	3.17
USE OF ART TECHNIQUES		999.000	10452.000	-13.744	0.000	2.00	3.00
CREATI VI TY	Sensitivity	966.500	10419.500	-13.582	0.000	2.00	3.00
	Elaboration	1738.500	11191.500	-12.584	0.000	2.00	3.00
	Flexibility	1720.500	11173.500	-12.723	0.000	2.00	3.00
	Fluency	1776.000	11229.000	-12.696	0.000	2.00	3.00
	Originality	1713.000	11166.000	-12.974	0.000	2.00	3.00
	Redefinition	1338.500	10791.500	-13.468	0.000	2.00	3.00
SUMM: T. UNIT 4		637.500	10090.500	-13.668	0.000	2.00	3.25

N = 285

The results given in Tables 3, 4, 5 and 6 show that there are statistically significant differences between the CG and the EG after performing teaching units 1, 2, 3 and 4 for all of the measured variables. Better results were achieved in the EG and weaker results were achieved in the CG. The results indicate that the use of the optimised interactive model of teaching employing specific (visual arts) methods in the experimental group significantly affected the improvement of the quality of teaching and the results in all areas of research

(knowledge and understanding of visual arts terms, the use of art materials and techniques, and creativity).

With regard to knowledge and understanding of visual arts terms, it was determined that the students in the EG were more successful in solving visual arts problems than the students in the CG. The acquired knowledge of art terms was applied in a more consistent way in the EG than in the CG. In the paintings produced, this is evident in the understanding and elaboration of visual problems, in the knowledge of the main characteristics and the method of use of art materials and techniques, and in the linking of new visual arts knowledge with knowledge already acquired. It is important that the students' activity provokes their cognitive engagement through information processing in an non-automatic and non-passive manner, at a deeper level and with more productive knowledge than in traditional learning. Studies show that the results in the field of motivation, memory and the ability to distinguish what is important from what is not are significantly higher while performing interactive teaching than the results obtained in tradition-oriented teaching (Suzić, 2002). An interactive approach to learning and teaching in visual arts classes aids the acquisition of a better understanding of visual arts terms and concepts through activities such as art appreciation and the analysis of artworks, activities that demand a process of constructing meaning (Prater, 2001).

Differences between the student artworks in the CG and the EG are also evident in the use of art materials and techniques. The students in the CG mainly used painting supplies in a common way, with no experimentation with and use of the diverse possibilities of combining art materials and techniques, despite the fact that paint is a material that offers children a wide range of representational options, as well as special features and many opportunities for expressing ideas (Louis, 2013). Students were generally more focused on the presentation of visual motifs, and less on the use of art techniques. In the EG, more attention was focused on the appropriate use of art materials. Moreover, the students were encouraged to further experimentation with painting materials and techniques and with their combinations. Consequently, the students in the EG used visual art techniques with greater sureness and increased creative exploration of their expressive possibilities. As well as providing students with various materials that allow them to express their ideas and creativity (Batič, 2014; Tomšič Čerkez, 2004), it is also important to show them how to use the art materials (in terms of the technique and technology of the materials), and then encourage them to combine the materials in various ways, exploring all of the possibilities of combining art techniques.

The student paintings in the EG also demonstrate greater creativity than

those in the CG. They show better visual perception and a sense of artistic and aesthetic values, greater sensitivity and understanding of visual problems and different approaches in the search for new artistic solutions. In the work from the EG, the greater visual sensitivity of the majority of the students is evident in the original presentation of motifs, in the numerous visual details, in the richness of the creative ideas, and in the interesting ways of using art techniques. When solving problems, the students in the EG produced a large number of artistic ideas, demonstrated the ability to interpret the motifs in their own way, and showed inspiration and desire for experimentation, all of which resulted in original artistic solutions. Reflection on visual problems and the increased involvement of the students during their work is evident in most of the paintings. Some studies have already shown that, based on models developed in visual arts education, creativity can be enhanced and teaching strategies can be developed to stimulate creativity. In visual arts education, creativity should be viewed not as an exclusive talent or the product of extraordinary genius, but as something inherent in all students as abilities that enable one to be creative (Weisberg, 1993; Zimmerman, 2010). Therefore, creativity can be viewed as a complex process, an interactive system in which relationships between persons, processes, products, and social and cultural contexts are of paramount importance (Zimmerman, 2009). In developing creativity, interactions between teachers and students are of crucial importance (Lowenfeld, 1957). In fact, social-based instruction can be viewed as "one of these ordinary processes implicated in developing creative dispositions" (Anderson & Yates, 1999, p. 468).

The students in the EG were encouraged to ask questions, to "think aloud" and to interact informally in smaller groups during short creative problem-solving tasks (solving visual arts problems in the form of short creative learning games) before engaging in artistic expression. Kumar (2003) argues that dividing instruction into segments characterised by various short student activities is a successful way to keep students interested and involved. Studies also show that student-centred collaborative learning promotes creative thinking in solving art and design problems, helping individuals to integrate multiple perspectives on a problem (Pun, 2012).

The use of a combination of general and specific methods also contributed to better results in the EG. The value of the effective use of general and specific teaching methods in visual arts classes has been argued by some authors (Berce Golob, 1990; Karlavaris, 1991; Tacol, 2003). The choice of specific teaching methods was made with the assumption that their focus on the specifics of visual areas justifies their use in contemporary, interactive and problem-based visual arts education.

The use of PowerPoint presentations proved very helpful and motivating for the students in the EG. Apperson, Laws and Scepansky (2008) demonstrated that students prefer PowerPoint presentations and respond favourably to classes when they are used. PowerPoint presentations should reflect the educational purpose of the visual arts instruction and can be a powerful teaching tool when used as a stimulus for the development of perception and visual reasoning skills, for analysis of artworks, for discussion and interaction, for creating associations based on images viewed, and for developing creative exploration and expression of thought (Black & Browning, 2011).

Based on the results, it can be concluded that the effect of the pedagogical experiment conducted is positive. The role of the teachers in the EG should also be highlighted. These teachers changed their way of teaching, showed greater commitment and proved to be a key factor in the efficient performance of the experimental model. This is even more important due to the fact that using specific active instructional methods during instruction will mostly depend on the attitudes, skills and preferences of the teachers (Van Dijk, Van Den Berg, & Van Keulen, 1999). Teachers also play a significant role in the creative performance of their students (Baeten, Kyndt, Struyven, & Dochy, 2010). Teachers in the EG engaged the students in learning activities such as conversation, creative didactic play, cooperative work in small groups and evaluating the results of work, which resulted in the achievement of better educational outcomes in the EG than the CG.

In view of the results obtained with the pedagogical experiment, we can conclude the following:

- Analysis of the results showed that in the final state there is a statistically significant difference between the EG and the CG in the area of knowledge and understanding of visual arts terms. *Hypothesis H1 is therefore confirmed.*
- Analysis of the results also showed that in the final state there are statistically significant differences between the EG and the CG in the area of abilities and skills in the use of art materials and techniques. *Hypothesis H2 is therefore confirmed.*
- Analysis of the results also showed that in the final state there are statistically significant differences between the EG and the CG in all of the variables in the area of art creativity (sensitivity to visual arts problems, elaboration, flexibility, fluency, originality, redefinition). *Hypothesis H3 is therefore confirmed.*

Conclusion

The purpose of the study was to examine the effects of interactive teaching and learning in the context of visual arts education in primary school on the quality of instruction. Despite numerous studies on the results of the application of interactive learning in various educational contexts, there is no empirical research examining the effects of an interactive approach to learning and teaching in visual arts education. An interactive approach to teaching and learning in visual arts education places emphasis on better communication between all of the subjects in the educational process, as well as on the use of teaching strategies that ensure greater activity and motivation of the students, such as problem-solving learning, cooperative learning, learning through play, active learning and experiential learning. Such an approach enables students a better understanding of the teaching content and better results in artistic expression. In order to comply with the specifics of visual arts education, it is also necessary to use specific (visual arts) methods in the teaching process. The results of the study show that there are significant differences between the traditional and the interactive model of teaching and learning in visual arts education. Interactive, problem-based teaching of the visual arts, with a focus on the acquisition and understanding of visual concepts and content through students' active approach to learning, creative play, affective experience and motor activity, resulted in better instructional outcomes. After using an interactive, optimised model of teaching in the experimental group, the students' knowledge and understanding of visual arts terms, their abilities and skills in the use of art materials and techniques, and their creativity in solving art tasks increased compared to the control group. Teachers nonetheless still avoid interactive instruction in classrooms, probably due to fear of losing control over the teaching process, as well as to more demanding preparation for instruction or perhaps to inexperience (Auster & Wylie, 2006; Van Dijk & Jochems, 2002). These problems can be solved by organising adequate courses, discussion groups and workshops as part of the professional development of teachers.

The research results also open up opportunities for further research, which could easily be carried out in several directions. It would be interesting to research the effects of the experimental interactive model of teaching on other areas of the visual arts (drawing, sculpture, graphics), as well as on other levels of primary school teaching (younger and older age groups of students). In addition to the four specific methods used in the research, the effectiveness of other specific methods and their combinations should be analysed with regard to various visual arts problems and students of different ages. The research

was conducted with the aim of establishing guidelines for the modernisation of the methodical process of visual arts education in primary school teaching. The research results can serve as a starting point for further studies and for the use of the specific methods in educational practice, which can be applied when revising or designing visual arts educational curricula. Through the application of an interactive approach to learning and teaching in visual arts classes, students will be able to acquire better visual arts knowledge and skills, i.e., the learning objectives prescribed by the curriculum, such as cognitive, psycho-motor and emotional development, as well as the development of aesthetic sensitivity. We assume that the results of the research will raise teachers' awareness of the need to change their approach to learning and teaching of the visual arts in the direction of a contemporary, interactive approach. In this way, visual arts classes can be conducted in a dynamic, active, competent manner, and with less routine in the classroom.

References

Anderson, A., & Yates, G. C. (1999). Clay Modelling and Social Modelling: effects of interactive teaching on young children's creative artmaking. *Educational Psychology*, *19*(4), 463-469.

Apperson, J. M., Laws, E. L., & Scepansky, J. A. (2008). An assessment of student preferences for PowerPoint presentation structure in undergraduate courses. *Computers & Education*, *50*(1), 148-153.

Auster, E. R., & Wylie, K. K. (2006). Creating active learning in the classroom: A systematic approach. *Journal of Management Education*, *30*(2), 333-353.

Baeten, M., Kyndt, E., Struyven, K., & Dochy, F. (2010). Using student-centred learning environments to stimulate deep approaches to learning: Factors encouraging or discouraging their effectiveness. *Educational Research Review*, *5*(3), 243-260.

Batič, J. (2014). Implementing Change in Architectural Design in Elementary School Art Education in Slovenia. *International Journal of Art & Design Education*, *33*(1), 130-140.

Berce Golob, H. (1990). *Metode likovno – vzgojnega dela v osnovni šoli na področju slikarstva.* Doctoral dissertation. Ljubljana: Akademija za likovno umetnost in oblikovanje.

Black, J., & Browning, K. (2011). Creativity in Digital Art Education Teaching Practices. *Art Education*, *64*(5), 19-34.

Burton, J. M. (2000). The configuration of meaning: Learner-centered art education revisited. *Studies in Art Education*, *41*(4), 330-345.

Craft, A. (2001). *Creativity in Education.* London: Continuum.

Duh, M., Zupančič, T., & Čagran, B. (2014). Development of Art Appreciation in 11–14 year-old Students. *International Journal of Art & Design Education*, *33*(2), 208-222.

Efland, A. D. (2002). *Art and Cognition: Integrating the Visual Arts in the Curriculum*. New York/ Reston: Teachers College Press, Columbia University and National Art Education Association.

Huitt, W. (2003). A transactional model of the teaching/learning process. *Educational Psychology Interactive*. Retrieved 03.10.2012 from http://www.edpsycinteractive.org/materials/tchlrnmd.html

Jagodzinski, J. (2009). Beyond aesthetics: Returning force and truth to art and its education. *Studies in Art Education*, *50*(4), 338-351.

Jenkins, E., Queen, A., & Algozzine, B. (2002). To block or not to block: That's not the question. *The Journal of Educational Research*, *95*(4), 196-202.

Karlavaris, B. (1991). *Metodika likovnog odgoja 1*. Rijeka: Hofbauer p.o.

Karlavaris, B., & Berce Golob, H. (1991). *Likovna vzgoja: priročnik za učitelje razrednega pouka*. Ljubljana: DSZ.

Kumar, S. (2003). An innovative method to enhance interaction during lecture sessions. *Advances in physiology education*, *27*(1), 20-25.

Littlejohn, S. W., & Foss, K. A. (2007) *Theories of Human Communication*. Belmont, CA: Thomson Learning Inc.

Louis, L. (2013). "No one's the boss of my painting:" A model of the early development of artistic graphic representation. *International Journal of Education & the Arts*, *14*(11). Retrieved 10.12.2014 from http://www.ijea.org/v14n11/

Lowenfeld, V. (1957). *Creative and mental growth*. (3rd ed.). New York: Mcmillan.

Matthews, J. (1999). *The Art of Childhood and Adolescence: The Construction of Meaning*. London: Falmer Press.

Murray, R., & Brightman, J. R. (1996). Interactive teaching. *European journal of engineering education*, *21*(3), 295-308.

Nastavni plan i program za osnovnu školu (2010). Zagreb: Ministarstvo znanosti, obrazovanja i športa Republike Hrvatske.

Pavlou, V., & Kambouri, M. (2007). Pupils' attitudes towards art teaching in primary school: an evaluation tool. *Studies in Educational Evaluation*, *33*(3), 282-301.

Prater, M. (2001). Constructivism and technology in art education. *Art Education*, *54*(6), 43-48.

Pun, S. K. (2012). Collaborative Learning: a means to Creative Thinking in Design. *International Journal of Education and Information Technologies, 6*(1), 33-43.

Sahlberg, P. (2007). Education policies for raising student learning. The Finnish approach. *Journal of Education Policy, 22*(2), 147-171.

Sawyer, R. K. (2004). Creative teaching: Collaborative discussion as disciplined improvisation. *Educational researcher*, *33*(2), 12-20.

Shreeve, A., Sims, E., & Trowler, P. (2010). 'A kind of exchange': learning from art and design teaching. *Higher Education Research & Development*, *29*(2), 125-138.

Smilan, C., & Miraglia, K. M. (2009). Authentic Art Integration. *Art Education*, *62*(6), 39-45.

Suzić, N. (2002). Efikasnost interaktivnog učenja u nastavi: eksperimentalna provjera. *Obrazovna tehnologija, 2*, 13-45.

Šimić Šašić, S. (2011). Interakcija nastavnik-učenik: teorije i mjerenje. *Psihologijske teme*, *20*(2), 233-260.

Tacol, T. (2003). *Likovno izražanje: didaktična izhodišča za problemski pouk likovne vzgoje v devetletni osnovni šoli*. Ljubljana: Debora.

Tacol, T., & Tomšič-Čerkez, B. (2004). Poučevanje likovne vzgoje v novem kurikulu. In *Učitelj med zahtevami, možnostmi in pričakovanji, zbornik radova,* Hotel Kompas, Kranjska Gora, 11-13 March 2004. Ljubljana: Zveza društev pedagoških delavcev Slovenije.

Tomić, A. (2003). *Izbrana poglavja iz didaktike.* Ljubljana: Filozofska fakulteta, Center za pedagoško izobraževanje.

Tomšič Čerkez, B. (2004) Likovni materiali in tridimenzionalne predstavitve prostora [Art materials and three-dimensional presentations of space]. *Likovna vzgoja, 5/6*(27–8), 25-37.

Tomljenović, Z., & Novaković, S. (2013). Mišljenja učitelja razredne nastave o učenju i poučavanju likovne kulture u osnovnoj školi [Classroom teachers' opinions on learning and teaching of visual arts in elementary school]. *Inovacije u nastavi*, *27*(1), 31-41.

Van Dijk, L. A., & Jochems, W. M. G. (2002). Changing a traditional lecturing approach into an interactive approach: Effects of interrupting the monologue in lectures. *International Journal of engineering education*, *18*(3), 275-284.

Van Dijk, L. A., van den Berg, G. C., & van Keulen, H. (1999). Using active instructional methods in lectures: a matter of skills and preferences. *Innovations in education and training international*, *36*(4), 260-272.

Vodič kroz Hrvatski Nacionalni Obrazovni Standard za osnovnu školu (2005). Zagreb: Ministarstvo znanosti, obrazovanja i športa Republike Hrvatske.

Weisberg, R. W. (1993). *Creativity: Beyond the myth of genius*. New York: Freeman.

Zimmerman, E. (2009). Reconceptualizing the role of creativity in art education theory and practice. *Studies in Art Education, 50*(4), 382-399.

Zimmerman, E. (2010). 2010 Lowenfeld Lecture Creativity and Art Education: A Personal Journey in Four Acts. *Art Education*, *63*(5), 84-94.

Županić Benić, M. (2011). Uloga učitelja u komunikaciji djeteta s likovnim djelom. In A. Balić-Šimrak (Ed.), *Umjetničko djelo u likovnom odgoju i obrazovanju* (pp. 144-157). Zbornik umjetničko-znanstvenih skupova 2009-2011. Zagreb: ECNSI Zagreb, Učiteljski fakultet Sveučilišta u Zagrebu.

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Teaching Literature through the Arts: A Few Notes on Teaching Aldous Huxley's Point Counter Point through Beethoven's Music

Dana Bădulescu[1]

"The world, transformed by industry's bold hand,
The human heart, by new-born instincts moved,
That have in burning fights been fully proved,
Your circle of creation now expand.
Advancing man bears on his soaring pinions,
In gratitude, art with him in his flight,
And out of Nature's now-enriched dominions
New worlds of beauty issue forth to light."
Friedrich Schiller, *The Artists*

The present article examines a teaching experiment undertaken by the author in order to point out not only the importance of the arts and aesthetics, but also their limitations. It also argues that, despite these limitations, the spirit of the arts opens us up to freedom and flexibility. Their purpose is not to give answers or solutions, but to make us question the most troubling aspects of our existence. The last chapter of Aldous Huxley's novel Point Counter Point invites an approach that should do justice to its musical qualities. Apart from borrowing the counterpoint technique from music, it also references music, therefore lending itself to performance, which renders its dramatic force with a strong impact upon readers.

Keywords: aesthetic education, intermediality, the "musicalisation of fiction", intellectualism, science, performance

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Poučevanje književnosti prek umetnosti: nekaj zapisov o poučevanju romana Kontrapunkt življenja avtorja Aldousa Huxleyja prek Beethovnove glasbe

Dana Bădulescu

V prispevku je predstavljena analiza eksperimenta, ki ga je izvedla avtorica; ta je želela poudariti ne samo pomembnost umetnosti in estetike, ampak tudi njune omejitve. Zagovarja, da kljub tem omejitvam duh umetnosti spodbuja fleksibilnost in svobodo. Njun namen ni dajati odgovorov ali rešitev, ampak spodbujati lastno spraševanje o najbolj skrb vzbujajočih vidikih obstajanja. V zadnjem poglavju novele Point Counter Point [Kontrapunkt življenja] Aldousa Huxleyja je uporabljen pristop, ki izstopa s svojimi glasbenimi kvalitetami. Poleg tega, da si sposodi tehniko kontrapunkta iz glasbe, se ustrezno sklicuje na glasbo in si jo sposoja pri izvedbi, kar z njeno dramatično močjo naredi močen vtis na bralce.

Ključne besede: estetska vzgoja, intermedialnost, »muzikalizacija fikcije«, intelektualnost, znanost, izvedba

The importance of aesthetic education from Schiller's times to the present day

At the end of the 18th century, in a plea for what he called "the aesthetic education of man", Friedrich Schiller stated in his Second Letter:

> The course of events has given a direction to the genius of the time that threatens to remove it continually further from the ideal of art. For art has to leave reality, it has to raise itself bodily above necessity and neediness; for art is the daughter of freedom, and it requires its prescriptions and rules to be furnished by the necessity of spirits and not by that of matter. But in our day it is necessity, neediness, that prevails, and bends a degraded humanity under its iron yoke. *Utility* is the great idol of the time, to which all powers do homage and all subjects are subservient. In this great balance of utility, the spiritual service of art has no weight, and, deprived of all encouragement, it vanishes from the noisy Vanity Fair of our time. The very spirit of philosophical inquiry itself robs the imagination of one promise after another, and the frontiers of art are narrowed, in proportion as the limits of science are enlarged. (http://www.bartleby.com/32/502.html)

More than two centuries have passed since Schiller alerted his contemporaries to the perils of "the genius of the time", which exalted utilitarianism to the detriment of the spiritual values inherent in art. The whole of the 19th century triumphantly marched along this path, guided by the genius that Schiller and other intellectuals of his time abhorred. In England, Jeremy Bentham, the father of utilitarianism, followed by John Stuart Mill, a proponent of utilitarianism who developed the theory of scientific method, set the frameworks of a system that grew oppressively and ruthlessly mechanical, coldly scientific and sterile. Thus, Schiller's alarmed and alarming remarks did not lose relevance; on the contrary, they were confirmed by a new century that sealed the import of this genius.

The artists of the 20th century felt largely divided between fascination towards the new *Zeitgeist*, which was essentially modern, and disinclination towards its stifling materialism and mercantilism. They either embraced aesthetics that related their art to science, technology and progress, or rejected and resented their flux and terror.

In the 21st century, we have inherited Schiller's modernity, which has undergone several stages in which it has sharpened or, more recently, has become liquid, as Zygmunt Bauman would put it. Is Schiller's sense of alienation and apprehension still relevant today?

Schiller concludes his Second Letter on a persuasive note, whose meaning endures:

> I hope that I shall succeed in convincing you that this matter of art is less foreign to the needs than to the tastes of our age; nay, that, to arrive at a solution even in the political problem, the road of aesthetics must be pursued, because it is through beauty that we arrive at freedom. (http://www.bartleby.com/32/502.html)

Werner Wolf's theory of "intermediality"

In his book *The Musicalization of Fiction. A Study in the Theory and History of Intermediality*, Werner Wolf (1999) defines "intermediality" as participation, that is, "the participation of more than one medium of expression in the signification of a human artefact" (p. 1). According to Wolf's explanation, the concept grew out of the interest in intertextuality, and both are the offshoots of a tendency in our contemporary culture towards opening out and exploring pluralities in interdisciplinary endeavours.

Although he argues that intermediality is a major characteristic of postmodernism, where medial boundaries are transgressed in order to create an illusion of reality in multi-media cyberspace, and where "installations" that experiment with a sense of synthesis of the arts and electronic media challenge our expectations of "closure", Wolf states at the same time that intermediality has a long history. The idea that the arts borrow techniques from one another can be traced back to Aristotle and to Horace's *ut pictura poesis*, continuing with Lessing's *Laocoön*, the Baroque *trompe l'oeil* techniques and the sense most modernist works of art give that the arts cannot be seen as separate media. Huxley's interest in the arts and in the sciences originated in his desire to access some essential truth, and it found a favourable context in the culture of his time.

Wolf points out that the relationship between literature and the other arts is very old. Ekphrasis is an illustration of how words can picture objects or works of art, appealing to our imagination, while staged drama and opera have always crossed medial boundaries. As old as it may be, intermediality has always been questioned, sometimes even by those who practise it. Despite entitling his novel *Point Counter Point* in order to suggest its intermedial nature, Huxley threw the very principle that underpins the novel, the "musicalisation of fiction", into serious doubt by including the figure of a novelist whose *raison d'ëtre* is to render it problematic.

Long before the term was invented, Huxley wrote with intermediality at the back of his mind, reflecting upon it in essays as well as in his metamedially

self-reflexive novels. In "And Wanton Optics", he stated that:

> The artist can, if he so desires, break down the bulkheads between the compartments and so give us a simultaneous view of two or more of them at a time. So seen, reality looks exceedingly queer. Which is how the ironist and the perplexed questioner desire it to look. (Huxley quoted in Birnbaum, 2009, p. 70)

Huxley and music

Born to a family with a solid intellectual tradition, Huxley became one of the most outstanding intellectuals of his time. He received an education that paid equal due to the sciences and the arts. During World War I, he frequented the Bloomsbury Group, an extremely arty circle of friends, and in its aftermath he and his family lived in Italy, where he would visit his friend D. H. Lawrence, who served as the model of the type of intellectual that grew into the figure of Mark Rampion in *Point Counter Point*.

Being of these two minds, Huxley could assess their worth and their follies from within. Like Lawrence, alias Mark Rampion, Huxley, who put a lot of himself in Philip Quarles, the novelist in the novel, found that the pursuit of science was a path leading to the sterility of the soul.

In "Aldous Huxley as Music Critic", Basil Hogarth (1935), Huxley's contemporary, argues that "Aldous Huxley is, in some respects, the most remarkable literary man who has ever written on musical subjects" (p. 1079). For a while, the writer was the accredited music critic of a weekly journal. Judging Huxley's competence and skills as a music critic, Hogarth (1935) points to the unique coexistence within his mind of the sciences and the arts, which actually enabled him to look at one in the light of the other:

> He stands indeed alone, not only amongst men of letters, but amongst musical critics, by reason of his unique method of thinking, the product of a strictly scientific method pursued to its ultimate logical conclusion, allied to a fundamental aesthetic philosophy that enable him to classify the musical experiences swiftly and succinctly. (p. 1079)

"Huxley's devout regard for Beethoven" and "the musicalisation of fiction"

In writing *Point Counter Point*, Huxley (1994) aspired to the purity of music through what Philip Quarles calls in his Notebook "the musicalisation of fiction":

> The musicalisation of fiction. Not in the symbolist way, by subordinating sense to sound. (*Pleuvent les bleus blaisers des astres taciturnes*. Mere glossolalia.) But on a large scale, in the construction. Meditate on Beethoven. The changes of moods, the abrupt transitions. (p. 384)

Of all musicians, Beethoven provided Huxley with a large-scale approach to the purity that Quarles – and through Quarles, Huxley himself – wanted to achieve in the novel. Chapter XXII of *Point Counter Point* consists of Philip's notebook entries, which reinforce the novel's self-reflexive nature. Wolf (1999) contends that "in works in which intermediality appears repeatedly or in a conspicuous way", which Huxley's novel makes obvious in the very title, "intermediality here is coupled with a tendency towards meta-reflection on problems of mediality or fictionality and related questions (just as prominent intertextuality may well be found in texts which at the same time are highly metatextual)" (p. 49).

Hogarth (1935) remarks upon "Huxley's devout regard for Beethoven" (p. 1080). Quoting the music critic's glosses on Beethoven, Hogarth explains that he was aware of the passion in Beethoven's music, which is also to be found in primitive music, with the significant difference that Beethoven's passion was "transmuted". So ethereal and spiritual did Beethoven's music become to Huxley's mind that,

> In such works as the "Hammerklavier" Sonata Beethoven passed into the transcendental region of pure art. (Huxley quoted in Hogarth, p. 1080)

In *Point Counter Point*, Philip Quarles meditates on the harmonious transition from "majesty" to its extreme ("a joke"), comedy not simply being followed by, but "hinting at prodigious and tragic solemnities in the scherzo of the C sharp minor quartet," not mere variations but almost a Möbius strip where "a theme is stated, then developed, pushed out of shape, imperceptibly deformed, until, though still recognizably the same, it has become quite different" (Huxley, 1994, p. 384). After pondering Beethoven's masterful achievement of this in music, Quarles wonders: "Get this into a novel. How?" (Huxley, 1994, p. 384). Quarles believes that abrupt transitions are achievable in the novel provided there are sufficient characters and "parallel, contrapuntal plots. While Jones is murdering a wife, Smith is wheeling the perambulator in the park" (Huxley, 1994, p. 384). This may be a solution to the simultaneity that can be suggested both in music and in verbal art by what Wolf (1999) calls "the juxtaposition of 'contrapuntal' elements in rapid succession in order to simulate a

(polyphonic) simultaneity of parts, though in reality only one chain of signifiers is present at a time" (p. 21). Quarles continues to describe the effects of alternating themes and modulating "by reduplicating situations and characters" (Huxley, 1994, p. 384), which is similar to variations in music. Yet another technique Quarles considers if musicalisation of fiction is desired on a large scale is the "god-like" way of modulating aspects:

> He will modulate from one to the other – as from the aesthetic to the psycho-chemical aspect of things, from the religious to the physiological or financial. (Huxley, 1994, p. 385)

What is the musicalisation of fiction? Whereas Huxley, through his fictionalised persona Philip Quarles, meditates on how to achieve it, Wolf (1999) defines it in the broader context of intermediality:

> It consists in an (in most cases) intentional shaping of the *discours* (affecting, e.g., the linguistic material, the formal arrangement or structure of the narrative, and the imagery used) and sometimes also of the *histoire* (the content structure of the narrative) so that verifiable or at least convincingly identifiable 'iconic' similarities or analogies to (a work of) music or to effects produced by it emerge in the fictional text. As a result, the reader has the impression that music is involved in the signifying process of the narrative not only as a general signified or a specific – real or imaginary – referent but also that the presence of music can indirectly be experienced while reading. (p. 52)

A Romanian philosopher's school

Constantin Noica (2002), Romanian philosopher, essayist and poet, a political prisoner during the communist regime, wrote in his *Philosophical Diary*:

> A book that you take from the book case, a *Prelude* by Bach that you play in the evening when everything is quiet, or an example of intellectual serenity are much more instructive than a lesson. Those young people see that you want to embody an idea and they also start embodying one. (Maybe the 'one and only thought' that Pârvan spoke about.) I think this school must be established.[2] (p. 10)

Noica's idea of a school may seem like the dream of an incurable dreamer, but it is a projection of what should ideally be the primary goal of education:

2 All of the passages from Noica's *Philosophical Diary* are the author's translation.

an activity aimed at leading disciples towards self-discovery in a way that allows their freedom. It should not stiffly and discouragingly "teach" them through some inhibiting "authority" and authoritarian methods; it should be an opening out, thereby encouraging empathy:

> The thought of the school, of that school where nothing should actually be taught, is my obsession. States of mind, that is what the others must be given; not content, not advice, not lectures. That is why lessons are not needed. (Noica, 2002, pp. 9-10)

Playing Beethoven to make a point

In the last chapter of *Point Counter Point*, Spandrell, a Baudelairean character whose blasé attitude has reached a climax, wants Mark Rampion to hear Beethoven's minor quartet *heilige Dankgesang eines genesenen an die Gotthed, in dir lydischen Tonart*, which proves "all kinds of things – God, the soul, goodness – unescapably" (Huxley, 1994, p. 560). Rampion is rather surprised by Spandrell's concern, but Spandrell explains his wish in terms of communion and empathy: "Because I believe in you and, if you confirm, I shall believe in myself" (Huxley, 1994, p. 560).

Spandrell is the director of the scenario in this episode of the novel. He has coldly calculated his own assassination, writing a note to the Secretary General of the Brotherhood of British Freemen in order to inform him where the murderer of Everard Webley will be able to be found the next day. He adds that Webley's killer "will probably answer the bell in person", carefully planning to do it himself, and – for a surplus of effect – that "He is armed and desperate" (Huxley, 1994, p. 563).

Robert Baker (1974) argues that "Spandrell is, for Huxley (and Rampion), the 'modern aesthete', the product of an excessive intellectual and aesthetic refinement that has rendered him sexually and socially sterile" (p. 132). He is the epitome of Lawrence's "sex in the head", by which he means excessive cerebration. In his novels, Lawrence put this idea in the mouth of Rupert Birkin, a spokesman for his own theories in *Women in Love*, while in Huxley's novel Lawrence's abhorrence of it is voiced by Rampion.

Baker (1974) speaks about the "Gothic intensity" (p. 132) with which Spandrell actually stages his own death against the background of Beethoven's string quartet. After loitering along the river bank of the Thames, while whistling "the opening phrases of the Lydian melody from the *heilige Danksgesang*" (Huxley, 1994, p. 562), he writes the note, puts it in an envelope and posts it. By using the word "phrases" in this context, Huxley subtly reinforces the similitude

between music and text, both of which rely on what Wolf (1999) calls "discrete signifying units" (p. 15). Although it is not easy to find the exact correlatives of these units in the two arts, what actually matters in this particular chapter of *Point Counter Point* is Huxley's clear intention to establish intermediality, which he planned for the novel on a large scale.

The walk reveals to Spandrell the filth of civilization – his attention focuses upon the refuse hurried by a tiny stream into the gutter – counterpointed, in his head, by Beethoven's music, which, Spandrell says to himself, is a proof of God's existence, but only so long as the music is there. In his despair, Spandrell wonders:

> When the bows were lifted from the strings, what then? Garbage and stupidity, the pitiless drought. (Huxley, 1994, p. 562)

Spandrell's eyes behold a city, which stands for the whole of Europe of those times, described with an imagery that is redolent of T. S. Eliot's *The Waste Land*. Spandrell and the voice in Eliot's poem strike notes of anguish at the sight of the arid cityscape, which is suggestive of the sterility of modern civilisation and of their own mind cast.

Spandrell turns his argument into the spectacle that he plays out in front of Rampion the next day: he starts by saying that "the *heilige Dankgesang* is the crucial part" (Huxley, 1994, p. 564), and while saying it he starts playing the music. For one more page, Spandrell is silent, letting the music speak, but this is where Huxley the music critic carries on, through the narrative voice, which uses words to evoke the music and to shed light upon it. After thirty bars that have built up heaven, "the character of the music suddenly changed" (Huxley, 1994, p. 564). This is a transition that Huxley the music critic praised so much. At this point in the show, Spandrell intervenes and comments: "He's feeling stronger; but it's not so heavenly" (Huxley, 1994, p. 564). Playing for his life, which he knows will end shortly, Spandrell desperately needs to prove God's existence in his last act, and his interrogation carries overtones of despair. He asks: "Isn't it a proof?" (Huxley, 1994, p. 565). Rampion, who is an advocate of the balance between body and spirit, cannot see in this pure music the same thing that stirs Spandrell's elation. For Rampion, "It's the art of a man who's lost his body," while Spandrell, counterpointing his argument, hurries to add in a dramatic tone: "But discovered his soul" (Huxley, 1994, p. 565). The man who knows he has lost his soul pines for it, and although Rampion seems to jump to conclusions before the movement is over, Spandrell insists that he should listen to it through before judging. The tension between their radically opposing views accumulates as the music plays in the background.

At the end of the movement, Spandrell turns the record over and lowers the needle, which is an intermission in the show. Rampion admits: "It *is* heaven, it *is* the life of the soul. It's the most spiritual abstraction from reality I've ever known" (Huxley, 1994, p. 565). However, he does not value it as Spandrell does; for Rampion, its abstraction is ultimately inhuman. This "bodilessness", as he calls it, cannot stand for the wholeness of the human being, which for him should be body and soul in harmony.

Huxley's narrator pauses the scene closely following the pauses in Beethoven's quartet. After the music begins again, Spandrell's own doubts vanish, but Rampion remarks that it is too good, meaning "Not human. If it lasted, you'd cease to be a man. You'd die" (Huxley, 1994, p. 567). The music continues while the men remain silent, and before the movement ends, Spandrell answers the doorbell, as planned. Hearing a pistol shot, Mary and Mark Rampion jump up and run to the door to see three men in the uniform of British Freemen looking down at Spandrell's body. The sound of music wafts through the open door and seems to express "absolute rest" (Huxley, 1994, p. 568), which is the state eventually attained by Spandrell, just as it is eventually attained by everybody. However, as Spandrell had thought while taking his walk the day before he died, when the bows are lifted from the strings, the sound to be heard is "only the scratching of the needle on the revolving disk" (Huxley 1994, p. 568). As Milton Birnbaum (2009) argues, "the reader is catapulted from the music of Beethoven into the prosaic ugliness of the daily realities" (p. 87).

Mise en abyme through performance in class

The formal technique of *mise en abyme* was Huxley's favourite. In the creative arts and literary theory, *mise en abyme*, similar to *Chinese boxes*, is a technique by which an image contains a smaller copy of itself, in a sequence that gives the impression of recurring infinitely. Huxley developed this as an aesthetic frame that translated his interest in metareference.

> Quarles starts toying with the idea of putting a novelist in the novel – just as Huxley himself had done when he put Philip Quarles in *Point Counter Point* – in order to create a *mise en abyme* effect that transcends the boundaries of the novel and involves the reality outside it, too:
>
> But why draw the line at one novelist inside your novel? Why not a second inside his? And a third inside the novel of the second? And so on to infinity, like those advertisements of Quaker Oats where there's a Quaker holding a box of oats, on which is the picture of another Quaker holding another box of oats, on which etc., etc. At about the tenth remove

> you might have a novelist telling your story in algebraic symbols or in terms of variations in blood-pressure, pulse, secretion of ductless glands and reaction times. (Huxley, 1994, p. 385)

At one of the removes, one might have the instructor performing the performance in the novel, which is the dialogue between Spandrell and Mark Rampion with Beethoven's music as what Wolf (1999) calls *intermedial "thematisation"* (p. 44). By performing it as described below, the students have a communal experience of a text that is intermedial by design, as well as being metamedially self-reflexive.

Performing Huxley's scene against the background of Beethoven's music

Huxley's use of counterpointing ideas implies that no particular idea is uniquely valid. There is no absolute truth, only a proliferation of truths set in dramatic contrast, like in the last scene of the novel, where neither the body nor the spirit can prevail, and where neither Spandrell's "moral masochism" (as Baker calls it) nor Rampion's balance wins the case.

Nonetheless, Huxley constructed his whole novel upon the musical technique of counterpoint, and in the last chapter he employed the purest form of music, which he considered the epitome of its kind, i.e., Beethoven's String Quartet No. 15 in A minor, Op. 132. Referring to Beethoven's last sonatas and later string quartets, Huxley the music critic wrote:

> They have no theme but themselves. A large amount of the supreme music of the world is not merely not written around any external subject: it is not even expressive of any particular emotion; in short – it is just music. (Huxley quoted by Hogarth, 1935, p. 1081)

As a novelist, Huxley translated the abstract spirit of Beethoven's music into the passages where the narrative voice does something very close to performing the music, which is interspersed with the dialogue between Spandrell and Rampion reinforcing its effect and transitions. Although emotions are played down, they seethe underneath until they are brutally silenced, as the music itself dies away. The only remaining sound is discordant and metallic, and Huxley deliberately chose this way of alternating sounds in order to foreground the intensity and dramatic force of music itself.

One way of teaching this scene is performing it with a view to putting the class into what Noica would call a "state of mind". When the narrative voice reaches the point when Spandrell lowers the needle onto the surface of the

gramophone box, everything should be in place for music to fill the space of the classroom, while the narrative voice, performed by the teacher, continues to read the passage with the music in the background.

The pauses in the text are also the pauses between the movements, and they are marked. When Spandrell says "Listen", the music stops, and the next paragraph begins with "The music began again" (Huxley, 1994, p. 566). If it is to achieve maximum impact on the class, the instructor's performance should carefully observe the dramatic effect of the verbal dialogue, and to an equal extent the intermedial dialogue between the verbal medium of the text and the music it not only references but enacts.

Relying on music and dialogue, this scene in Huxley's novel invites performance. Once performed, i.e., acted out, the words on the page and the music join and reinforce each other, just as Huxley intended them to.

Oral presentation of literature vs. silent reading

> As early as 1915, Maud May Babcock contended that:
> All literature was produced to be voiced and heard, just as music finds the end of its production for hearing ears. Interpretation means oral translation – histrionically it indicates a transition from the dead printed or written form into a living, breathing experience; this experience impresses itself upon the life of both listener and interpreter producing results very close to the impression of real experience. (Babcock quoted in Calingacion http://magyarszak.uni-miskolc.hu/kiadvanyok/drama2002/ea/belen.htm)

Indeed, performance may be a very strong incentive for students of literature. It brings the text to life, staging it, acting it out; it puts the text under a spotlight, releasing its latent energies. As Babcock hints, apart from making an impression upon the listener, performance also makes an impression upon the performer/interpreter, thus bringing them close and establishing a communion. Through performance, the text becomes a shared space.

Compared to silent reading, which obviously has its own upsides and rewards, especially for individual or solitary readers, an intelligent, imaginative and lively oral presentation of a lyric poem, a dramatic selection, or a prose passage is often the best classroom practice. However, as Wolf argues, the problem with reading fiction aloud in order to emphasise its musical qualities and effects may be that it has never been regarded primarily as sound. Consequently, Wolf (1999) sees it as an effort that is needed "to remind the reader of fiction of the

original sound quality of the letters he is perusing" (p. 16). What justifies the performance of this particular chapter in Huxley's novel in class, however, is its essentially dramatic and "dialogic" (in Bakhtin's sense of the word) nature. Meaning is not located in any particular character or scene. Huxley's purpose is to explore the vast space where meaning is negotiated through the dialogue of the characters and the arts. It is through performance that the essential significances of the text become obvious.

Communication studies have shown that learning or knowledge acquisition depends upon the individuals' capacity to retain, understand and interpret a message that is communicated to them, which is generally termed "comprehension". Of course, their comprehension is triggered by the mode of presentation. Performance, which ensures first-hand participative experience, increases the students' emotional involvement in the comprehension process.

Reading Huxley's passages in which not only the characters and the narrator speak, but music itself "speaks" while playing the music that becomes the protagonist of the chapter, the text and the music enhance each other. The text makes the listeners comprehend the music as the words evoke it:

> A single violin gave out a long note, then another a sixth above, dropped to the fifth (while the second violin began where the first had started), then leapt to the octave, and hung there suspended through two long beats. (Huxley, 1994, p. 563)

The words in the text relate the music to its creator and his tragic destiny, which turns the music itself into a miracle, then to the modern technology that enables its sounds to be recorded, and to an imaginary landscape suggested by its unfolding:

> More than a hundred years before, Beethoven, stone deaf, had heard the imaginary music of stringed instruments expressing his inmost thoughts and feelings. He had made signs with ink on ruled paper. A century later, four Hungarians had reproduced from the printed reproduction of Beethoven's scribbles that music which Beethoven had never heard except in his imagination. (Huxley, 1994, pp. 563-564)

This passage highlights the tremendous role of performance, and students may wish to relate Beethoven's "scribbles" and the Hungarians' performance, which gives life to the scores, to the text read out and the music played, a combined performance that gives life both to Beethoven's music and to Huxley's text.

Translating its most abstract characteristics into a descriptive vocabulary of concrete terms with imperceptible transitions, the narrative voice induces

the calm that is created by the music itself, while at the same time imagining a landscape "drawn" by it:

> Slowly, slowly, the melody unfolded itself. The archaic Lydian harmonies hung on the air. It was an unimpassioned music, transparent, pure and crystalline, like a tropical sea, an Alpine lake. Water on water, calm sliding over calm; the according of level horizons and waveless expanses, a counterpoint of serenities. (Huxley, 1994, p. 564)

Just listening to the music, its imaginative potential may fail to have its full impact on the listener. The text fulfils it, magnifying it, as a painting whose beauty increases if it is set in the right frame. But for the text, there may be bars that lose their precious shine. The text signals the abstractedness of music, while at the same time rendering it concrete and sensible. Likewise, the text's depths are fathomed by the music. Until the climax of the "scratching of the needle on the revolving disk" (Huxley, 1994, p. 568), text and music have joined their languages.

An integrative approach to teaching literature and the arts

Schiller may have been an idealistic late 18th century philosopher, but there are contemporary researchers who argue that aesthetic response is an important communication factor. Calingacion quotes Lindauer, who showed that "aesthetics deals not only with the interrelationships between the arts and society but also with the practical – art appreciation and education – and the applied – advertising and propaganda" (Lindauer quoted by Calingacion http://magyarszak.uni-miskolc.hu/kiadvanyok/drama2002/ea/belen.htm).

Huxley could not have agreed more with this statement, since he was worried by the manipulative role of advertising and propaganda, two aspects that transform the system of his Brave New World into a totalitarian system. However, the effects of advertising are not always the worst. Jameson and other theorists of the postmodern argue that today's societies have turned advertising into an art. The point of all of this is that we live in a world where fields are interconnected; therefore, our teaching practices should aim at an integrative approach, where literature and reading literature should be integrated into a larger schema.

Conclusion

Since Schiller's times, modern civilisation has developed a spirit of utilitarianism, which has had an impact upon education, too. Education has become increasingly job-oriented and targeted. Since the sciences have become its driving force, the humanities and the arts have been in decline.

Huxley was emblematically the conscience of his times. In his essays and novels, he wrote about the perils of modern civilisation. In *Point Counter Point*, excessive intellectualism, relying as it does on science and technology, leads to sterility. Can a pure art like music restore the wholeness of being? This is the dilemma raised by the last chapter of the novel. The issue is too complex to take a definite answer. Moreover, literature never gives answers. What it can give, instead, is a sense of restless questioning of the most troubling aspects of our existence. That is precisely what students have to be assisted to look for in novels like *Point Counter Point* through performance.

Performance puts the scene under their eyes and in their ears. While silent reading is by definition an experience that one has in some sort of "solitary confinement", performance ensures a communal, close to first-hand experience, in which not only the music as a referent participates, but also the characters' voices are actually heard and the drama of the scene is actually enacted. Thus, from the experience of the dramatic force of the scene, students can move on to further explorations of the text.

References

Baker, R. (1974). Spandrell's "Lydian Heaven". Moral Masochism and the Centrality of Spandrell in Huxley's "Point Counter Point". *Criticism*, *16*(2), 120-135.

Birnbaum, M. (2009). *Aldous Huxley: A Quest for Values*. Rutgers, NY: Transaction Publishers.

Calingacion, B. D. (2002). *Literature Alive. A Performative Approach in Teaching Literature.* Retrieved from http://magyarszak.uni-miskolc.hu/kiadvanyok/drama2002/ea/belen.htm

Hogarth, B. (1935). Aldous Huxley as Music Critic. *The Musical Times*, *76*(1114), 1079-1082.

Huxley, A. (1994) *Point Counter Point.* Los Angeles: Vintage.

Noica, C. (2002). *Jurnal filosofic.* Bucureşti: Humanitas.

Schiller, F. [1909-14]. *Letters upon the Aesthetic Education of Man.* Retrieved from http://www.bartleby.com/32/502.html

Wolf, W. (1999) *The Musicalization of Fiction. A Study in the Theory and History of Intermediality*. Amsterdam: Rodopi.

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The Role of the Arts in Tagore's Concept of Schooling

Irena Lesar[1]

The present article focuses particularly on the role and significance of the arts in the process of primary schooling in Tagore's school. He defined education as that which is one with life, and he believed that only education can give us real freedom. It is therefore essential that in the process of education we achieve the all-round development of the individual for harmonious adjustment to reality. The arts should be an essential part of life and of education, as it is only through the arts that it is possible to express one's experience and recognition of the harmonious connection between the universe, the individual reality and immortality, in addition to their being a source of pleasure. Only the arts (and nature as a teacher) enable the development of the entire personality, as well as the perception of reality and truth. Tagore thus understands the role of the arts in the life of the individual as a key factor in the formation of his/her personality, contributing to humanity.

Keywords: Shantiniketan, art education, education of the senses, education of the intellect, cultivation of feeling

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Vloga umetnosti v Tagorejevem konceptu šolanja

Irena Lesar

Ta članek se osredinja predvsem na vlogo in pomembnost umetnosti v procesu vzgoje in izobraževanja v Tagorejevi šoli Shantiniketan. Tagore je vzgojno-izobraževalni proces opredelil kot eno z življenjem in je verjel, da nam lahko le vzgoja in izobraževanje dajeta resnično svobodo. Zato je ključno, da v vzgojno-izobraževalnem procesu dosežemo vsestranski razvoj posameznika za harmonično prilagoditev realnosti. Umetnost mora biti bistveni del življenja in vzgojno-izobraževalnega procesa, saj samo ta omogoča izražanje posameznikovih doživetij, predstavlja vir uživanja in ne nazadnje omogoča prepoznavanje harmonične povezanosti med vesoljem, individualno resničnostjo in nesmrtnostjo. Samo umetnost (in narava kot učitelj) omogoča razvoj celotne osebnosti pa tudi zaznavanje oz. dojemanje realnosti in resnice. Tagore torej razume vlogo umetnosti v življenju posameznika kot ključni dejavnik pri oblikovanju njegove osebnosti in kot tiste, ki prispevajo k človečnosti.

Ključne besede: Shantiniketan, umetnostna vzgoja, vzgoja čutil, vzgoja razuma, kultiviranje občutenja povezanosti

Introduction

It is genuinely surprising how early Slovenian readers gained access to the works of Bengalese writer Rabindranath Tagore (7 May 1861 – 7 August 1941, also written Rabīndranātha Ṭhākura), the first non-European winner of the Nobel Prize in Literature, as the first translation of his short prose *The Crescent Moon* (translated by Alojz Gradnik as *Rastoči mesec*) was available in Slovenian as early as 1917. It is therefore even more surprising how little Tagore is known in Slovenia as the founder of his own special school Shantiniketan (literally abode (*niketan*) of peace (*shanti*)), which still operates in Bolpur, West Bengal; in the bibliographic system Cobiss, there is only one article in the Slovenian language focused on his school. It should be noted, however, that elsewhere in the world his solutions in the field of schooling have only come to prominence in recent times. As Jalan (1976) points out, his fame as a poet has eclipsed his exceptional contributions in literature to such a great extent that education and other aspects of his life have rarely received the attention and appreciation they deserve. At the same time, "his writings which are available in English versions do not fully represent his original work in Bengali. To a large extent, this was one of the reasons that, in his lifetime, Tagore's reputation in the Western world declined. English translations of his writings failed to give a complete picture of Tagore as an educator and social reconstructor. It seems worthwhile to explore other areas of Tagore's work and give them due attention" (Jalan, 1976, p. 2).

Tagore's ideas in the field of schooling are very interesting and are still relevant today despite their "age" (the first school commenced operation in 1901). In the present article, we will focus particularly on the role and significance of the arts in the process of primary schooling. Although this is one of the important features of Shantiniketan, analysts of Tagore's specific solutions devote little attention to it, instead perceiving it as almost self-evident, that is, as being a logical consequence of the founder himself, who was creatively active in numerous artistic fields during his lifetime. As K. M. O'Connell (2003) highlights in her presentation of Tagore, he "had written over twenty-five volumes of poetry, fifteen plays, ninety short stories, eleven novels, thirteen volumes of essays, initiated and edited various journals, prepared Bengali textbooks, kept up a correspondence involving thousands of letters, composed over two thousand songs; and – after the age of seventy – created more than two thousand pictures and sketches".

Understanding the role of the arts in Tagore's concept of education undoubtedly presupposes engaging with his basic points of departure in establishing his experimental school. In the present article, we will therefore dwell somewhat on his demands regarding the quality of schooling and the role of the

arts in the process of education. Although this represents an extremely narrow sector of Tagore's overall creativity in the field of education (which includes, for example, adult education of the rural population, national reconstruction with the village as the centre, the advocation of coeducation, eco-pedagogy, etc.), it is particularly relevant today, when most European countries are reflecting on how to reform school systems in order to achieve the objectives of the Lisbon Strategy or to improve results in international assessments (e.g., PISA, PIRLS, etc.). However, these processes often focus only on the pragmatic aspect of acquiring knowledge, and therefore justify arts education primarily with the so-called instrumental benefits evident on the private (improved test results, learning skills and self-efficacy, etc.) and public (development of social capital, economic growth, etc.) levels (Forrest, 2011; McCarthy, Ondaatje, Zarakas, & Brooks, 2004; Winner, Goldstein, & Vincent-Lancrin, 2013). Through familiarisation with Tagore's ideas about education, we can also assess what the role of school is or should be in modern society.

A briefly summary of Tagore's life and his work in the field of education

Rabindranath Tagore was born in 1861 into a prominent Calcutta family known for its socio-religious and cultural innovations during the 19th Bengal Renaissance. His grandfather Dwarkanath was involved in supporting medical facilities, educational institutions and the arts, and he fought for religious and social reform and the establishment of a free press. His father was also a leader in social and religious reform, and encouraged multicultural exchange in the family mansion Jorasanko (Jalan, 1976; O'Connell, 2003; Tagore, 2012). Tagore remembered this period as follows: "Fortunately for me I was brought up in a family where literature, music and art had become instinctive. My brothers and cousins lived in the freedom of ideas, and most of them had natural artistic powers. Nourished in these surroundings, I began to think early and to dream and to put my thoughts into expression. In religion and social ideals our family was free from all convention, being ostracized by society owing to our secession from orthodox beliefs and customs. This made us fearless in our freedom of mind, and we tried experiments in all departments of life. This was the education I had in my early days, freedom and joy in the exercise of my mental and artistic faculties. And because this made my mind fully alive to grow in its natural environment of nutrition, therefore the grinding of school system became so extremely intolerable to me" (Tagore, 1917, pp. 169–170). Given this description, it comes as no surprise that, after brief exposure to several schools,

Tagore refused to attend school. The only university degrees he ever received were honorary degrees bestowed late in life (O'Connell, 2003).

Tagore grew up in a house where all of the surging tides of the Indian Renaissance flowed through his daily life. In Bengal, this found expression in three great movements: religious, literary and national (Jalan, 1976). His experiences at Jorasanko provided him with a lifelong conviction about the importance of freedom in education and the importance of the arts for developing empathy and sensitivity, as well as the necessity for an intimate relationship with one's cultural and natural environment. In participating in the cosmopolitan activities of the family, he came to reject narrowness in general, and in particular any form of narrowness that separated one human being from another. He viewed education as a vehicle for appreciating the richest aspects of other cultures while maintaining one's own cultural specificity (O'Connell, 2003). As Tagore himself wrote: "I was brought up in an atmosphere of aspiration, aspiration for the expansion of the human spirit. We in our home sought freedom of power in our language, freedom of imagination in our literature, freedom of soul in our religious creeds and that of mind in our social environment. Such an opportunity has given me confidence in the power of education which is one with life and only which can give us real freedom, the highest that is claimed for man, his freedom of moral communion in the human world…" (Tagore, 1929, pp. 73–74, in O'Connell, 2003).

Even though Tagore did not have an academic degree in education, he was a great educator of his time. He not only advocated changes in education but also practised them in his school at Shantiniketan, which was founded in 1901 under the name Brahmacharyasram and was later changed to Brahmavidyalaya and finally to simply the Shantiniketan School. The school was expanded and, in 1921, the International University Visva-Bharati was formally inaugurated. In 1922, the rural welfare department of Visva-Bharati was formally opened in Surul with the name Sriniketan (the word "Sri" contains the idea of prosperity). Like the other departments of Visva-Bharati, Sriniketan grew slowly from small beginnings into a major centre of rural reconstruction and village education (Jalan, 1976). Many famous people have acquired knowledge in Tagore's schools, including Indira Gandhi, Gayatri Devi, Abdul Ghani Khan and Amartya Sen (Visva Bharati Alumni, 2015).

Tagore on education

Although Tagore was not an educationist in the strict academic sense and did not talk about the aim of education in a well-formulated logical way

(Jalan, 1976; Singh & Singh Rawat, 2013), his various essays contain a well-integrated view of life and the role of education in it. As Elmhirst writes (1961), Tagore's reflections on education were strongly marked by his first meeting with villagers in 1890, with their sufferings and their many problems related to cultivation, credit and marketing. At the beginning of the 20th century, when he was nearly 40 years old and was faced with the question of his own son's education, Tagore moved with his family from Calcutta to Shantiniketan, in order to found the school in which he expected to realise his ideas:

- to save children from some of the frustrations that he had suffered as a boy in the name of education;
- to cultivate and develop the arts of life: poetry, song, drama, movement in dance and design;
- to discover whether or not the Bengal villager could learn to stand on his/her own two feet and begin to solve at least some of his/her many problems for him/herself (Elmhirst, 1961, p. 18).

Tagore's deepening experience in relating to man and nature gave rise to his two most persistent drives in life: to bring joy and creativity to urban education along with alternative values for a sustainable future, and to bring scientific education and self-reliance to the rural people (Das Gupta, 2015).

Thanks to authors who understand Bengali and have undertaken exceptional research of his numerous writings (Das Gupta, 2015; Jalan, 1976; Nath Pan & Mete, 2007; Singh & Singh Rawat, 2013), we can see that Tagore's conception of education in the life of the individual and in society is specific, and that it is necessary to have at least a basic understanding of his philosophy of education in order to understand the role of the arts in the process of education. Although one can find numerous educational goals in his texts (such as education for international understanding and universal brotherhoods, education for aiding in the process of rural reconstruction), and although he stresses that it is necessary to respect certain demands in the process of education (such as encouraging the correlation between man and nature, blending the ideas of the East and West, the mother tongue as the medium of instruction, the rejection of book-centred education, practical and real teaching), in the continuation we will only focus on those goals and demands that enable us a more complex understanding of the role of the arts in the Shantiniketan School.

The ultimate *aim of education* – which did not emerge from the outside world but from Tagore's own experience, practice and experiments – should be *the all round development of the individual for a harmonious adjustment to reality*. Tagore regretted that "education of sympathy was not only systematically ignored in schools, but was severely repressed, because we may become

powerful by knowledge, but we attain fullness by sympathy. The highest education is that which does not merely give us information but makes our life in harmony with all existence" (Tagore, 1917, p. 142). Harmony with all existence can only be achieved when all of the faculties of the individual – intellectual, physical, moral, social and aesthetic – have been developed to the highest level of perfection.

In Tagore's philosophy of education, *aesthetic development is just as important as intellectual development*, if not more so, and music, literature, visual art, dance and drama were given great prominence in the daily life of the school. Students should take an active part in these finer aspects of human life, as they are essential to enrich the soul.

Tagore also placed great emphasis on the *intellectual development* of the child, the cultivation of the intellect in order to counterbalance emotional immaturity and instability, where it exists. However, he believed that this intellectual cultivation (e.g., the development of the imagination, creative free thinking, constant curiosity and alertness of the mind) could not be gained merely by reading books. Tagore was aware that "since childhood, instead of putting all the burden on the memory, the power of thinking, and the power of imagination should also be given opportunities for free exercise" (Tagore, 1351 B.S., p. 12, in Jalan, 1976, p. 42).

Tagore placed a great deal of importance on *physical development*, as evidenced by the fact that yoga, games and sports are prescribed in Shantiniketan as an integral part of the education system. "It is a function of the body, not merely to carry out vital actions so that we may live and move, but so that we may express, and not with the face alone, but with the legs, the arms and the hands. All our limbs have their own power to express. /…/ We often take a brisk walk when we are agitated, because thought needs bodily expression if it is to perform its work freely and fully. Children must dance, they must be restless, when they think, the body becomes restless and ripples with a variety of movement that helps to keep their muscles in harmony with the mind" (Tagore, 1961, p. 102). Movement, which we can also recognise in his demand for "the peripatetic" or mobile school, is important because it not only facilitates learning many things through direct observation but also keeps our awakened mental faculties constantly alert and receptive through contact with ever-varying scenes and objects (Jalan, 1976).

In order to achieve an integral development of the human personality, *moral and spiritual education* are more important than bookish knowledge. There must be adequate provision for the development of selfless activities, cooperation, and love of empathy and sharing among students in educational

institutions. Tagore emphasised the importance of discipline in a moral life, and real discipline means the protection of raw, natural impulses from unhealthy excitement and from growing in undesirable directions. Tagore's moral and spiritual aims in education were varied in nature. He advocated the power of self-determination, the ideal of peace and tranquillity, and the virtue of liberation of the self from all kinds of slavery, and his educational institutions supported these aims. As he himself said, "The character of good education is that it does not overpower man; it emancipates him" (Tagore, 1351 B.S., p. 62, in Jalan, 1976, p. 44).

Tagore stated that only *through freedom man can attain his fullness of growth*. He postulated three kinds of freedom: freedom of mind, freedom of heart and freedom of will. Freedom of mind is contrasted with the adult system of concentration of mind, and a child can only grow fully when he/she is given freedom to express him/herself, to explore the world on his/her own. Tagore interpreted freedom of heart as unrestricted human relationships. In school, teachers should act as a substitute for the mother in providing freedom of love to the children through understanding, sympathy and free companionship. Finally, freedom of will, or the free activity of the soul, consists of creating one's own world. The way to realise this ideal is to invite pupils to participate in the growth and development of the school. Accordingly, Tagore gave students free reign to develop their interest in any field they liked (Jalan, 1976).

Tagore believed that *nature is the pupil's best teacher*. Based on his experiences, Tagore argued that education should seek to develop sensitivity in the child through the direct experience of nature when her/his consciousness is at its freshest level. He recognised early childhood as the most critical time for developing empathy and the ability to connect with one's surroundings. It is nature that will be the guiding force to inculcate the mind of the student with the spirit of learning, so that he/she will pursue the education he/she likes; it is nature that will shape his/her behaviour and character (O'Connell, 2010). It is for this reason that Tagore was convinced that, in their early development, children should grow up in an environment surrounded by nature and not encircled by numerous modern acquisitions, which is why some observers reproached him for advocating bringing up children in poverty (Tagore, 1917).

Spiritualism is the essence of humanism. Manifestation of the personality depends upon the self-realisation and spiritual knowledge of the individual. Religion has an important place in education, but, for Tagore, this did not involve the formal teaching of a particular religious dogma. True religiousness, he stated, is as natural as respiration; it is as much a vital part of our being as breathing. He regarded religious training as a spirit, an inspiration, pervading

every aspect of human life, affirming its relationship with the highest of values and providing man with a sense of kinship with the Real. If education fails to cultivate the quality of human understanding and strengthen the sense of human unity, then it is considered superficial and misguided (Jalan, 1976). According to Tagore, Brahma, the supreme soul, manifests himself through men and other creatures. Since Brahma is the source of all human beings and all creatures, they are all equal. Tagore therefore said, "Service to man is service to God" (Singh & Singh Rawat, 2013, p. 207). All human beings should develop social relationships and empathy for their fellow man from the beginning of their lives. Education aims at the individual personality as well as at the social characteristics that enable one to live as a worthy being.

Although each of the key characteristics of Tagore's philosophy of education would need to be analysed in more detail, the brief overview presented above will, in the continuation, enable a deeper understanding of the role of the arts in this philosophy, which are given a special place in Tagore's life and in his school.

Why are the arts so important to Tagore?

In his work *Personality* (1917), Tagore devotes the first chapter to the question *What is art?* Like many other authors (Forrest, 2011), Tagore faces difficulties in defining art, "which has a life growth" (Tagore, 1917, p. 15), and that would mean "limiting one's own vision in order to see clear" (Tagore, 1917, p. 15). In his reflections, he therefore decided: "I shall not define Art, but question myself about the reason of its existence, and try to find out whether it owes its origin to some social purpose, or to the need of catering for our aesthetic enjoyment, or whether it has come out of some impulse of expression, which is the impulse of our being itself" (Tagore, 1917, p. 16). From his list of possible reasons for the existence of the arts, as well as from other texts, it is clear that Tagore does not emphasise the instrumental benefits brought by art, but rather remains within the framework of private intrinsic benefits, such as captivation, pleasure, an expanded capacity for empathy, and cognitive growth (McCarthy et al., 2004). This finding comes as no surprise if we consider the key emphases of his philosophy of education presented in the previous section, which make it entirely clear that the goals of education are focused only on the complete development of the individual and the encouragement of his/her emancipation.

Despite deciding not to define art, Tagore establishes its specific characteristics in comparison with science: "The world of science is not a world of reality, it is an abstract world of force. We can use it by the help of our intellect

but cannot realize it by the help of our personality. It is like a swarm of mechanics who, though producing things for ourselves as personal beings, are mere shadows to us. But there is another world which is real to us. We see it, feel it; we deal with it with all our emotions. Its mystery is endless because we cannot analyse it or measure it. We can but say, 'Here you are'" (Tagore, 1917, p. 12). In the continuation, he emphasises that "our scientific world is our world of reasoning. It has its greatness and uses and attractions. We are ready to pay the homage due to it. But when it claims to have discovered the real world for us and laughs at the worlds of all simpleminded men, then we must say it is like a general grown intoxicated of his power, usurping the throne of his king. The reality of the world belongs to the personality of man and not to reasoning, which is useful and great but which is not the man himself. /…/ Science does it by eliminating from its field of research the personality of creation and fixing its attention only upon the medium of creation" (Tagore, 1917, pp. 70, 72).

In this regard, it should be emphasised that Tagore initially distinguished between education of the senses (*indriyer siksa*) and education of the intellect (*jnaner siksa*). He then adds "cultivation of feeling" (*bodher tapasya/sadhana*), which involves an expansion of sympathy in kinship with all existence, that is, the realisation of man's bond of union with the universe through the spirit, the soul and the deeper intuition of feeling (Jalan, 1976; O'Connell, 2010). Taking into account the demand that, in education, it is necessary to cultivate feeling and the aforementioned moral and spiritual education, it is possible to understand the following reflection: "... our consciousness of the world, merely as the sum total of things that exist, and as governed by laws, is imperfect. But it is perfect when our consciousness realises all things as spiritually one with it, and therefore capable of giving us joy. For us the highest purpose of this world is not merely living in it, knowing it and making use of it, but realising our own selves in it through expansion of sympathy; not alienating ourselves from it and dominating it, but comprehending and uniting it with ourselves in perfect union" ("The Religion of the Forest" pp. 48–49, in O'Connell, 2010, p. 69). Tagore therefore emphasises that we must be particularly aware of our own infiniteness, which is reflected in our aspiration, enjoyment and sacrifice. "This infinite side of man must have its revealments in some symbols which have the elements of immortality. There it naturally seeks perfection. Therefore it refuses all that is flimsy and feeble and incongruous. It builds for its dwelling a paradise, where only those materials are used that have transcended the earth's mortality" (Tagore, 1917, pp. 43–44). From this, we can determine that, for Tagore, the arts are essential for the cultivation of feeling and experience, as well as for the expression of man's bond of union with the universe and his

infinite side. He believes that the role of artists is to discover the unique, the individual, which is at the heart of the universal. Unlike a botanist, for example, who on viewing a tree will attempt to classify and analyse it, the artist views it in its uniqueness, "Not through the peculiarity which is the discord of the unique, but through the personality which is harmony. Therefore he has to find out the inner concordance of that one thing with its outer surroundings of all things" (Tagore, 1917, p. 35). We can conclude that Tagore located the distinction between science and the arts in contrasting the general with the unique (Strunkel, 2003), and in the observation that the world of facts, which is characteristic of science, does not coincide with our world of experiences and expression.

In the continuation, Tagore compares man with other living beings and determines that "only man knows himself, because his impulse of knowledge comes back to him in its excess. He feels more intensely his personality than other creatures, because his power of feeling is more than can be exhausted by his objects. This efflux of the consciousness of his personality requires an outpour of expression. Therefore, in Art, man reveals himself and not his objects. His objects have their place in books of information and science, where he has completely to conceal himself" (Tagore, 1917, pp. 21–22). Tagore viewed the world of experience as the relationship of human consciousness with his object, and maintained that poets evoke a mutually dependent reality at the moment of inspiration. He did not believe that the world exists as an object independent of a perceiving subject, but he also did not accept that individual consciousness creates existence from itself (Stukel, 2003).

Tagore also emphasises that "In everyday life, when mostly we are moved by our habits, we are economical in our expression; for then our soul-consciousness is at its low level, – it has just volume enough to glide on in accustomed grooves. But when our heart is fully awakened in love, or in other great emotions, our personality is in its flood-tide. Then it feels the longing to express itself for the very sake of expression. Then comes Art, and we forget the claims of necessity, the thrift of usefulness, – the spires of our temples try to kiss the stars and the notes of our music to fathom the depth of the ineffable. /…/ Man's energies, running on two parallel lines, – that of utility and of self-expression – tend to meet and mingle" (Tagore, 1917, p. 27).

Tagore also engages with the question as to whether the central goal of the arts is the production of beauty. "As a consequence of this, we have often heard it argued whether manner, rather than matter, is the essential element in art. Such arguments become endless, like pouring water into a vessel whose bottom has been taken away. These discussions owe their origin to the idea that beauty is the object of art, and, because mere matter cannot have the property

of beauty, it becomes a question whether manner is not the principal factor in art. But the truth is, analytical treatment will not help us in discovering what is the vital point in art. For the true principle of art is the principle of unity, which cannot be analysed" (Tagore, 1917, pp. 30–31). A similar conclusion was reached by M. Forrest (2011, p. 69), who, in her reflections *Justifying the Arts: The Value of Illuminating Failures*, writes: "The ineffable quality of engagement that one experiences with a work of art defies causal forms of explanation. It provokes something that is unutterable yet must be uttered and accepted. The work of art provokes a performative paradox. Though we may offer causal explanations, they do not touch that which is characteristic of art; that which provokes us to offer 'peculiar kinds of comparisons' and the 'grouping together of certain cases.'"

Reading Tagore's reflections on the role of the arts in the life of the individual and society leads to the conclusion that the arts should be an essential part of life and therefore also an essential part of education, as it is only through the arts that it is possible to express one's experience and recognition of the harmonious connection between the universe, the individual reality and immortality, in addition to their being a source of pleasure. A human being is not only defined by the ability of reasoning; therefore, only the arts (and nature as a teacher) enable the development of the entire personality, as well as the perception of reality and truth. "This building of his true world, – the living world of truth and beauty, – is the function of Art" (Tagore, 1917, p. 44). Tagore thus understands the role of the arts in the life of the individual as a key factor in the formation of his/her personality, contributing to humanity. "Man's education," he categorically affirms, "aims at keeping alive to the last moment of life that infinite aspiration which is necessary for developing into full manhood. To attain full manhood is the ultimate end of education; everything else is subordinate to it" (Tagore, 1326 B.S., in Jalan, 1976, p. 41), and it is within the framework of the arts that Tagore emphasises the importance of blending the ideas of the East and the West.

The role of the arts in Shantiniketan

On recognising the importance that Tagore's philosophy of education places on the role of the arts in the life of the individual and society, one would expect his curriculum to place the greatest emphasis on a diverse range of artistic genres. This is, however, not the case, as the curriculum included "only" Bengali, Sanskrit, English, arithmetic, history, geography and science (Jalan, 1976, p. 62). Nonetheless, as emphasised by Mathew Pritchard (2014), who

studied the Rabindrasangit (the songs composed by Tagore) from 2009 to 2010 at the Sangit Bhavan or music department of the Visva-Bharati University in Shantiniketan, "although music and the arts were not part of the curriculum as such, they (along with observation of Nature, and games) formed part of the leisure hour after lessons were over. Rabindranath was in one of his most important creative phases in the 1900s and shared the results with the students. They worked to put on several of his plays, with regular lessons being deserted or cancelled as the school gathered around the famous open rehearsals leading up to the first performance. (This is still a feature of life at Sangit Bhavan and helps to create its particular atmosphere; though I can confirm it has its frustrating side when one is trying to pursue a regular course of study!)" (Pritchard, 2014, p. 105).

At the end of afternoon lessons (around 4.30 pm), before dinner, there is free time that the students enjoy in various ways. There are outdoor games organised for boys and girls, while some students go on long walking excursions with their teachers, spending the whole day in the open air, singing and playing games. Inspired by Tagore's life and teaching, some of the older and stronger boys go to the neighbouring villages to undertake a well-organised programme of social service, holding evening schools for (poor) villagers, organising their sports and amusements, teaching them handicrafts and helping them in many other ways with their essential tasks (Jalan, 1976, pp. 93–94).

When the evening meal is over, the students have time for entertainment such as storytelling, singing, a circus performance or enacting a play composed by the students themselves, to which the masters are invited. Evening study is forbidden for all boys and girls, with the exception of older students who need extra hours of work (Jalan, 1976, p. 95). When asked why he planned it this way, Tagore answered, "Books tell us that the discovery of fire was one of the biggest discoveries of man. I do not wish to dispute this. But I cannot help feeling how fortunate the little birds are that their parents cannot light lamps of an evening. They have their language lessons early in the morning and you must have noticed how gleefully they learn them" (Tagore, 1917, pp. 39–40).

From this description, we can conclude that, although the arts are not present within the framework of the regular instruction of the Shantiniketan Primary School, they are strongly embedded in leisure activities and in the everyday lives of the students, and therefore have a strong influence on them. In this regard, the question arises as to whether the students recite, perform, sing and stage their own creations and the works of Tagore, or whether they are also familiar with other artworks from India and further afield. From one of Tagore's letters, we can gather that he always sought to invite a diverse range of first-rate

artists to the school, not only from India but also from the Far East and Europe (Tagore, 2012, p. 168). In view of the fact that, in his childhood at home, Tagore had an opportunity to meet and associate with superb artists from diverse fields of culture, it comes as no surprise that he made great efforts to offer this experience to his students as often as possible. This practice is also in accordance with his goals of schooling – education for international understanding and universal brotherhoods – which he perhaps achieved only through becoming familiar with and admiring the cultural creations of other nations.

In this regard, Gall (2015) points out that "Tagore was striving for a form of community situated between the extremes of urban oversophisticated 'development' and a life submerged in rural primitive economic preoccupation with meeting basic existential needs. Both situations constrict people's freedom and culture in different ways. Nevertheless, with regard to working out the tensions between art and mundanity, aspects of Tagore aesthetics were problematic regardless of how insightful they otherwise were: specifically, the separation of the art/leisure/culture realm from the mundane/utilitarian/work realm" (Gall, 2015, p. 134). It has to be admitted that Tagore's Sanskrit formula, projected discursively and institutionally (Shriniketan is a school separate from Shantiniketan, devoted to poor children from the neighbouring villages), "regarded mundanity as something we have to live with relieved by art, not as something which could be transformed by it" (Gall, 2015, pp. 135–136).

In the continuation, Gall emphasises that Nandalal Bose (1882–1966), who was responsible for the task of directing the art programme in Kala Bhavana, succeeded in realising a different view of art in her pedagogical work, one that was not divorced from the mundane (Gall, 2015, p. 136). As Gall determines, one can gather from the texts and work of N. Bose that "there is a conviction that the divine, the most sublime, inhabits the mundane as much as the extraordinary, the secular as much as the sacred. /…/ Crucial to the transformation/translation of mundane materials, mechanical devices, skill and techniques, subject matter and themes, regardless of scale, was the practising human subject. The subject's attunement with truth(s) in his or her object – emotionally, intellectually, physically – distinguished the subject's activity, (art) practice and resulting (art) objects; marking them as more or less carriers of freedom or bondage, supra-personal meaning and delight (Ananda), or ego circumscribed and limited if not frustrated" (Gall, 2015, p. 138). Gall concludes his analysis with Tagore's observation that the overly strong connection between educational institutions and capitalist culture prevents alternative visions. This is why he established Visva-Bharati, where not only was it possible to imagine "work–survival–success" in a healthy relation to "art–leisure–pleasure", but

where Nandalal Bose, together with her artists/teachers, "could conceive the possibility of transforming the everyday and mundane. Their vision needs to be built on and advanced, their insight globalised" (Gall, 2015, p. 143).

Conclusion

Tagore conceived his experimental school in Shantiniketan on the basis of his own bad experiences with various schools – despite the fact that he did not complete any of these schools and therefore did not gain a formal level of education – as well as on his recognition of how strongly the schools of the time were influenced by the ruling elite, who sought to preserve the prevailing relationships of social power. However, more than the preservation of the social class system and the power of the elite, Tagore was probably more concerned about the influence of the operation of the schools on the developing human being. The schools were primarily focused on the development of memory and reason, and with their scientific methodology they convinced growing children that only this kind of analytical thinking and functioning in the world was of value, thus completely overlooking the wholeness of life and the genuine purpose of education.

Tagore defined education as that which is one with life, and he believed that only education can give us real freedom (freedom of mind, freedom of heart and freedom of will). It is therefore essential that in the process of education we achieve the all-round development of the individual for harmonious adjustment to reality. In creating the school, Tagore drew from his own deep experience of connection with nature (in the early period, the children therefore spend most of their time in the natural environment), and from the presence of the eternal Divine Spirit in all creation (the authenticity of the place lay in its respect for the "sacrament of co-existence" (Ghosh, 2012, p. 27) and in the idea that we can find our meaning and fulfilment relationally, in our kinship with all that is), as well as from the education he had experienced in his own family (the necessity to create a rich cultural environment).

Not only do pupils become familiar with various artistic genres in their free time, the arts enable them to experience and express their individual reality, harmony with all existence, immortality and a unique bond with the Universe. As well as bringing joy, this kind of experience encourages the cultivation of feelings and provides practice in freedom of 'mind, heart and will'. Thus the arts facilitate not only aesthetic development, but also intellectual, physical and moral development. It is interesting that Tagore completely rejected education about the arts, instead advocating education through the arts. His success lay

in the fact that he did not try to directly control the ideas, feelings and values of the children, but imaginatively designed an environment and a programme of activities and experiences that evoked the desired responses. "I tried my best, to develop in the children of my school the freshness of their feeling for nature, a sensitiveness of soul in their relationship with their human surroundings with the help of literature, festive ceremonials and also the religious teaching which enjoins us to come to the nearer presence of the world through the soul, thus to gain it more than can be measured" (Tagore, 1946, p. 9, in Jalan, 1976, p. 102). We could say that education and culture are one in the same thing, they are an ongoing process, and a process quite open to processes outside the school walls, in the sense that Tagore's understanding of the role of the arts in the process of education is very close to the Humboldtian tradition of Bildung (Pritchard, 2014, p. 111).

Tagore's philosophy of education, including art education, can be described as Romantic and idealist in orientation (Ghosh, 2012; Pritchard, 2014). In his conception of school and his philosophy of education, many contemporary authors nonetheless recognise a source of inspiration in justifying the necessity of including the arts in education, not only in order to realise intrinsic benefits, but also due to contemporary challenges within the framework of citizenship education (Nussbaum, 2006), the demand for the more efficient development of students' creativity (O'Connell, 2010), and greater ecological awareness of young people (Ghosh, 2012; O'Connell, 2010). There is no doubt that Tagore's reflections also present contemporary pedagogues with numerous challenges, particularly with regard to seeking a paradigm for the effects of this kind of teaching and regime in school on developing individuals. For those dealing with the question of the role of school in modern societies, Tagore's concept of education represents a support in defining the school not only as an "ideological apparatus of the (European) economy" but as a cultural institution in which science and art have an equivalent role, and in which not only the instrumental benefits are highlighted, but also the moral educational benefits.

References

Das Gupta, U. (2015). *Rabindranath Tagore (1861–1941) a Biographical Sketch*. Retrieved 15.03.2015 from http://www.parabaas.com/rabindranath/articles/pTagore_Biography.html

Elmhirst, L. K. (1961). The Foundation of Sriniketan. In R. Tagore & L. K. Elmhirst (Eds.), *Rabindranath Tagore Pioneer in Education: Essays and Exchanges between Rabindranath Tagore and L. K. Elmhirst* (pp. 18–43). London: John Murray.

Forrest, M. (2011). Justifying the Arts: The Value of Illuminating Failures. *Journal of Philosophy of*

Education, 45(1), 59–73.

Gall, D. A. (2015). A Dialectic of Disinterested and Immersive Aesthetics: Santiniketan Art Education and Labour Translated. *International Journal of Art & Design Education*, *34,* 132–144. doi: 10.1111/jade.01769

McCarthy, K. F., Ondaatje, E. H., Zarakas, L., & Brooks, A. (2004). *Gifts of the Muse. Reframing the Debate About the Benefits of the Arts*. Santa Monica: RAND Corporation.

Nussbaum, M. C. (2006). Education and Democratic Citizenship: Capabilities and Quality Education. *Journal of Human Development, 7*(3), 385–395.

O'Connell, K. M. (2003). 'Rabindranath Tagore on education'. *The encyclopaedia of informal education.* Retrieved 15.03.2015 from: http://infed.org/mobi/rabindranath-tagore-on-education/

Pritchard, M. (2014). A poem in a medium not of words: Music, dance and arts education in Rabindranath Tagore's Santiniketan. *Arts & Humanities in Higher Education, 13*(1–2), 101–114. DOI: 10.1177/1474022213491344

Jalan, R. V. (1976). *Tagore – his educational theory and practice and its impact on Indian education* [A dissertation presented to the graduate council of The university of Florida in partial fulfillment of the requirements for the degree of Doctor of philosophy]. University of Florida. Retrieved 25.07.2012 from https://archive.org/details/tagorehiseducatioojala

Ghosh, R. (2012) A Poet's School: Rabindranath Tagore and the Politics of Aesthetic Education, South Asia. *Journal of South Asian Studies*, *35*(1), 13– 32, DOI: 10.1080/00856401.2012.648900

Singh, R., & Singh Rawat, S. (2013). Rabindranath tagore's contribution in education. *VSRD International Journal of Technical & Non-Technical Research*, *IV*(VIII), 201–208.

Strunkel, K. R. (2003) Rabindranath Tagore and the Aesthetics of Postmodernism. *International Journal of Politics, Culture and Society, 17*(2), 237–259.

Tagore, R. (1917). *The Personality*. New York: Macmillian Company.

Tagore, R. (1961). A Poet's School. In R. Tagore & L. K. Elmhirst (Eds.), *Rabindranath Tagore Pioneer in Education: Essays and Exchanges between Rabindranath Tagore and L. K. Elmhirst* (pp. 44–65). London: John Murray.

Tagore, R. (1961). The Art of Movement in Education. In R. Tagore & L. K. Elmhirst (Eds.), *Rabindranath Tagore Pioneer in Education: Essays and Exchanges between Rabindranath Tagore and L. K. Elmhirst* (pp. 101–111). London: John Murray.

Tagore, R. (2012). *Moje življenje, o njem vam pripovedujem* (uredila in uvod napisala Uma Das Gupta). Ljubljana: Modrijan.

Visva Bharati Alumni. (2015). Retrieved 15.03.2015 from http://visva-bharati.ac.in/Alumuni/Contents/alumuni_contents.htm?f=../Contents/famous_alumni.htm

Winner, E., Goldstein, T., & Vincent-Lancrin, S. (2013). *Art for Art's Sake? Overview*. OECD Publishing. Retrieved 20.11.2014 from http://www.oecd.org/edu/ceri/ART%20FOR%20ART%E2%80%99S%20SAKE%20OVERVIEW_EN_R3.pdf

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Forms of Cooperative Learning in Language Teaching in Slovenian Language Classes at the Primary School Level

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In the Slovenian language syllabus, teachers are recommended to provide a greater share of group work during class. During types of learning such as cooperative learning in smaller groups or pairs, students actively develop communicative competence. The present article presents a survey that attempted to determine whether teachers from the first to the fifth grade execute cooperative learning in language classes. The purpose of the article is to raise teachers' awareness and encourage them to design and execute cooperative learning more frequently.

Keywords: primary school, Slovenian, language classes, teaching methods, cooperative learning

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Introduction

Until 1970, cooperative learning was relatively unknown and, as such, was rarely adopted in practice, although "small-group learning has been used since the beginning of human existence" (Johnson & Johnson, 2009a, p. 365). Instead, the recommended practice was the individualistic approach, which sought to allow individuals "to go through the curriculum at their own pace independent of classmates' rates of learning" (Johnson & Johnson, 2009a, p. 365). The method of cooperative learning began to be applied on a larger scale after 1980, once individualistic learning had been challenged by social scientists who pointed out the role of peer interaction and its effects on socialisation (Johnson & Johnson, 2009a). In addition, the results of research into traditional teaching methods ushered in the trend of the modern era in which the transmission mode of teaching, which forced the pupil to passively accept and absorb facts (1915, in Dewey, 2012, p. 13), gave way to the transactional method of teaching, whereby pupils learn through active participation. In the early years of schooling, both teachers and peers play an important role in the pupils' learning process. Due to the fact that interaction with other pupils plays a vital part in learning and in shaping children's personalities as a whole, pupils need to be given opportunities to interact within the schooling process (Peklaj, 2001). Research in other countries has demonstrated that interaction improves interpersonal relations (Sharan & Shachar, 1988), mental health (Johnson & Johnson, 2009b) and school performance (Slavin, 1983). You Lv (2014) sums up Chinese research experiences with cooperative learning by stating that this type of teaching motivates students and is conducive to language acquisition and the development of communication skills, creativity and teamwork skills. Lv believes that the practical skills attained form a foundation for the pupils' professional future.

Pupils learn most when they feel comfortable (Papalia, Olds, & Feldman, 2001; Marjanovič Umek et al., 2004). In the learning process, their motivation is influenced by people around them; in a school environment, these people are teachers and classmates. Classes are artificially formed work groups consisting of pupils of a similar age. The group evolves into a community if every member identifies with it and feels safe and accepted in and by it, which in turn benefits the learning process (Žarkovič Adlešič, 2000). Purposeful management of the process in a way that allows pupils to develop beneficial relationships and mutual affection is the responsibility of every teacher. One of the methods that boosts this process is known as cooperative learning. This teaching method was first utilised in Slovenian primary schools in the 1990s, although it had already been in use elsewhere for several decades. The general theoretical framework

for cooperative learning was developed by several researchers, and its origins can be found in social interdependence theory (Johnson & Johnson, 2009a). The cooperative method does not just involve working in groups; it is a carefully planned and moderated process that makes use of cooperation to achieve common goals. In cooperative learning, every person searches for a solution or performs a task that is important to him/her and to every other group member. This method improves results in knowledge areas as well as enhancing cognitive, social, emotional and motivational processes (Peklaj et al., 2001). The present study seeks to determine the planned scope and the realisation of different forms of cooperative learning within the parameters of language education in Slovenian language classes that provide opportunities for peer-to-peer communication, negotiation, exchange of opinions and the like.

The exploration of the significance of cooperative learning in history

In practice, modern cooperative learning has been crucially shaped by Dewey's theory of education (1915, in Dewey, 2012). Dewey believed that language is a "device for communication" or a tool "through which one individual comes to share the ideas and feelings" with others, and that language is not only a logical instrument, but primarily a social one. When treated as "a way of getting individual information, or as a means of showing off what one has learned" (Dewey, 1915, in Dewey, 2012, p. 12), it is stripped of its social motive and end. Dewey also criticised passivity in learning, the mechanical accumulation of knowledge and monotonous methods that do not actively engage pupils, emphasising that "the active side precedes the passive in the development of the child nature" (Dewey, 1915, in Dewey, 2012, p. 13); he thought it was important to gain experience though direct contact, observation and action. Viewing society as a union of individuals who work together towards a common cause, he believed that schools should be transformed into embryonic forms of social life, claiming that they lacked the conditions for creating a "social consciousness" (Dewey, 1915, in Dewey, 2012, p. 21) that would allow free communication and the exchange of ideas, suggestions and findings about previous successful and failed experiences. Dewey defined mutual assistance as the most natural form of cooperation; rather than being a form of charity, he regarded it as "simply an aid in setting free the powers and furthering the impulse of the one helped" (Dewey, 1915, in Dewey, 2012, p. 21).

The beginnings of social interdependence theory date back to 1900, when German philosopher Kurt Koffka (Deutsch, 1968, in Johnson & Johnson,

2009a) suggested that groups of students were dynamic wholes in which the interdependence among members could vary. His ideas were built upon in the years that followed by Kurt Kewin (1948, in Johnson & Johnson, 2009a), who believed that in order to accomplish goals, appropriate relationships need to be established between group members. The pursuit of group members' goals triggers cooperation and competitiveness. In order to establish interdependence, there need to be at least two individuals who cooperate with and influence each other. Lewin's work was expanded upon by one of his students, Morton Deutsch (1962, in Johnson & Johnson, 2009a), who outlined three types of social interdependence: positive, negative and neutral. Deutsch postulated that the type of interdependence influences the way individuals interact as well as the results of the interaction, meaning that their success or otherwise ultimately hinges upon their support and encouragement of each other, or, alternatively, their efforts to discourage and deter each other in working towards their goal(s). He stressed the importance of positive interdependence and personal responsibility in helping to bring about the success of the group in cooperative learning (Deutsch, 1962, in Johnson & Johnson, 2009a).

In the years leading up to the Second World War, it was found that working in groups was a higher quality approach than working individually, as well as more being effective and productive. This insight served as the basis for the cooperative learning theory formulated by social theorists Gordon Allport, Goodwin Watson, Marjorie Shaw and George Mead (in Gilles & Ashman, 2003). Johnson and Johnson (2009b) arrived at an important finding by carrying out studies, aided by students and colleagues, on various groups of people (including minors), which showed that there was a stronger link between cooperation and mental health than between competitiveness and mental health. They also found that cooperation more frequently encouraged a higher level of thought (i.e., problem solving, decision-making, critical thinking, creative thought) than did competitiveness or working individually. R. E. Slavin (1983) also conducted a comparative study of cooperative, individualistic and competitive learning at the primary and secondary school levels, and found that, compared to the latter two methods, cooperative learning resulted in better performance in school. It was determined that in order for cooperative learning to work, the group needs clear goals and every member must have clearly defined responsibilities in terms of accomplishing the common goals of the group.

Additional studies by researchers cited later in the article have confirmed the positive effects of cooperative learning on the development of communication skills. Gilles and Ashman (1998) conducted a six-week study involving primary school pupils. By comparing groups of similar age and ability,

they found that pupils in groups that applied cooperative learning methods performed better in reading, and that their general school performance was superior to that of their peers who did not work in cooperative groups. In a more recent study, Yazdani and Fakhraee Faruji (2013) studied the effects of cooperative learning on the lexical development of immigrant students. The analysis indicated significant differences between the performance of the experimental and the control group. After completing the language course, students who had participated in cooperative learning scored better than those who had learned using traditional methods. The study provides evidence that cooperation is a more effective tool for teaching vocabulary. The researchers believe cooperative learning offers the advantage of providing students in groups with an opportunity to communicate more with each other, to negotiate and to find a common solution. This allows the development of strategies for interpreting and comprehending language as it is actually used by native speakers (Yazdani & Fakhraee Faruji, 2013). The outcome of a study by Montasser (2014) showed that participants improved their communication and writing skills by applying a cooperative approach, which they believed provided them with a relaxed learning environment. In spite of this, the researcher detected intra-group issues in the process, such as a lack of motivation and ideas concerning working, as well as inactivity on the part of certain individuals owing, for instance, to the fear of making mistakes. The author attempted to alleviate the issue by taking on the role of a moderator in a group, or by allocating different tasks to groups in accordance with the quantum of exercises. This also confirms the findings of Johnson and Johnson (2009b), who determined that the person implementing cooperative learning plays an important role in which s/he is the observer, supervisor and motivator.

Cooperative learning in Slovenian primary schools

Cooperative learning was systematically introduced in Slovenian primary schools in the 1994–1995 school year as part of the project Modern Psychological Conceptions of Learning and Knowledge and Their Implications for Teaching. An important role in the systematic expansion and promotion of cooperative learning was assumed by Cirila Peklaj (Peklaj et al., 2001), who initially provided training on cooperative learning to teachers and National Education Institute employees, and later published a book as an aid for planning cooperative activities.

Some 15 years ago, Marentič Požarnik (2000) warned that Slovenian schools did not fully utilise the potential for pupils to teach each other. In

contrast to group work, where not all group members always participate to the same extent, with some hardly participating at all, properly designed cooperative learning elicits active participation from all group members. The process also involves mutual assistance to help all members reach the desired goal(s), emphasising cooperation/interaction between members (Marentič Požarnik, 2000). Vodopivec and Peklaj (2003) suggest that competiveness primarily motivates pupils who already do well, while cooperation is better suited to "low-performing students who stop fearing failure and have an opportunity to perform well in such a situation" (Vodopivec & Peklaj, 2003, p. 7).

The Curriculum for Slovenian (Primary School Programme. Slovenian. Curriculum, 2011) is goal-orientated, establishing learning goals that pupils should attain. How they attain these goals is, however, left to the discretion of the teacher, who is at liberty to choose the forms and methods of working, and to independently decide which methods to use in a particular lesson as well as the sequence in which to use them. The curriculum for Slovenian[2] includes recommendations for instruction, which, among other things, emphasise the need to increase the proportion of cooperative work in Slovenian language classes[3] by, for instance, working in small groups or pairs, because various kinds of cooperative learning allow pupils to actively develop their skills (e.g., oral competence), higher order thinking skills (problem solving, decision-making, critical thinking, creative thought) and knowledge. Cooperative forms of working are also recommended for teaching children of immigrants and pupils with learning disabilities (Magajna et al., 2008; Kerndl, 2013), and for promoting peer-to-peer solidarity (Novak, 2009).

Not every group activity is cooperative

Dividing pupils into groups does not guarantee that they will cooperate well. American social psychologists and founders of the Cooperative Learning Institute, Johnson and Johnson (1999; Peklaj et al., 2001) compared cooperative and traditional study groups and identified differences between them. Typical characteristics of cooperative study groups were positive connections (interdependence), individual responsibility, group heterogeneity, equal distribution of leadership roles, and a sense of responsibility for one another. Cognitive, social,

2 The Slovenian language as a primary school subject consists of two areas – literature and language – with language instruction taking up 20% more of the lesson plan than literature lessons (with the exception of Year 1, which has a 50/50 ratio). There are 210 45-minute lessons foreseen for Year 1, 245 lessons in Year 2 and 3, respectively, and 175 lessons per school year in the second three-year primary education cycle (Primary School Programme. Slovenian. Curriculum, 2011).

3 For more on Slovenian as a school subject, see Petek, 2013.

emotional and motivational goals played a central role. The teacher monitors the pupils' cooperative skills in the process and, if necessary, gets involved in order to teach cooperative skills. Group work ends with a self-evaluation of the group performance. Traditional group work does not involve interdependence or clear responsibilities of individuals. Groups are homogeneous and appoint a leader, with each group member only responsible for his/her own work. Compared to cooperative groups, traditional groups only place emphasis on cognitive goals, while cooperative skills are taken for granted. The teacher focuses on content, and group work does not end in an assessment of its performance. Johnson and Johnson believe that five elements are needed to successfully carry out cooperative learning: positive interdependence, individual and collective responsibility, direct interaction (teamwork), appropriate use of social skills, and evaluation (Johnson & Johnson, 1994; Johnson & Johnson, 2009a, 2009b).

Johnson and Johnson[4] (2009a, 2009b) point out positive interdependence as the most crucial element of cooperative learning, going as far as to say that there is no cooperation without it. Cooperation occurs if all members are aware that every member – and not just the individual member him/herself – benefits from their efforts, and that members thus depend upon each other. Positive interdependence creates the same sense of responsibility for one's own success and for collective success. Everyone is tasked with and responsible for their own assignments and, consequently, the group assignment. Interdependence can, however, also be negative. Positive interdependence involves members mutually cooperating to meet a common objective, whereas members compete amongst themselves to reach the goal set if negative interdependence is established. In the absence of interdependence, members do not cooperate to reach a common goal, usually as a result of oppositional pressure. The second vital element is personal and collective responsibility. All members must bear responsibility for their own contribution towards the common cause. Pupils must realise that working together allows them to achieve more than working on their own would. All members must demonstrate what they have learned in the course of cooperative learning, while also being responsible for the performance and learning of the entire group, thus reducing opportunities for inaction. In order to make members realise that their cooperation and responsibility are vital for reaching the common goal and that the group will fail without their contributions, assignments can be divided between members. Individual responsibility can develop if the performance of every individual is also being assessed. The third element is mutual cooperation or direct interaction

4 The same five elements presented by Johnson and Johnson, who believe them to be the cornerstones of the successful adoption and continuation of cooperative learning, have also been discussed by Ross and Smythe (1995), Brown and Ciuffetelli (2009), Siltala (2010) and Jolliffe (2007), among others.

within the group; if possible, on an interpersonal level. This occurs when groups members learn together, help each other understand and/or complete assignments as necessary, and encourage and commend one another. Successful cooperative learning requires the development of social and communication skills, as individuals have to gain the interpersonal competencies that allow them to function in a group. These competencies include communication, interpersonal and group skills, such as listening, coordination, providing and receiving help, leadership, decision-making, establishing and fostering trust, the ability to settle disputes, etc. (Johnson & Johnson, 2009a, 2009b). Jolliffe (2007) holds that groups should be composed of four members. If there is an uneven number of pupils, there should be three or five members per group. Six-member groups, however, are not recommended, as the group usually splits into two parts and contact between members ceases. A practical configuration is having members work together in pairs at first, then merging two pairs together, only for a short time at first, but for longer periods of time once they develop the necessary skills. In light of research findings, Jolliffe recommends not changing the composition of groups for five to six weeks (Jolliffe, 2007). The final important element of cooperative learning is evaluation. After completing the assignment, group members discuss their performance, the results of their assignment and the relationships in place while working in a group. Every group has to report on its results as well as on how well members worked together and the positive and negative aspects of working together (Johnson & Johnson, 1999, 2009a, 2009b; Peklaj et al., 2001).

Peklaj (2000) also remarks that, when organising cooperative learning, the following should be taken into account: positive interdependence between group members, direct interaction between members during the entire working process within a group (planning, discussion and assessment of results), the heterogeneous composition of groups (in terms of knowledge, gender, social or ethnic affiliation, or by way of assigning different roles to each member, or in terms of cognitive, emotional, motivational and social goals) and clearly defined responsibilities of each member. Peklaj stresses that, in order for the group to function, it is necessary to establish common rules that are observed by all members, thus ensuring there are no interruptions or disagreements. She recommends changing the composition of the groups for optimal performance.

The role of the teacher

The role of the teacher in schools is not limited to conveying knowledge to the pupil; it is also concerned with ensuring the quality of lessons and facilitating effective learning. Teachers must provide the best possible conditions for

the social, emotional and spiritual development of their pupils (Peklaj et al., 2001; Vodopivec & Peklaj, 2003). This development cannot attain optimal levels merely by direct instruction and individual work; effective cooperative learning strategies should be implemented "in combination with other forms of teaching" (Lv, 2014, p. 1952). When applying the method of direct instruction, the teacher acts as a mere conveyor of curriculum content, while pupils are often mere listeners[5] and are given limited opportunities to speak. Since individual learning involves independent work, this method also affords pupils only limited opportunities for communication and cooperation with their peers. Accordingly, pupils gain less experience, including the kind of experience that affects the development of mutual respect and tolerance and the acceptance of diversity. The modern school system focuses on experiential learning (Žarkovič Adlešič, 2000), a method that allows the pupil to learn in the process of transforming experience (Požarnik, 1992; Žarkovič Adlešič, 2000). For this reason, the author holds that relationships cannot improve simply as the result of a lecture on tolerance.

One of the roles of the teacher is that of a motivator and, as such, the teacher must believe in the power of cooperative learning. The teacher's own certitude and enthusiasm positively affects the pupils, who realise that cooperation allows them to achieve more. Assigning specific tasks to individuals strengthens their awareness of the importance of their contributions and of the responsibility they bear for reaching the common goal (Žarkovič Adlešič, 2000).

Due to the fact that cooperative learning also involves the acquisition of social skills, the teacher must first be familiar with approaches and strategies for teaching these skills to pupils. S/he must know how to establish positive interdependence and must encourage responsible behaviour on the part of every group member, as well as ensuring mutual cooperation between members, the appropriate use of social skills, and group processing in learning situations (Johnson & Johnson, 2009a).

Fostering members' understanding and acceptance of one another, as well as successful communication, requires the development of a sense of belonging to the class, making the teacher's role as the creator of the class atmosphere indispensable. The teacher should ensure a safe, trusting and tolerant classroom environment. Cooperation requires good relationships between peers and a degree of familiarity. The teacher is responsible for establishing and encouraging

5 Pregel Plut (2012) believes that one-sided listening requires great effort on the part of the listener, which is ineffective as "pupils cannot remember great information loads and simultaneously process them" (Pregel Plut, 2012, p. 89).

new contacts and must provide pupils with opportunities to get to know one another (Vodopivec & Peklaj, 2003; Johnson & Johnson, 2009a). Positive experiences gained during class make the child more motivated, which is a key factor in accelerating knowledge acquisition. The teacher should be aware that the "class" constitutes an opportunity to encourage communication between peers, and that working cooperatively in groups or pairs promotes "the acquisition of language knowledge /…/ and the development of communicative competence" (Lv, 2014, p. 1952). Marentič Požarnik and Plut Pregelj (2009) emphasise the importance of developing language skills through classroom discussions, and believe that language competence "can only be developed by using language" (Marentič Požarnik & Plut Pregelj, 2009, p. 60). By gaining positive communication-specific experience within a group and being well received by peers, the pupil will feel (even) more relaxed and will be motivated to cooperate and communicate in the future. On acquiring negative experience, however, the pupil will avoid furthering contact and participating in cooperative work and communication, thereby affecting his/her emotional and social development and hampering the development of his/her communication skills. Increasing the number of contacts also infers a proportionate increase in familiarity; more contacts result in new acquaintances, which in turn result in more frequent communication. If pupils are more familiar with one another, there is a greater likelihood of individuals and their needs being met with understanding. Direct contact also means greater compassion/empathy (Peklaj, 2001; Hedge, 2005). More frequent use of language/speaking helps transform individuals' passive lexicon into active vocabulary, while a richer vocabulary results in greater comprehension of spoken and written language and better speaking and writing skills (Gabrijelčič, 1993).

Johnson and Johnson (2009b) state that the responsibilities of the teacher prior to implementing cooperative learning include formulating educational and social objectives, planning group sizes, determining the criteria for forming groups, defining the roles to be accorded to individual group members, catering to the equipment needed to complete the assignments, and organising the classroom. The latter process should allow the teacher unrestricted access to each group and a view of the activities of each individual. The teacher must also provide the pupils with instructions on how to complete the assignment and must explain the characteristics of cooperative work, as well as outlining the assessment criteria and social skills to be used by the pupils. During this process, the teacher acts as an observer, monitoring the work of the pupils, and, if necessary, also takes on the role of mediator and assistant, collecting feedback on reorganising groups. The teacher follows the pupils' discussions in order to obtain information on how well they get along with each other and who is tasked with which responsibility.

In the final phase, the teacher evaluates the quality and quantity of each individual pupil's efforts and helps them evaluate themselves by moderating a discussion on what they have learned and how well they have worked together, while also encouraging them to suggest improvements (Johnson & Johnson, 2009b).

The teacher is also responsible for the organisation and appropriateness of the classroom setting. An appropriate classroom situation provides pupils with the opportunity to communicate with their peers (Peklaj, 2001); the teacher, however, cannot achieve this by being solely focused on the objective and must also focus on the *process* of meeting the objective, i.e., the teaching process.

Cooperative learning in Slovenian language classes – language teaching

"A key factor for developing the pupils' communication skills is communication, which should be deliberately and systematically developed in language classes" (Bešter Turk, 2011, p. 123). Due to the large number of pupils per class, resulting in fewer opportunities for everyone to express their opinion, it is important that "pupils do not learn from their teacher alone but rather also from peers and through talking to peers" in school (Plut Pregelj, 2012, p. 110). Cooperative learning is one of the teaching methods that are specifically referenced in the Curriculum for Slovenian recommendations for instruction (Primary School Programme. Slovenian. Curriculum, 2011); it is one method that can, in our experience, be used in language teaching regardless of the type of communication activity[6] or the aspect of communication competence[7] that the teacher wants to cultivate in the lesson.

Every instance of successful cooperation, including cooperation in language classes, requires the creation of a set of rules to be adhered to in order to ensure a smooth working process (Peklaj, 2001), and, as stated by Žarkovič Adlešič (2000), in order to "protect the children's rights to learn and be safe, respected and heard" (p. 83).

Cooperative learning involves pupils working towards a common goal. They can do their assignments in groups over a certain period of time or in temporary groups that last anywhere from a couple of minutes to an entire class period (Johnson & Johnson, 2009). The former means that pupils are grouped

6 Pupils are supposed to practically and creatively master all four communication activities, i.e., listening, speaking, reading and writing (Primary School Programme. Slovenian. Curriculum, 2011).

7 The building blocks of communication competence include: motivation to receive and express messages, factual/encyclopaedic knowledge on the part of the sender and the receiver, "language competence (i.e., designatory, explicatory, pronunciation and spelling competence), nonverbal communication, pragmatic and metalinguistic competence /.../" (Bešter Turk, 2011, p. 124).

in permanent heterogeneous, cooperative groups with no changes in membership, while the latter sees constant shuffling of team members for specific tasks. Although the authors do not specifically mention these methods in language classes, they can also be used in such settings.

The type of cooperative learning in cooperative groups that can be realised over the course of one or two class periods includes the so-called "jigsaw model" (Marentič Požarnik, 2000, p. 240), which allows all members to actively participate by focusing on only a portion of the group topic, so that in order to describe an animal, for example, the first member collects information on its external characteristics, the second on its nutrition, the third on its reproduction, the fourth on its habitat, the fifth on its special features, etc. All members have to first present their research to the rest of the group. Members can help each other, offer each other advice, etc. in the process. The objective is to create a diagram, which is one of the phases[8] of compiling a monologic text.[9]

Empirical study

Cooperative learning can be planned and carried out with specific reference to a number of different areas and with pupils of all ages. The present applied empirical study focused on language teaching in Slovenian language classes as taught in Year 1 through Year 5 of primary school.

Purpose

Studies by several researchers (Johnson & Johnson, 1985; Nicolas & Miller, 1994; Lazarowitz, Hertz-Lazarowitz, & Baird, 1994) have demonstrated that cooperative learning affects pupils' interest in learning, their self-image and their attitude towards the subject. Sharan and Shachar (1988) proved that cooperative learning also affects learning about tolerance, with pupils who participated in heterogeneous groups improving their relationships with fellow pupils belonging to, for example, other ethnic minorities: they socialised with these children more often, had more friends from the other ethnic group and maintained friendships with them over a longer period of time. It is our belief that the current Slovenian practice overemphasises learning objectives and pays too little attention to the communication process in learning, that there is still a (too wide) gap between the concept of cooperative learning and

8 When formulating a monologic text, pupils should follow the following stages in this order: invention, disposition, elocution, revision and transcription of the revised text (Križaj Ortar, Magajna, Pečjak, & Žerdin, 2000; Bešter Turk & Križaj Ortar, 2009).

9 Cf. Potočnik, 2010, and Petek, 2012.

its implementation in primary schools, and that primary school pupils are not offered enough forms of cooperative work in the first and second three-year cycles of primary education. More frequent socialising with peers through cooperative work can facilitate more frequent communication, which can positively affect the development of communication skills. Since more immigrants settle in Slovenia with each passing year, we believe cooperative learning is also one of the most vital methods for fostering acceptance and tolerance; it is an important method of working that provides more opportunities for communication.

The present study sought to identify the forms of cooperative learning in language education during the first and second three-year cycles of primary education, with a specific focus on the proportion of work carried out in groups and pairs, and the proportion of work in groups or pairs executed following the principles of cooperative learning rather than those of traditional methods.

The following questions were asked:

- Do teachers plan work in pairs or groups in language classes?

  If so:
- Where is this type of working methodology more widespread, in urban or rural schools?
- In which school year is it implemented?
- At what point in the class period do teachers apply it?
- Which method is being used, the traditional or the cooperative method?
- How many years of work experience do the teachers who apply the methodology of working in pairs or groups have?

Research method

The study used a descriptive method for an experiment in education. The data were obtained by shadowing and via audio recordings of language classes.

Execution

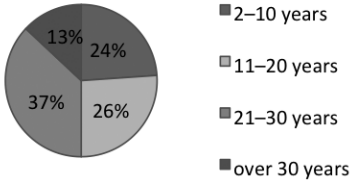
Recordings of language classes were carried out between November 2013 and January 2014, followed by transcription and analysis.

Sample and data processing

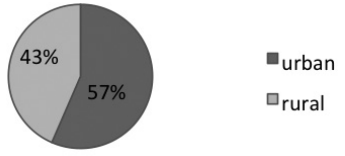
The recorded lessons were ad hoc samples and included 46 teachers with varying degrees of experience (Graph 1). Most of the respondents (37%) had between 21 and 30 years of professional experience; half of them had up to 20

years of professional experience, and half had over 20 years of professional experience. They worked at primary schools in various regions of Slovenia: 26 teachers (57% of all respondents) taught at schools in urban areas, while 20 taught at rural schools (Graph 2). During the 2013–2014 school year, all of the respondents taught a class within the first or second three-year cycle of primary education (Graph 3).

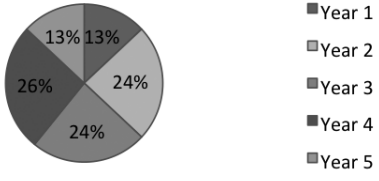
After the 46 audio recordings were transcribed, the data were processed. The transcriptions were first analysed for data on the teaching methods that were applied in the opening, central and closing phases of the lessons in urban and rural schools in Years 1 to 5, respectively. The professional experience of the teachers who applied the teaching method was then examined, followed by a closer analysis of the process of working in groups and pairs. It was determined whether the teaching methods applied were traditional or cooperative. This was done based on the teacher's instructions before and after the teaching method was applied, with special attention being paid to the apportioning of assignments to groups/pairs, to the question of whether the method encouraged cooperation between members, and to the final showcasing/report on the work of the groups and pairs. The results of the study are illustrated with diagrams for greater clarity.



Graph 1. Proportion of teachers by years of professional experience

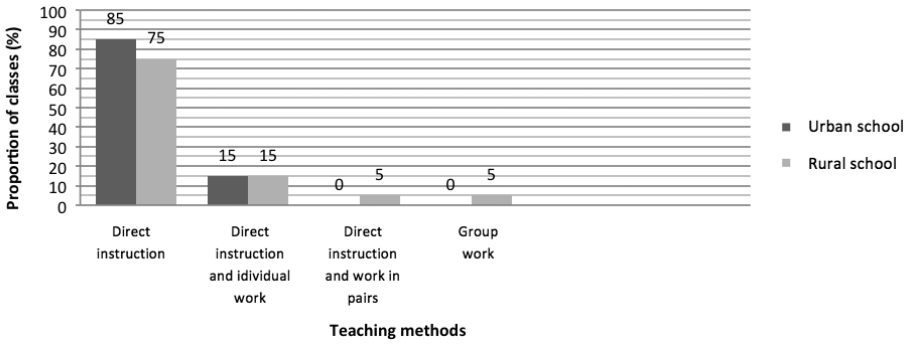


Graph 2. Type of school that the respondent teachers taught at



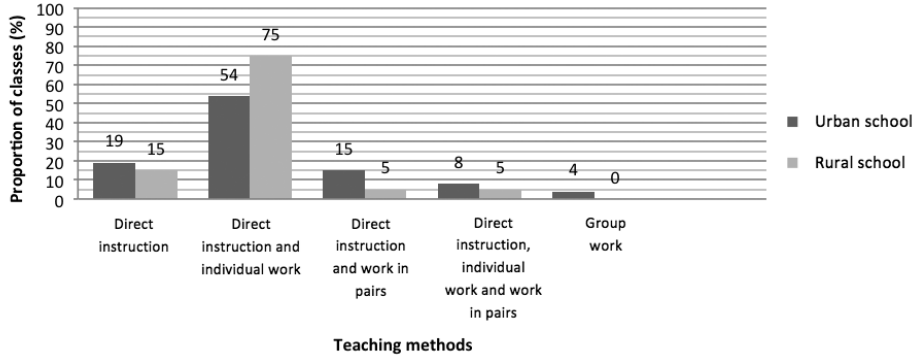
Graph 3. Proportion of teachers by the year taught

Study results



Graph 4. Teaching methods applied in the first phase of a language class in urban and rural schools

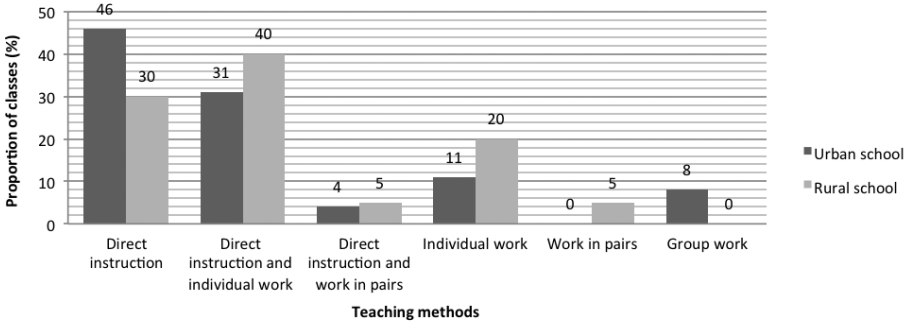
The initial phase of Slovenian language classes in urban and rural schools most frequently involved direct instruction (85% in urban schools and 75% in rural schools, respectively). Only two teachers in a rural school (4% of the sample) applied cooperative teaching methods or working in pairs during the initial phase of the lesson. No language class in urban schools involved co-operative teaching methods or working in pairs.



Graph 5. Teaching methods applied in the intermediate phase of a language class in urban and rural schools

Graph 5 shows that the intermediate phase of language classes in urban and rural schools was dominated by direct instruction, most frequently combined with individual work. Compared to the initial phase of the class, there was

more individual work (47% more in urban and 65% more in rural schools) and slightly more work carried out in pairs and groups (15% and 12% more, respectively), although only in urban schools. In spite of this, these teaching methods remain the least frequently applied in the intermediate phase of the class as well, being predominantly applied by urban school teachers: 7 out of 9, or 15% of the sample. Pupils worked in pairs in 15% of urban schools and 5% of rural schools, and worked in groups in 9% of urban schools and 5% of rural schools. All rural school teachers chose to apply the direct instruction method to the intermediate phase of their lessons, with more than half (80%) also applying the method of individual work and/or working in pairs and/or group work.

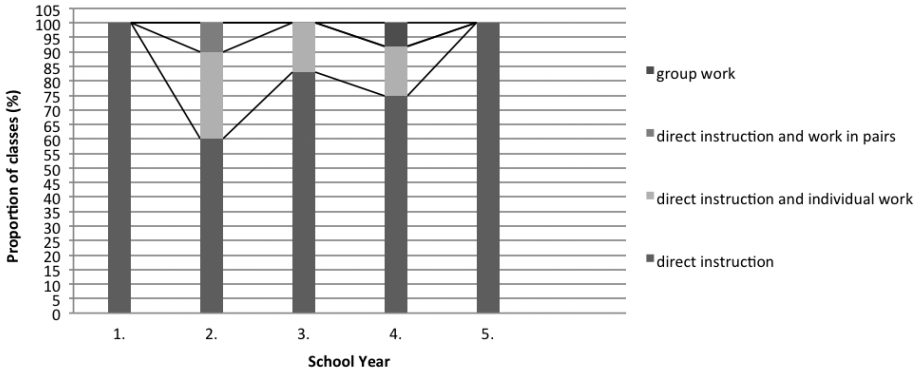


Graph 6. Teaching methods applied in the concluding phase of a language class in urban and rural schools

The concluding phase of language classes also most frequently featured direct instruction (in 81% of urban schools and 75% of rural schools), followed by a mix of teaching methods, i.e., direct instruction and individual work, and individual work alone. As in the initial phase, direct instruction alone was again more common in urban schools (46%), as was group work (8%), while rural schools had a higher incidence of individual work alone (60%) and working in pairs (5%). Contrasting diagrams 5 and 6, an outlier[10] individual work unit in the concluding phase can be observed, which amounts to 15% of all lessons (11% in urban and 20% in rural schools). In over half of the language classes, or 42% of lessons in urban and 60% of lessons in rural schools, the individual work method was applied. This was probably due to a test at the end of the lesson aimed at determining pupils' comprehension of the material handled. In only five lessons (11% of all lessons) did pupils have an opportunity to learn in pairs or groups in the concluding phase. Their proportion in urban and rural schools

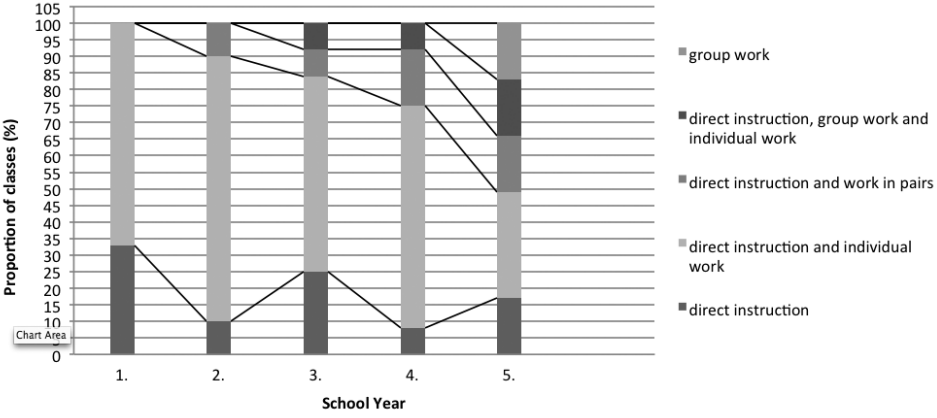
10 The reference here is to a class that only featured individual work for its entire duration.

is comparable, with three such lessons (12%) in urban schools and two such lessons (10%) in rural schools.



Graph 7. Initial phase of classes: teaching methods by school year

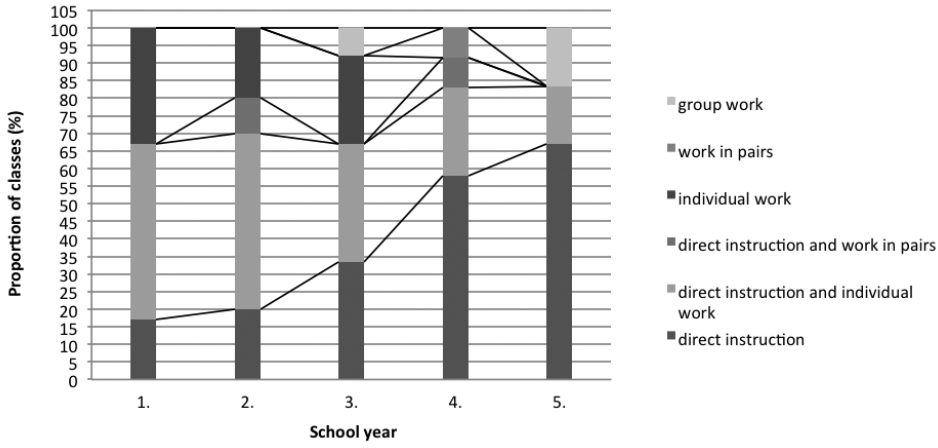
In Years 1 and 5, initial phases of classes only featured direct instruction. This teaching method also dominated lessons in Year 2 (60%), Year 3 (83%) and Year 4 (75%). The greatest number of teaching methods (three) was used in Year 2 and Year 4, the method of working in pairs was applied in one Year 2 class (representing 10% of Year 2 classes), while group work took place in one Year 4 class (which equates to 8% of all Year 4 classes).



Graph 8. Intermediate phase of classes: teaching methods by school year

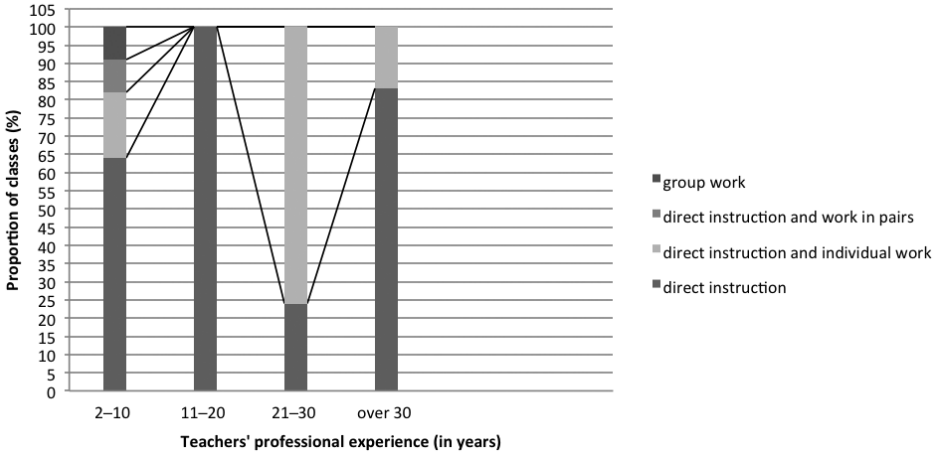
The intermediate phase of language classes in all years predominantly featured direct instruction and individual work. In terms of the number of

respondent classes in each year, Year 1 classes were most likely to experience direct instruction alone (33%), with Year 4 classes least likely to be exposed to direct instruction alone (8%), while Year 2 classes were most likely to be taught applying the methods of direct instruction and individual work (80%), followed by Years 1 and 4 (67%, respectively), with this scenario being the least likely in Year 5 (32%). Year 1 pupils did not work in pairs at all, while both Year 1 and Year 2 pupils were given no opportunity to work in groups. There was only one Year 5 class (17%) in which pupils worked in groups for the entire intermediate phase of the class. As Graph 8 shows, the diversity of teaching methods used in language classes increases with the age of the students.



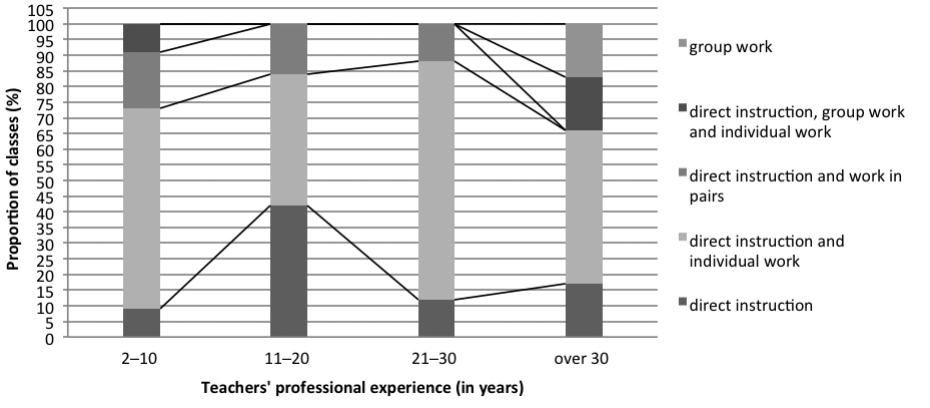
Graph 9. Concluding phase of classes: teaching methods by school year

The concluding phase of language classes exhibited the greatest variety of teaching methods. The frequency of direct instruction increased with school year, while individual work became less frequent. Among the respondent classes, the percentage of direct instruction was highest in Year 5 (66%), followed by Year 4 with 58%. Similar trends were observed with regard to the combined application of direct instruction and working in pairs. In proportion to the number of respondent classes, the ratio was highest in Years 1 and 2 (50%, respectively), followed by Year 3 with 33% and Year 4 with 25%. The method of working in pairs was applied in the concluding phase of one class in Year 4, while one Year 5 class ended with group work. As Graph 9 shows, the concluding phase had the highest incidence of the method of working in groups and pairs in older groups, i.e., Years 4 and 5, which was also the case with the intermediate phase of language classes.



Graph 10. Initial phase of classes: teaching methods by teachers' professional experience

Teachers with 2–10 years of professional experience employed the greatest variety of teaching methods in the initial phase of their classes. Only two teachers (18%) from this group applied the method of working in pairs or groups; one of them complemented direct instruction with working in pairs, while the other did the same with group work. All teachers with 11–20 years of professional experience made use of direct instruction alone, as did five (83%) of the teachers with more than 30 years of professional experience. The majority of teachers with 21–30 years of professional experience (76%) included both direct instruction and individual work in the initial phase of their classes.

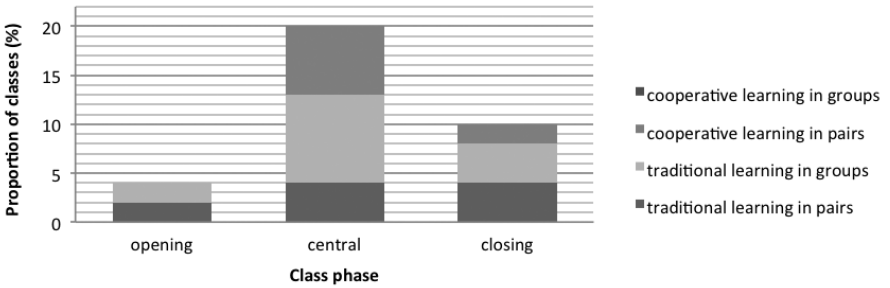


Graph 11. Intermediate phase of classes: teaching methods by teachers' professional experience

The intermediate phase of the class saw an increase in the variety of teaching methods used irrespective of the teachers' professional experience. Teachers with 2–10 years of professional experience applied the widest array of teaching methods. As above, direct instruction was most commonly applied by teachers with 11–20 years of professional experience (42%). Teachers with 21–30 years of professional experience (76%) were again the most likely to apply both direct instruction and individual work. No teacher with more than 30 years of professional experience tried to apply the method of working in pairs, while two teachers with 2–10 years of professional experience (18%), two teachers with 11–20 years of professional experience (16%), and 12% of teachers with 21–30 years of professional experience did attempt to apply this method. Only one teacher with more than 30 years of professional experience organised group work.

Graph 12. Concluding phase of classes: teaching methods by teachers' professional experience

During the concluding phase of the class, it was teachers with 2–10 years of professional experience who employed the greatest variety of teaching methods. The highest proportion of the same group of teachers (18%) also featured group work or working in pairs in their classes, with one (9%) applying only the method of working in pairs and one (9%) combining it with direct instruction. Only one teacher concluded her class with group work; she had over 30 years of professional experience and had already used group work in the intermediate phase of the class.



Graph 13. Type of learning in pairs and groups

Working in pairs or groups was used as a teaching method in 14 language classes (30% of all classes), with this figure accounting for the fact that group work encompassed both intermediate and concluding phases of the class in two instances (4%). Cooperative learning in groups or pairs only took place in four language classes (9% of all classes), while traditional learning in pairs or groups occurred in ten classes[11] (22% of all classes). Cooperative learning was only effected when working in pairs, with no instance of cooperative work in groups. Cooperative learning was most frequent in the intermediate phase of the class (7%), followed by the concluding phase (2%), with no instances thereof documented in any initial phases. Furthermore, cooperative learning never spanned the entire lesson and was always combined with direct instruction.

Interpretation of key results

The results of the study indicate that teachers do include the methods of working in pairs and groups in their language classes; however, these teaching methods are much less prevalent than direct instruction and individual work. Teachers continue to prefer direct instruction throughout the lesson when teaching Slovenian language classes (be it during the initial, intermediate or concluding phase). The greatest variety of teaching methods can be found in the concluding phase of the class, with the least variety being evinced in the initial phase. If teachers plan activities in groups or pairs, they tend to place such activities in the intermediate phase of the class, with placement in the initial phase being favoured least. Despite the various options available to them, teachers most frequently initiate the lesson with a direct, instruction-driven discussion to motivate pupils to undertake work; openers include: "So, children, what have we discussed in the past couple of Slovenian classes?" or: "So,

11 This figure also accounts for the fact that group work encompassed both intermediate and concluding phases of the class in two instances (4%).

we will take a look at a couple of words today that I think you are already familiar with /…/ Is there a difference between these two words?", or: "We have talked about farms this whole week. /…/ Now, can anyone tell me what a farm actually is?" Applying the methods of individual work and direct instruction, teachers use the concluding phase of the lesson to test how well the pupils have grasped the material. Examples include: "So, let's read your answers. Let's go one by one /…/", "Now, you will do this assignment. Each one of you must do the assignment on your own; you each need to write your own short summary /…/", "I will now explain what you need to do next. This is an individual assignment, an exercise in your workbooks. /…/" Quizzing by the teacher, whether at intervals during the lesson lasting a couple of minutes or during the concluding phase of the lesson, can be replaced with peer quizzing in pairs, with pupils attentively listening to each other's answers/solutions, discussing any differences in their answers, supporting their decisions with arguments and working together to find or confirm the correct or appropriate solution.

With regard to learning in pairs and groups in the urban and rural school setting, the study has uncovered no significant differences. Rural schools performed better in the initial phase of classes, while urban schools did better in the intermediate and concluding phases. There was a 9% difference in performance. The school environment, be it urban or rural, seems to have no significant effect on how frequently a teacher applies a certain teaching method; the choice seems to be primarily a matter of personal preference. Teachers with more years of professional experience applied fewer types of teaching methods. The study showed that the method of working in pairs and groups was most often chosen by teachers with 2–10 years of professional experience during all phases of the lesson. There may be several reasons behind this choice. It may be driven by the content taught in the lesson; however, the age of the pupils and the motivation for implementing cooperative teaching methods seem to be more common causes, as preparation for cooperative learning tends to be more challenging and time consuming than preparation for direct instruction or individual work.

Relative to the number of classes included in the study, Year 5 pupils, i.e., older children, constituted the group most frequently working in pairs or groups. The most common causes for avoiding cooperative learning seem to be time constraints and potential issues with managing children, since working in groups or pairs involves a higher risk of conflict and disagreements than direct instruction or working individually, and requires teachers to expend more energy and time and to act as competent mediators.

The study confirmed our postulations and the hypothesis by Marentič Požarnik (2000), who believes that cooperative learning continues to be an

underused method in Slovenian schools; learning in pairs and groups tends to be traditional rather than cooperative. In all instances of cooperative learning in pairs, pupils engaged in role play: they were asked to discuss the assignment in pairs and then act out two simultaneous or separate actions or a phone conversation or a situation that required them to apologise. This is evident in the transcription of the audio recording in question: "/.../ I want you to have a discussion in pairs, make a decision in pairs about who will call and who will pick up the phone. /.../", "Have you formed pairs yet or do you want me to assign you partners? /.../ You will act out a phone conversation. /.../ One of you will play the caller and the other one will answer the phone. /.../" Each performance was followed by an evaluation led by the teacher, usually by asking the audience questions to prompt them to evaluate the performance, such as: "/.../ Did they do a good job acting out this scenario? Should they have been more polite?" or: "After your classmates act out their parts in front of the class, we will discuss their performance. Now listen very closely. /.../ Did Petra apologise correctly?" None of the instances involved evaluating the experience of working in a group, although this would be advisable in future evaluations in order to improve cooperative learning.

A number of authors (Peklaj et al., 2001; Johnson & Johnson, 2009a; Sharan, 2010) believe that the apportionment of responsibilities as well as interdependence are vital in cooperative learning, as is the awareness that every pupil is responsible for his/her own contribution to the success of the pair or group. The audio recordings of lessons reveal that teachers who applied the cooperative learning method gave pairs detailed instructions face-to-face,[12] making it clear that the method of working in pairs was applied to ensure that both pupils cooperated with each other and contributed to the successful completion of the task, for example: "/.../ Now your job is to work in pairs with the person sitting next to you /.../ Your job is to form a sentence that includes an action that occurs after a different action, and two actions that happen at the same time. You will then mime the action to your partner, who will have to guess what your sentence says /.../" Traditional teaching methods do not involve a clear-cut apportionment of work, such as "You will form groups of four. Every group takes their two sheets of paper and does the following. First, you make sure the pictures are in the correct order. If a picture is in the correct place, you place a tick alongside it; if not, you cross it out. In the second part of the assignment, you will write a word under each picture, describing what is in the picture in a single word. Any questions? Once you are done, you will bring both sheets of paper back and place them where they are now on the magnetic board. You don't have to push each other around to do that." Or "/.../ Then every group gets

12 Two of them also issued instructions in writing, as different pairs had different assignments.

a sheet of drawing paper. /.../ One of you will be the scribe. Or more of you. /.../ First read the question. You have your pictures next to you, and you can find some more, alright? You need to have at least ten of them. /.../ Look, every group has a marker pen, you can also use your own. /.../ Each group will present their assignment and their questions." A proper implementation of cooperative group work would need to involve the teacher assigning specific roles to each member of the group (e.g., the supplier,[13] the reader, the scribe, the reporter) or having the group members assign roles to each other. Even so, every member should have suggested two adjectives, which would be followed by an exchange of opinions and by one of the members writing down the choices agreed upon in the group.

Conclusion

The results of the study suggest that Slovenian pupils in language classes in Years 1 through 5 all too often remain passive listeners instead of actively participating in the learning process, as stressed by Sharan (2010). The present article aims to raise awareness among teachers about the importance of cooperative learning, and to reduce the current proportion of direct instruction as the dominant teaching method in primary school language classes in favour of (cooperative rather than traditional) learning in pairs and groups. We believe that the systematic and consistent use of cooperative teaching methods would improve cooperation in the classroom, thereby reducing conflict between peers. We concur with You Lv, who says that learning new skills by cooperative learning allows students to "lay a necessary foundation for the future" (Lv, 2014, p. 1952). We hold that it is vital for language teaching to promote verbal communication by way of applying the method of cooperative learning, and that the more frequent application of this method would positively affect the development of individuals' communication skills. The dominance of direct instruction has resulted in an excessive proportion of communication taking place between pupils and the teacher, while communication between pupils remains exceedingly rare. The teacher speaks most of the time, while the pupils are given only infrequent opportunities to speak, express their opinion and develop cooperation skills. Given that socialisation provides more opportunities to communicate and acquire language skills, we believe that introducing cooperative learning would also be beneficial in classes that include children with a poor or inadequate grasp of the Slovenian language.

13 The person who provided the group with supplies needed to complete the assignment, for example.

Several teachers, participants in this study, and Cirila Peklaj (Peklaj et al., 2001), who has published a number of lesson plans with her colleagues,[14] have proved that language classes provide opportunities to create a supportive learning environment, implement a variety of cooperative teaching methods and foster cooperation, something that is vital for every individual, since co-operation is a crucial element of everyday life, whether we like it or not. Since there are no regulations on when and how often the method should be applied, the teacher should exercise his/her own discretion in this regard.

References

Bešter Turk, M. (2011). Sporazumevalna zmožnost – eden izmed temeljnih ciljev pouka slovenščine. *Jezik in slovstvo*, *56*(3/4), 111-130.

Bešter Turk, M., & Križaj Ortar, M. (2009). *Priročnik za učitelje – uvod. Za slovenščino v 4., 5., 6., 7., 8. in 9. razredu osnovne šole.* Ljubljana: Založba Rokus Klett. Retrieved 05.03.2014 from http://www.devetletka.net/resources/files/doc/test/OS_slovenscina/7.%20razred/Prirocniki_priprave/PR%20za%20ucitelje%20UVOD.pdf

Brown, H., & Ciuffetelli, D. C. (2009). *Foundational methods: Understanding teaching and learning.* Toronto: Pearson Education.

Deutsch, M. (1962). Cooperation and trust: Some theoretical notes. In M. R. Jones (Ed.), *Nebraska symposium on motivation* (pp. 275-319). Lincoln: University of Nebraska Press.

Deutsch, M. (1968). Field theory in social psychology. In G. Lindzey & E. Aronson (Ed.), *The handbook of social psychology*. 1 ed. (pp. 412–487). Reading, MA: Addison Wesley.

Dewey, J. (1915). *The school and society.* Chicago, IL: University of Chicago Press.

Dewey, J. (2012). Šola in družba. Goran Gaber (trans.). Ljubljana: Pedagoška fakulteta.

Gabrijelčič, M. (1993). *Bogatimo besedni zaklad – z miselnimi vzorci*. Ljubljana: Državna založba Slovenije.

Gilles, R. M., & Ashman, A. F. (1998). Behavior and interactions of children in cooperative groups in lower and middle elementary grades. *Journal of Educational Psychology*, *90*(4), 746-757.

Gilles, R. M., & Ashman, A. F. (2003). *Cooperative Learning*: *The social and intellectual Outcomes of Learning in Groups*. London: Farmer Press.

Hedge, T. (2005). *Writing.* Oxford: Oxford University Press.

Jacobs, G. M., Lee, C., & Ng, M. (1997). *Cooperative Learning in the Thinking Classroom. Research and Theoretical Perspectives.* Retrieved 05.03.14 from http://files.eric.ed.gov/fulltext/ED408570.pdf

Johnson, D. W., & Johnson, R. T. (1985). Classroom Conflict. Controversy Versus Debate in Learning Groups. *American Educational Research Journal*, *22*(2), 237-256.

Johnson, D. W., & Johnson, R. T. (1999). *Learning together and alone. Cooperative, competitive, and*

14 Lesson plans featuring the cooperative learning method were drawn up by primary school teachers who had applied the method in Slovenian language classes.

individualistic learning. Boston: Allyn & Bacon.

Johnson, D. W., & Johnson, R. T. (2009a). *An Educational Psychology Success Story: Social Interdependence Theory and Cooperative Learning.* Retrieved 20.05.2014 from http://www.co-operation.org/wp-content/uploads/2011/01/ER.CL-Success-Story-Pub-Version-09.pdf

Johnson, D. W., & Johnson, R. T. (2009b). *Introduction to Cooperative Learning. An Overview Of Cooperative Learning.* Retrieved 13.03.2014 from http://www.co-operation.org/home/introduction-to-cooperative-learning/

Jolliffe, W. (2007). *Cooperative Learning in the Classroom*: *Putting It into Practice*. London : SAGE Publications.

Kerndl, M. (2013). *Diferenciacija in individualizacija pri pouku književnosti v tretjem triletju osnovne šole.* Doktorska disertacija. Ljubljana: Pedagoška fakulteta.

Križaj Ortar, M., Magajna, L., Pečjak, S., & Žerdin, T. (2000). *Slovenščina v 1. triletju devetletne osnovne šole.* Trzin: Izolit.

Lazarowitz, R., Hertz - Lazarowitz, R., & Baird, J. H. (1994). Learning Science in a Cooperative Setting: Academic Achievement and Affective Outcomes. *Journal of Research in Science Teaching*, *31*(10), 1121-1131.

Lee, C. et al. (1997). *Cooperative Learning in the Thinking Classroom. Research and Theoretical Perspectives.* Retrieved 05.03.2014 from http://files.eric.ed.gov/fulltext/ED408570.pdf

Lewin, K. (1948). *Resolving social conflicts*. New York: Harper.

Lv, Y. (2014). Cooperative Learning: An Effective Approach to College English Learning. *Theory and Practice in Language Studies*, *4*(9), 1948-1953.

Magajna, L. et al. (2008). *Učne težave v osnovni šoli: koncept dela.* Ljubljana: Zavod RS za šolstvo.

Marentič Požarnik, B. (1992). Izkustveno učenje – modna muha, skupek tehnik ali alternativni model. *Sodobna pedagogika*, *1-2*(43), 1-16.

Marentič Požarnik, B. (2000). *Psihologija učenja in pouka*. Ljubljana: DZS.

Marentič Požarnik, B., & Plut Pregelj, L. (2009). *Moč učnega pogovora*. Ljubljana: DZS.

Marjanovič - Umek, L. et al. (2004). *Razvojna psihologija*. Ljubljana: Znanstvenoraziskovalni inštitut Filozofske fakultete.

Montasser, M. A. W. M. (2014). The Effectiveness of Using the Cooperative Language Learning Approach to Enhance EFL Writing Skills among Saudi University Students. *Journal of Language Teaching and Research*, *5*(3), 616-625.

Nicolas, J. D., & Miller, R. B. (1994). Cooperative Learning and Student Motivation. *Contemporary Educational Psychology*, *19*, 161-178.

Novak, M. et al. (2009). *Smernice za izobraževanje otrok tujcev v vrtcih in šolah*. Ljubljana: Zavod RS za šolstvo. Retrieved 05.03.2014 from http://www.zrss.si/pdf/OEMS_TUJCI%20-%20SMERNICE%20-%20usklajeno%20junij%20doc%2021%208%202009.pdf

Papalia, D. E., Olds, S. W., & Feldman, R. D. (2001). *Human Development*. New York: McGraw-Hill.

Peklaj, C. et al. (2001). *Sodelovalno učenje ali kdaj več glav več ve*. Ljubljana: DZS.

Petek, T. (2012). Ozaveščenost o javnem govornem nastopanju – priložnost za profesionalni razvoj

učitelja. *Jezik in slovstvo, 57*(3-4), 115-129.

Petek, T. (2013). Vloga in položaj slovenščine v vzgojno-izobraževalnem procesu. *Pedagoška obzorja, 28*(1), 32-44.

Plut Pregelj, L. (2012). *Poslušanje: način življenja in vir znanja.* Ljubljana: DZS.

Potočnik, N. (2010). *Učinek udejanja faz v procesu nastajanja neumetnostnih besedil*. Doktorska disertacija. Ljubljana: Pedagoška fakulteta.

Program osnovna šola. Slovenščina. Učni načrt (2011). Ljubljana: Ministrstvo RS za šolstvo. Retrieved 05.03.2014 from http://www.mizs.gov.si/fileadmin/mizs.gov.si/pageuploads/podrocje/os/prenovljeni_UN/UN_slovenscina_OS.pdf

Ross, J., & Smythe, E. (1995). Differentiating cooperative learning to meet the needs of gifted learners. A case for transformational leadership. *Journal for the Education of the Gifted, 19*, 63-82.

Sharan, Y. (2010). Cooperative Learning for Academic and Social Gains: valued pedagogy, problematic practice. *European Journal of Education*, *45*(2), 300-313.

Sharan, S., & Shachar, H. (1988). *Language and Learning in the Cooperative Classroom.* New York: Springer.

Siltala, R. (2010). *Innovativity and cooperative learning in business life and teaching.* University of Turku.

Slavin, R. E. (1983). When Does Cooperative Learning Increase Student Achievement? *Psychological Bulletin*, *94*(3), 429-445.

Yazdani Moghaddam, M., & Fakhraee Faruji, L. (2013). Cooperative Tasks and Lexical Development of EFL Learners. *The Electronic Journal for English as a Second Language, 17*, 2.

Vodopivec, I., & Peklaj, C. (2003). *Sodelovalno učenje v praksi. Modeli poučevanja in učenja*. Ljubljana: Zavod Republike Slovenije za šolstvo.

Žarkovič Adlešič, B. (2000). Delo z razredom. In M. Pušnik, B. Žarkovič Adlešič, & C. Bizjak, *Razrednik v osnovni in srednji šoli* (pp. 65-07). Ljubljana: Zavod Republike Slovenije za šolstvo.

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Sodelovalne učne oblike pri jezikovnem delu pouka slovenščine v osnovni šoli

Alenka Rot Vrhovec[1]

V učnem načrtu za predmet slovenščina v osnovni šoli je učiteljem priporočeno, da naj poskrbijo za večji delež skupinskega dela med poukom. Ob oblikah učenja, kot je sodelovalno učenje v manjših skupinah ali dvojicah, učenci namreč aktivneje razvijajo sporazumevalno zmožnost. Predstavljeni članek prikazuje rezultate raziskave, s katero smo ugotavljali, ali učitelji od prvega do petega razreda pri jezikovnem pouku izvajajo sodelovalno učenje. Namen članka je ozavestiti in spodbuditi učitelje za pogostejše načrtovanje in izvajanje sodelovalnega učenja.

Ključne besede: osnovna šola, slovenščina, jezikovni pouk, učne oblike, sodelovalno učenje

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Uvod

Sodelovalno učenje se je do leta 1970 v praksi malo izvajalo, ker je bilo precej neznano, čeprav »učenje v majhnih skupinah poteka že od začetka človekovega obstoja« (Johnson in Johnson, 2009a, str. 365). Priporočen je bil individualni pristop, ki naj bi posamezniku omogočal, »da gre skozi učno snov v svojem ritmu, neodvisno od sošolcev« (Johnson in Johnson, 2009a, str. 365). Sodelovalo učenje se je začelo bolj uveljavljati po letu 1980, potem ko so individualističnemu učenju nasprotovali družboslovci in opozarjali na pomen vrstniškega sodelovanja ter njegov vpliv na socializacijo in učenje (Johnson in Johnson, 2009a). Poleg tega so bili rezultati raziskav tradicionalnega poučevanja vzrok za težnje novejšega obdobja, da se transmisijski ali prenašalni pristop poučevanja, ki učenca potisne v »pasivno držo sprejemanja in vpijanja« (1915, v Dewey, 2012, str. 13), odmakne transakcijskemu, pri katerem je učenje aktivno sodelovanje. V zgodnjem šolskem obdobju imajo v procesu učenja za učence poleg učitelja[1] pomembno vlogo tudi vrstniki. Sodelovanje z drugimi učenci je pomembno za učenje in oblikovanje celotne osebnosti, zato morajo med šolskim procesom učenja učenci zanj dobiti možnost (Peklaj, 2001). Raziskave tujih znanstvenikov kažejo, da sodelovanje vpliva na boljše odnose (Sharan in Shachar, 1988), psihološko zdravje (Johnson in Johnson, 2009b) in na učno uspešnost (Slavin, 1983). Y. Lv (2014) povzema kitajske raziskovalne izkušnje s sodelovalnim učenjem, in sicer da tovrstno učenje vpliva na posameznikovo motiviranost za delo ter spodbuja usvajanje jezikovnega znanja in razvoj sporazumevalne zmožnosti, učenčeve ustvarjalnosti in sodelovalnih veščin. Meni, da si posameznik s pridobljenimi praktičnimi veščinami postavlja temelje za poklicno prihodnost.

Učenec se največ nauči iz situacije, v kateri se dobro počuti (Papalia, Olds in Feldman, 2001; Marjanovič-Umek et al., 2004). Med učenjem na učenčevo motivacijo vplivajo ljudje okrog njega; v šoli so to učitelj in sošolci. Razred je umetno ustvarjena delovna skupnost učencev, ki so približno enako stari. Skupnost preraste v socialno skupino takrat, ko se vsak posameznik identificira z njo, se v njej počuti varnega in sprejetega, to pa pozitivno vpliva tudi na proces učenja (Žarkovič Adlešič, 2000). Načrtno vodenje procesa, v katerem se med učenci razvijajo pozitivni odnosi oz. se razvija naklonjenost, je dolžnost vsakega učitelja. Ena izmed oblik dela, ki pospešuje omenjeni proces, je sodelovalno učenje, tj. način poučevanja, ki se je v Sloveniji začel pojavljati v osnovnih šolah konec prejšnjega tisočletja, v svetu pa je bil znan že nekaj desetletij prej. K splošnemu teoretskemu okviru sodelovalnega učenja je prispevalo več

1 Pri izrazih učitelj, učenec in vrstnik mislimo na oba spola, vendar uporabljamo moški spol izključno zaradi preglednejšega besedila in lažjega branja.

raziskovalcev. Njegove zametke se lahko išče v teoriji družbene soodvisnosti (Johnson in Johnson, 2009a). Sodelovalno delo ni le delo po skupinah, temveč natančno načrtovano in vodeno delo, pri katerem poteka sodelovanje za dosego skupnih ciljev. Med sodelovalnim učenjem vsak posameznik išče rešitev/opravi nalogo, ki je pomembna zanj in za vse druge člane skupine. Oblika dela izboljšuje rezultate na področjih znanja oz. spoznavnih, socialnih in čustveno-motivacijskih procesov (Peklaj et al., 2001). Z raziskavo želimo preveriti, koliko učitelji načrtujejo in izvajajo sodelovalne učne oblike pri jezikovnem delu pouka slovenščine ter s tem omogočajo medvrstniško sporazumevanje in dogovarjanje, izmenjavo mnenj itd.

Zgodovinsko odkrivanje pomena sodelovalnega učenja

Pomemben vpliv na današnje uresničevanje sodelovalnega učenja ima Deweyjeva teorija (1915, v Dewey, 2012). Menil je, da je jezik »pripomoček za komunikacijo« oz. priprava, »ki omogoča, da posameznik deli misli in občutke z drugimi ljudmi«, in da je ne samo logično, temveč predvsem družbeno sredstvo. Ko je obravnavan kot »način pridobivanja posameznih informacij ali pa kot sredstvo za razkazovanje naučenega« (Dewey, 1915, v Dewey, 2012, str. 12), mu odvzamemo vrednost oz. njegov družbeni vzrok in namen. Kritiziral je pasivnost pri učenju, mehansko kopičenje znanja in enoličnost metod, ki niso usmerjene v učenčevo aktivnost, ter poudarjal, »da ima pri razvoju otrokove narave aktivni vidik prednost pred pasivnim /.../« (Dewey, 1915, v Dewey, 2012, str. 13); pomembno se mu zdi pridobivanje izkušenj z neposrednim stikom, opazovanjem in z dejavnostjo. Družbo je videl kot skupino ljudi, ki deluje v skupnem duhu in stremi k skupnim ciljem. Menil je, da je treba iz vsake šole narediti zametek življenja v skupnosti, in bil prepričan, da v šolah primanjkuje »pogojev za ustvarjanje družbenega duha« (Dewey, 1915, v Dewey, 2012, str. 21), ki bi omogočali svobodno sporazumevanje, izmenjavo idej, predlogov in ugotovitev o uspehih in neuspehih predhodnih izkušenj. Medsebojno pomoč je opredeljeval kot najnaravnejšo obliko sodelovanja, ki ne pomeni usmiljenja, temveč podporo »pri sprostitvi in pospešitev vzgiba tistega, ki se mu pomaga« (Dewey, 1915, v Dewey, 2012, str. 21).

Začetki teoretiziranja o socialni soodvisnosti segajo v leto 1900. Takrat je nemški psiholog Koffka (Deutsch, 1968, v Johnson in Johnson, 2009a) predstavil skupine učencev kot razgibane celote, v katerih se soodvisnost med člani spreminja. Njegovo pojmovanje je nekaj let pozneje izpopolnil Lewin (1948, v Johnson in Johnson, 2009a). Menil je, da je za uspešno doseganje ciljev pomembna vzpostavitev ustreznih odnosov med člani skupine. Prizadevanje za

dosego cilja sprožita sodelovanje in tekmovalnost. Za soodvisnost morata biti najmanj dva, ki sodelujeta in imata vpliv drug na drugega. Lewinovo delo je razširil njegov študent Deutsch (1962, v Johnson in Johnson, 2009a), ki je pisal o treh vrstah socialne soodvisnosti, tj. o pozitivni, negativni in o nevtralni. Predpostavljal je, da vrsta soodvisnosti vpliva na to, kako bo potekala interakcija med posamezniki in kakšni bodo rezultati, torej je za končni uspeh pomembno, ali posamezniki drug drugega podpirajo in spodbujajo ali ovirajo in zavirajo pot do cilja. Pri sodelovalnem učenju je poudaril pomen pozitivne soodvisnosti in posameznikovo odgovornost za prispevek k skupinskemu uspehu (Deutsch, 1962, v Johnson in Johnson, 2009a).

Pred drugo svetovno vojno se je ugotovilo, da je skupinsko delo v primerjavi z individualnim učinkovitejše, kakovostnejše in donosnejše. To je bilo izhodišče teorije sodelovalnega učenja, ki so jo postavili družbeni teoretiki Allport, Watson, Shaw in Mead (v Gilles in Ashman, 2003). Pomembno je spoznanje bratov Johnson (2009b), do katerega sta prišla, ko sta s pomočjo študentov in kolegov izvedla več raziskav na različnih skupinah ljudi (tudi mladoletnikih), v katerih so rezultati pokazali močnejšo povezavo med sodelovanjem in psihičnim zdravjem kot pa med tekmovalnostjo in psihičnim zdravjem. Prav tako sta ugotovila, da sodelovanje spodbuja pogostejšo uporabo razmišljanja na višji ravni (tj. reševanje problemov, odločanje, kritično razmišljanje, ustvarjalno mišljenje) kot pa tekmovalnost ali individualistični pristop. Tudi R. E. Slavin (1983) je v raziskavi primerjala sodelovalno, individualno in tekmovalno učenje v osnovni in srednji šoli ter ugotovila, da sodelovalno učenje v primerjavi z drugima vrstama vodi do boljšega učnega uspeha. Izkazalo se je, da so za uspešno sodelovalno učenje pomembni jasni skupinski cilji in jasna posameznikova odgovornost za doseganje skupnih ciljev skupine.

Več raziskovalcev, omenjenih v nadaljevanju, z raziskavami potrjuje pozitiven vpliv na razvijanje sporazumevalne zmožnosti. Gilles in Ashman (1998) sta v šestih tednih izvedla študijo, v katero sta vključila osnovnošolske otroke. S primerjavo skupin, ki so bile izenačene po spolu in sposobnostih učencev, sta ugotovila, da so imeli učenci v sodelovalnih skupinah boljše bralne in učne rezultate kot njihovi vrstniki, ki niso delali v sodelovalnih skupinah. Yazdani in Fakhraee Faruji (2013) sta v novejši študiji raziskala vpliv sodelovalnega učenja na besedni razvoj študentov priseljencev. Analiza rezultatov je pokazala pomembne razlike med dosežki raziskovalne in kontrolne skupine. Po opravljenem jezikovnem tečaju so imeli študentje, ki so bili deležni sodelovalnega učenja, boljše rezultate pri testu od tistih, ki so se učili po tradicionalni metodi. Študija daje podporo sodelovanju kot učinkovitemu orodju za poučevanje besedišča. Raziskovalca vidita prednost sodelovalnega dela v tem, da se morajo

učenci v skupinah zaradi dogovarjanja in iskanja skupne rešitve več sporazumevati. To jim daje možnost za razvoj strategij pojasnjevanja in razumevanja jezika, kot ga uporabljajo rojeni govorci kakega jezika (Yazdani in Fakhraee Faruji, 2013). Rezultati raziskave, ki jo je opravil Montasser (2014), so pokazali, da so udeleženci med sodelovalnim pristopom, za katerega so menili, da jim je nudil sproščeno učno vzdušje, izboljšali sporazumevalne spretnosti in povečali pisno sposobnost. Kljub navedenemu je raziskovalec med procesom v skupinah opazil težave, kot so: pomanjkanje motivacije in zamisli za delo ter neaktivnost posameznikov, npr. zaradi strahu pred napakami. Težavo je poskušal rešiti s prevzemom vloge povezovalca v skupini ali z diferenciacijo dela po skupinah glede na količino nalog. To potrjuje spoznanje bratov Johnson (2009b), da ima načrtovalec med izvedbo sodelovalnega pristopa pomembne vloge, tj. opazovalca, nadzornika in spodbujevalca.

Sodelovalno učenje v slovenskih osnovnih šolah

V Sloveniji se je sodelovalno učenje začelo načrtno uvajati v osnovno šolo v letu 1994/95 v okviru projekta Sodobne psihološke koncepcije učenja in znanja ter njihov pomen za poučevanje. Pomembno vlogo pri sistematičnem širjenju in spodbujanju sodelovalnega učenja v slovenskih šolah je imela C. Peklaj (Peklaj et al., 2001), ki je sprva za učitelje in delavce Zavoda Republike Slovenije za šolstvo izvedla treninge sodelovalnega učenja, nato pa za pomoč pri načrtovanju sodelovalnega dela izdala še knjigo.

B. Marentič Požarnik (2000) je že pred petnajstimi leti opozarjala, da se v naših šolah premalo izkorišča možnost, da učenci učijo učence. V primerjavi s skupinskim delom, pri katerem se pogosto zgodi, da v skupini niso vsi člani enako aktivni – nekateri so lahko povsem neaktivni – je pri ustrezno načrtovanem sodelovalnem učenju visoka aktivnost vseh članov skupine. Med procesom poteka tudi medsebojna pomoč z namenom, da bi vsi člani dosegli želeni cilj. Oblika učenja poudarja sodelovanje/interakcijo med člani (Marentič Požarnik, 2000). I. Vodopivec in C. Peklaj (2003) pravita, da tekmovanje motivira predvsem učence, ki dosegajo uspehe, medtem ko je »za učence slabših zmožnosti, saj se v takih okoliščinah ne bojijo neuspeha in imajo možnost doživeti uspeh« (Vodopivec in Peklaj, 2003, str. 7) primernejše sodelovanje.

Učni načrt za slovenščino (Program osnovna šola. Slovenščina. Učni načrt, 2011) je učnociljni; v njem so nanizani cilji, ki naj bi jih učenci dosegli. Kako jih bodo dosegli, pa je prepuščeno učiteljevi odločitvi. Ta pri poučevanju avtonomno izbira oblike in metode dela. Sam se odloči, katere bo izvedel med učno

uro in v katerem zaporedju. V učnem načrtu za slovenščino[2] so dana didaktična priporočila, v katerih je posebej poudarjeno, da je pri pouku slovenščine[3] treba skrbeti mdr. za večji delež sodelovalnega dela, npr. v manjših skupinah ali dvojicah, saj si ob aktivnih oblikah, kot so različne vrste sodelovalnega učenja, učenci dejavno razvijajo zmožnosti (npr. za dvogovorno sporazumevanje), višje ravni mišljenja (reševanje problemov, odločanje, kritično razmišljanje, kreativno mišljenje) in posledično znanje. Sodelovalna oblika dela je priporočena tudi za poučevanje učencev priseljencev in učencev z učnimi težavami (Magajna et al., 2008; Kerndl, 2013) ter za spodbujanje medvrstniške pomoči (Novak, 2009).

Vsako skupinsko delo ni sodelovalno

To, da učence razvrstimo v skupine, še ne pomeni, da bodo učinkovito sodelovali. Brata Johnson (1999; Peklaj et al., 2001), ameriška socialna psihologa in ustanovitelja Centra za sodelovalno učenje, sta sodelovalne učne skupine primerjala s tradicionalnimi in predstavila razlike med njimi. Za sodelovalne učne skupine so značilne pozitivna povezanost (soodvisnost), posameznikova odgovornost, heterogenost skupin, porazdeljenost vodstvenih funkcij in odgovornost drug za drugega. Poudarjeni so kognitivni, socialni in čustveno-motivacijski cilji. Učitelj med procesom opazuje sodelovalne veščine učencev in po potrebi poseže v delo – poučuje sodelovalne veščine. Delo v skupini se konča s samoanalizo delovanja skupine. Pri skupinskem delu ni soodvisnosti in jasne posameznikove odgovornosti. Skupine so homogene, določen je vodja, vsak je odgovoren samo zase. V primerjavi s sodelovalnimi skupinami so pri tradicionalnih poudarjeni samo kognitivni cilji, predpostavlja se obvladovanje sodelovalnih veščin. Učitelj je usmerjen v vsebino, skupinsko delo pa se ne konča z analizo delovanja. Omenjena psihologa menita, da je za uspešno izvedbo sodelovalnega učenja potrebnih pet elementov: pozitivna povezanost, individualna in skupinska odgovornost, neposredna interakcija (delo v skupinah), ustrezna uporaba socialnih veščin in evalvacija (Johnson in Johnson, 1994; Johnson in Johnson, 2009a, 2009b).

2 Učni predmet slovenščina sestoji iz dveh področij, tj. književnega in jezikovnega dela. Jezikovnega pouka je v primerjavi s književnim poukom 20 odstotkov več (izjema je prvi razred; v njem je razmerje odstotkov ur 50 : 50). Za prvi razred je določenih 210 ur slovenščine, za drugi in tretji razred po 245 ur, v drugem vzgojno-izobraževalnem obdobju pa za vsak razred 175 ur (Program osnovna šola. Slovenščina. Učni načrt, 2011).

3 O slovenščini kot učnem predmetu gl. tudi Petek, 2013.

Brata Johnson[4] (2009a, 2009b) kot najpomembnejši element sodelovalnega učenja poudarjata pozitivno povezanost oz. soodvisnost. Pravita, da brez nje ni sodelovanja. To obstaja, če se člani zavedajo, da prizadevanja vsakega koristijo vsem članom, ne samo njemu. Torej so člani odvisni drug od drugega. Pozitivna povezanost ustvarja enako odgovornost vsakega člana za uspeh skupine kot za svoj uspeh. Vsak dobi svojo nalogo ter je odgovoren za svoje delo in posledično za opravljeno skupinsko nalogo. Soodvisnost pa je lahko tudi negativna. Pri pozitivni člani sodelujejo za dosego istega cilja, sodelovanje je vzajemno, pri negativni pa člani tekmujejo, kdo izmed njih bo dosegel cilj. Odsotnost soodvisnosti se kaže v tem, da med člani ni sodelovanja za dosego skupnega cilja. Po navadi ga povzroči opozicijsko vplivanje. Drugi pomembni element zajema individualno in skupinsko odgovornost. Vsak član mora biti odgovoren za svoj prispevek, s katerim pripomore k dosegi skupinskega cilja. Učenci morajo uvideti, da bodo, če bodo delali skupaj, dosegli več, kot če bi delali sami. Torej mora vsak član dokazati znanje, ki ga je pridobil med sodelovalnim učenjem, prav tako pa je odgovoren za delo in učenje celotne skupine. Zaradi tega je v skupini manj možnosti za »lenarjenje«. Da vsak posameznik začuti pomembnost svojega sodelovanja in odgovornost za dosego skupnega cilja ter se zaveda, da brez njegovega prispevka skupina ne more biti uspešna, se lahko doseže z delitvijo nalog. Individualna odgovornost se razvija, če se ocenjuje tudi uspešnost vsakega posameznika. Tretji element je medsebojno sodelovanje/neposredna interakcija v skupini, po možnosti iz oči v oči; to poteka, ko se člani skupaj učijo, si po potrebi pomagajo, npr. pri razumevanju in/ali dokončanju naloge, drug drugega spodbujajo in pohvalijo. Za uspešno sodelovalno učenje je treba razvijati socialne in sporazumevalne veščine. Posameznik se mora naučiti medosebnih veščin, ki mu omogočajo, da deluje kot del skupine. Mednje sodijo sporazumevanje, medosebne in skupinske veščine, tj. poslušanje, usklajevanje, dajanje in prejemanje pomoči, vodenje, odločanje, vzpostavljanje in krepitev zaupanja, sposobnost razreševanja sporov idr. (Johnson in Johnson, 2009a, 2009b) W. Jolliffe (2007) meni, da naj bodo v skupinah štirje člani. Če nimamo parnega števila otrok, naj bodo v skupini trije oz. naj jih bo pet. Odsvetuje pa sestavo skupin s šestimi člani, ker se skupina po navadi razdeli na dva dela in člani izgubijo stik. Smiselno je, da najprej delajo v parih, nato pa se pari združijo z drugim parom, sprva za kratek čas, ko razvijejo potrebne veščine, pa za daljši čas. Glede na rezultate več raziskav predlaga, da ostaja ista sestava skupin od pet do šest tednov. (Jolliffe, 2007) Zadnji pomembni element sodelovalnega učenja pa je evalvacija. Po

4 O istih petih elementih, ki sta jih predstavila brata Johnson in za katere menita, da so bistvenega pomena za dobro izvedbo ter ohranjanje sodelovalnega učenja, so pisali mdr. Ross in Smythe (1995), Brown in Ciuffetelli (2009), Siltala (2010) in W. Jolliffe (2007).

opravljenem delu se člani pogovorijo o skupnem uspehu, kako so opravili nalogo in kakšni odnosi so vladali med procesom v skupini. Vsaka skupina mora poročati ne le o rezultatih, temveč tudi o tem, kako so delali, kaj je bilo dobro in kaj ne (Johnson in Johnson, 1999, 2009a, 2009b; Peklaj et al., 2001).

Tudi C. Peklaj (2000) omenja, da je pri organizaciji sodelovalnega učenja treba upoštevati pozitivno povezanost med člani skupine, neposredno interakcijo otrok med celotnim procesom dela v skupini (pri načrtovanju, dogovarjanju in pri vrednotenju rezultatov), heterogeno sestavo skupin (tj. glede na znanje, spol, socialno in etnično pripadnost ali glede na razdelitev različnih funkcij vsem članom ali glede na spoznavne, čustveno-motivacijske in na socialne cilje) in da je jasno določena naloga za vsakega člana. Poudarja, da je za delovanje skupine pomembno oblikovanje skupnih pravil, ki se jih morajo člani držati, da delo poteka nemoteno in da ne nastajajo spori. Za delovanje vsake skupine priporoča, da sestava skupin ni stalna.

Učiteljeva vloga

Učiteljeva vloga v šoli ni samo skrb za učenčevo pridobivanje znanja, temveč tudi skrb za kakovost pouka in uspešnost učenja. Učitelj mora učencem omogočiti čim boljše razmere za socialni, čustveni in za duhovni razvoj (Peklaj et al., 2001; Vodopivec in Peklaj, 2003). Optimalne ravni omenjenega razvoja ne moremo doseči samo s frontalnim in z individualnim delom, nasprotno pa velja, da je treba učinkovite strategije sodelovalnega učenja izvajati »v kombinaciji z drugimi oblikami poučevanja« (Lv, 2014, str. 1952). Če učitelj izvaja frontalno učno obliko, ima predvsem vlogo posredovalca učnih vsebin, medtem ko so učenci pogosto samo poslušalci[5] in imajo manj možnosti za govorjenje. Ker pri individualni učni obliki učenci delajo samostojno, tudi ta učencem nudi manj možnosti za medvrstniško sporazumevanje in sodelovanje. Sorazmerno s tem učenci pridobijo manj izkušenj, tudi tistih, ki vplivajo na razvijanje medsebojne strpnosti in spoštovanja ter na sprejemanje drugačnosti. Sodobna šola je usmerjena v izkustveno učenje (Žarkovič Adlešič, 2000), pri katerem učenec pridobiva znanje v procesu preoblikovanja izkušenj (Požarnik, 1992; Žarkovič Adlešič, 2000), zato menimo, da se odnos ne more izboljšati samo zaradi predavanja o pomembnosti spoštovanja drugih.

Učitelj ima vlogo spodbujevalca in mora verjeti v učinkovitost sodelovalnega učenja. Z lastnim prepričanjem in navdušenostjo spodbudno vpliva na

5 L. Pregel Plut (2012) meni, da zahteva monološko poslušanje velik napor poslušalcev in da ni učinkovito, »ker si učenci ne morejo zapomniti večjega števila informacij in jih sproti ″misliti″« (Pregel Plut, 2012, str. 89).

učence, da spoznajo, da se s sodelovanjem lahko doseže več. Z delitvijo nalog vsakemu posamezniku mdr. razvija občutek pomembnosti njegovega sodelovanja in odgovornost za dosego skupnega cilja. (Žarkovič Adlešič, 2000)

Sodelovalno učenje je tudi učenje socialnih veščin, zato mora učitelj poznati postopke in strategije za njihovo poučevanje, če jih želi razvijati pri učencih. Vedeti mora, kako oblikovati pozitivno povezanost (soodvisnost) ter spodbuditi odgovornost vsakega posameznika in medsebojno sodelovanje članov skupine, ustrezno uporabo socialnih veščin in skupinsko procesiranje v učnih situacijah (Johnson in Johnson, 2009a).

Za uresničevanje razumevanja in sprejemanja drug drugega ter uspešnega sporazumevanja je treba razviti razredno zavest, zato je prav tako nepogrešljiva učiteljeva vloga ustvarjalca razredne klime. Poskrbeti mora za varno, zaupanja vredno in strpno okolje. Za sodelovanje sta pomembni naklonjenost vrstnikov in stopnja poznanstva. Učitelj je odgovoren za gradnjo in spodbujanje razpredanja stikov. Učencem mora omogočiti, da se med seboj spoznajo (Vodopivec in Peklaj, 2003; Johnson in Johnson, 2009a). Pozitivne izkušnje, ki jih otrok doživlja med poukom, mu povečujejo in krepijo motivacijo, ta pa je osnovni dejavnik, ki pospešuje proces učenja. Učitelj se mora zavedati, da je »razred« priložnost za spodbujanje medvrstniškega sporazumevanja in da je sodelovalno delo v skupinah ali dvojicah oblika dela, ki spodbuja »pridobivanje jezikovnega znanja in razvoj sporazumevalne zmožnosti« (Lv, 2014, str. 1952). B. Marentič Požarnik in L. Plut Pregelj (2009) poudarjata pomen razvijanja jezikovnih zmožnosti prek učnega pogovora in pravita, da je jezikovne zmožnosti »mogoče razviti samo z uporabo jezika« (Marentič Požarnik in Plut Pregelj, 2009, str. 60). Če bo imel učenec v skupini pri sporazumevanju pozitivne izkušnje in bo deležen vrstniške naklonjenosti, bo v prihodnje (še) bolj sproščen in motiviran za sodelovanje in sporazumevanje. Če bodo njegove izkušnje negativne, se bo navezovanju stikov, sodelovalnemu delu in sporazumevanju izogibal, to pa bo vplivalo na njegov čustveni in socialni razvoj ter upočasnilo razvoj sporazumevalne zmožnosti. Z večanjem števila stikov se sorazmerno veča tudi stopnja poznanstva. Več stikov vodi v nova poznanstva, ta pa v večkratno sporazumevanje. Z boljšim medsebojnim poznavanjem učencev je prav tako več možnosti za razumevanje posameznika in njegovih potreb. Z neposrednimi stiki se povečuje tudi vživljanje/empatija. (Peklaj, 2001; Hedge, 2005) S pogostejšo rabo jezika oz. z govorjenjem spodbuja in omogoča boljši pretok posameznikovega besedišča iz pasivnega v aktivnega. Boljše besedišče vpliva na boljše razumevanje povedanega ali prebranega ter boljše ustno in pisno izražanje. (Gabrijelčič, 1993)

Brata Johnson (2009b) navajata, da so naloge učitelja pred izvedbo sodelovalnega učenja oblikovanje izobraževalnih in socialnih ciljev, velikost skupin,

način razvrščanja učencev v skupine, načrtovanje vlog za člane skupine, učnih pripomočkov, ki jih učenci potrebujejo za naloge, in priprava prostora. Z zadnjim naj bi si učitelj omogočil preprost dostop do vsake skupine in s tem nadzor nad delom vsakega posameznika. Prav tako mora učence seznaniti z navodili za nalogo, značilnostmi sodelovalnega dela in z merili uspešnosti ter pojasniti socialne veščine, ki naj bi jih učenci uporabljali. Med procesom je učitelj opazovalec in spremlja delo učencev, po potrebi pa je posredovalec in pomočnik ter pridobiva tudi podatke za spremembe skupin. Spremlja pogovor učencev in s poslušanjem pridobiva informacije o njihovem medsebojnem razumevanju ter individualni odgovornosti posameznika. V sklepni fazi oceni kakovost in količino učenčevega dosežka, učencem pomaga pri samoevalvaciji, tako da vodi pogovor o tem, kaj so se naučili, kako uspešno so delali skupaj, in jih spodbuja k predlaganju izboljšav (Johnson in Johnson, 2009b).

Učitelj je prav tako odgovoren za organizacijsko izvedbo in vsebinsko ustreznost priprave učilnice. Ustrezni prostorski pogoji nudijo učencem priložnost za medvrstniško sporazumevanje (Peklaj, 2001), vendar za to ni dovolj le učiteljeva usmerjenost v cilj, temveč tudi na pot do njega – v učni proces.

Sodelovalno učenje pri slovenščini – jezikovnem pouku

»Bistveni dejavnik uspešnega razvijanja sporazumevalne zmožnosti učencev je v sporazumevanju, zato jo ti načrtno in sistematično razvijajo pri jezikovnem pouku« (Bešter Turk, 2011, str. 123). V razredu je veliko učencev in je manj možnosti za to, da bi vsak povedal svoje mnenje, zato je pomembno, da se v šoli »učenci ne učijo samo od učitelja, ampak tudi od vrstnikov in iz pogovora z njimi« (Plut Pregelj, 2012, str. 110). Sodelovalno učenje je ena izmed učnih oblik, ki je posebej priporočena v didaktičnih priporočilih učnega načrta za slovenščino (Program osnovna šola. Slovenščina. Učni načrt, 2011) in jo je po naših izkušnjah mogoče izvesti pri jezikovnem pouku, ne glede na to, katero sporazumevalno dejavnost[6] oz. katero sestavino sporazumevalne zmožnosti[7] želi učitelj razvijati v učni uri.

Za vsako uspešno sodelovanje, h kateremu lahko pripišemo tudi sodelovanje pri jezikovnem pouku, je potrebno oblikovanje skupnih pravil, ki se jih je treba držati, da delo poteka nemoteno (Peklaj, 2001) in kot pravi B. Žarkovič

6 Učenci naj bi praktično in ustvarjalno obvladovali vse štiri sporazumevalne dejavnosti, tj. poslušanje, govorjenje, branje in pisanje (Program osnovna šola. Slovenščina. Učni načrt, 2011)

7 Med gradnike sporazumevalne zmožnosti uvrščamo: motiviranost za sprejemanje in sporočanje, stvarno/enciklopedično znanje prejemnika in sporočevalca, »jezikovno zmožnost (tj. poimenovalno, upovedovalno, pravorečno, pravopisno), zmožnost nebesednega sporazumevanja, pragmatično in metajezikovno zmožnost /.../» (Bešter Turk, 2011, str. 124).

Adlešič (2000), »z njimi zagotavljamo otrokom pravico do učenja in do tega, da so varni, spoštovani in slišani.« (str. 3)

Pri sodelovalnem učenju učenci delajo za skupni cilj. Naloge lahko opravljajo po skupinah neko obdobje ali v skupinah, ki so oblikovane za nekaj minut ali eno šolsko uro (Johnson in Johnson, 2009). Pri prvem načinu dela so učenci razdeljeni v dolgotrajne heterogene sodelovalne skupine z nespremenljivim članstvom, pri drugem pa se za različne naloge v skupinah članstvo spreminja. Čeprav avtorja ne omenjata teh načinov dela pri jezikovnem pouku, lahko to velja tudi zanj.

Različico skupinskega sodelovalnega učenja v heterogenih skupinah, ki se lahko izvede v eni ali dveh šolskih urah, predstavlja npr. »model sestavljanka« (Marentič Požarnik, 2000, str. 240), ki omogoča aktivnost vseh članov, tako da se vsak poglobi le v del skupne teme, npr. pri opisu živali eden zbira podatke o njenih zunanjih značilnost, drugi o prehranjevanju, tretji o razmnoževanju, četrti o prebivališču, peti išče njene posebnosti. Vsak je dolžen svoje ugotovitve predstaviti preostalim članom skupine. Med delom si člani lahko pomagajo, drug drugemu svetujejo itn. Cilj pa je skupna priprava miselnega vzorca, ki je ena izmed faz[8] tvorjenja enogovornega besedila[9].

Empirična raziskava

Sodelovalno učenje se lahko načrtuje oz. izvaja za različna predmetna področja in z učenci vseh starosti. V aplikativni empirični raziskavi smo se usmerili na predmet slovenščino – jezikovni pouk, in sicer na poučevanje od prvega do petega razreda osnovne šole.

Namen

Več raziskovalcev (Johnson in Johnson, 1985; Nicolas in Miller, 1994; Lazarowitz, Hertz - Lazarowitz in Baird, 1994) je z raziskavami potrdilo, da sodelovalno učenje mdr. vpliva na učni interes, samopodobo in na odnos do učnega predmeta. Sharan in Shachar (1988) sta dokazala, da ima sodelovalno učenje vpliv tudi na vzgojo za spoštovanje drugačnosti; učenci, ki so sodelovali v heterogenih skupinah, so izboljšali odnos do sošolcev, mdr. do pripadnikov drugih etničnih skupin. Pogosteje so se družili z otroki iz omenjenih skupin,

8 Pri tvorjenju enogovornega besedila naj bi učenci upoštevali v zaporednem vrstnem redu naslednje stopnje: iznajdba/invencija, urejanje/dispozicija, ubesediljenje/elokucija, poprava osnutka in prepis popravljenega besedila (Križaj Ortar, Magajna, Pečjak in Žerdin, 2000; Bešter Turk in Križaj Ortar, 2009).

9 Gl. tudi Potočnik, 2010, in Petek, 2012.

iz njih izbirali več prijateljev in z njimi ohranjali prijateljstvo daljše časovno obdobje. Menimo, da je v današnji slovenski praksi preveč usmerjenosti v učne cilje in premalo v učni komunikacijski proces, da je še vedno (pre)velik razkorak med idejo sodelovalnega učenja in njegovim izvajanjem v osnovnih šolah ter da so osnovnošolski učenci iz prvega in drugega triletja premalo deležni sodelovalnih učnih oblik (UO). Pogostejše druženje z vrstniki oz. sodelovalno delo lahko omogoča pogostejše sporazumevanje in to lahko pozitivno vpliva na razvoj sporazumevalnih zmožnosti. Ker prihaja v Slovenijo vsako leto več priseljencev, vidimo sodelovalno učenje kot eno izmed pomembnih metod za razvijanje sprejemanja in spoštovanja drugačnosti ter pomembno obliko dela, ki nudi več priložnosti za sporazumevanje.

Z raziskavo smo želeli ugotoviti, katere učne oblike učitelji uporabljajo pri jezikovnem pouku v prvem in drugem vzgojno-izobraževalnem obdobju, še posebej pa nas je zanimalo, kolikšen je delež dela v skupinah in dvojicah ter kolikšen delež dela v skupinah in dvojicah poteka sodelovalno, torej ne tradicionalno.

Postavili smo si naslednja vprašanja:

- Ali učitelji načrtujejo delo v dvojicah in skupinsko delo pri jezikovnem pouku?
- Če da, v katerih šolah se izvajata pogosteje, v mestnih ali podeželskih?
- Če da, v katerem razredu se izvajata?
- Če da, v katerem delu ure ju učitelji izvajajo?
- Če da, ali se izvaja tradicionalna ali sodelovalna UO?
- Koliko delovne dobe imajo učitelji, ki izvajajo delo v dvojicah in skupinsko delo?

Raziskovalna metoda

V raziskavi je bila uporabljena opisna/deskriptivna metoda pedagoškega eksperimenta. Podatke smo dobili med hospitiranjem in tonskim snemanjem učnih ur jezikovnega pouka.

Izvedba

Tonsko snemanje ur jezikovnega pouka je potekalo od novembra 2013 do januarja 2014. Temu sta sledili transkripcija in analiza.

Vzorec in obdelava podatkov

Vzorec snemanih učnih ur je bil priložnostni. Zajel je 46 učiteljic z različno delovno dobo (diagram 1). Največ, tj. 37 %, jih je imelo od 21 do 30 let delovne dobe. Polovica udeleženk je imela do 20 let delovne dobe, polovica pa je poučevala 20 let ali več. Zaposlene so bile na osnovnih šolah v različnih zemljepisnih okoljih Slovenije, 26 jih je poučevalo na mestni šoli (tj. 57 % vseh udeleženk raziskave), 20 na podeželski (diagram 2). V šolskem letu 2013/14 so poučevale v enem izmed razredov prvega ali drugega izobraževalnega obdobja (diagram 3).

Potem ko se je za 46 tonskih posnetkov naredila transkripcija, je sledila obdelava podatkov. Iz zapisov smo najprej raziskali, katere UO so bile izvedene v uvodnem, osrednjem in v sklepnem delu učnih ur jezikovnega pouka v mestnih oz. podeželskih šolah in katere v vsakem razredu, tj. od 1. do 5. Nato smo pregledali, kolikšna je delovna doba učiteljic, ki so izvedle UO. Temu je sledila podrobnejša analiza dela v skupinah in dvojicah. Ugotavljali smo, ali sta bili UO izvedeni tradicionalno ali sodelovalno. Pri tem smo se opirali na učiteljičina navodila pred izvedbo UO in na sklepni del UO; pozorni smo bili na razdelitev nalog v skupinah/dvojicah, ali je oblika poudarjala sodelovanje med člani in na prikaz/poročanje rezultatov dela skupin in dvojic. Za lažjo predstavljivost smo rezultate raziskave prikazali z diagrami.

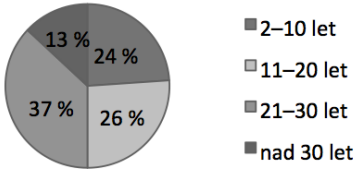

Diagram 1. Delež učiteljic glede na delovno dobo

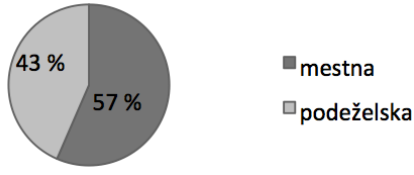

Diagram 2. Delež šol, na katerih poučujejo učiteljice

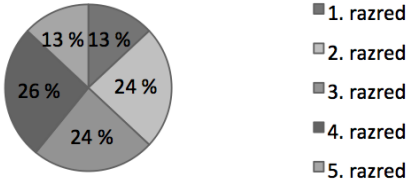

Diagram 3. Delež učiteljic glede na razred, ki ga poučujejo

Rezultati raziskave

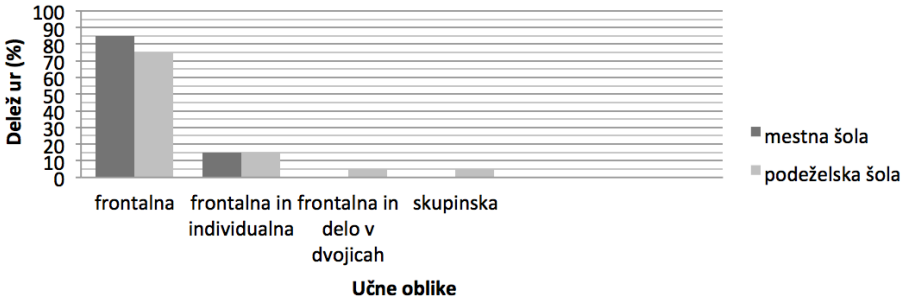

Diagram 4. Učne oblike v uvodnem delu ure jezikovnega pouka v podeželskih in mestnih šolah

V uvodnem delu ure jezikovnega pouka pri predmetu slovenščina se je v mestnih in podeželskih šolah največkrat izvajal frontalni pouk (85 % in 75 %, torej več v mestnih šolah kot podeželskih). Samo dve učiteljici s podeželja (4 % vseh) sta v uvodnem delu ure izvajali skupinsko UO ali delo v dvojicah. V mestnih šolah dela v dvojicah ali skupinah ni bilo pri nobeni uri jezikovnega pouka.

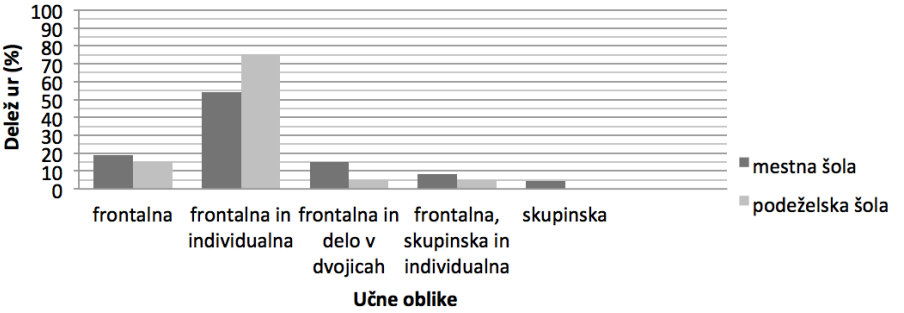

Diagram 5. Učne oblike v osrednjem delu ure jezikovnega pouka v podeželskih in mestnih šolah

Z diagrama 5 je razvidno, da je v osrednjem delu ure jezikovnega pouka v mestnih in podeželskih šolah prevladovala frontalna UO, najpogosteje v kombinaciji z individualno UO. V primerjavi z uvodnim delom je bilo več individualne učne oblike (47 % več v mestnih šolah in 65 % več v podeželskih) in nekaj več dela v dvojicah in skupinah, vendar samo v mestnih šolah (15 %

in 12 % več). Kljub temu sta bili tudi v osrednjem delu ure jezikovnega pouka najredkeje izvedeni UO. Ti UO so večinoma izvajale učiteljice z mestnih šol – 7 od 9, tj. 15 % vseh. Učenci so delali v dvojicah v 15 % mestnih šol in 5 % podeželskih šol, v skupinah pa v 9 % mestnih šol in 5 % podeželskih šol. Vse učiteljice s podeželskih šol so za osrednji del izbrale frontalno UO, več kot polovica (80 %) poleg te tudi individualno UO in/ali delo v dvojicah in/ali skupinsko UO.

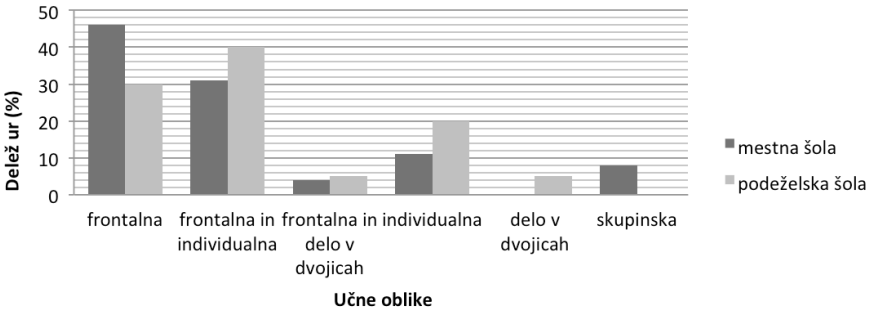

Diagram 6. Učne oblike v sklepnem delu ure jezikovnega pouka v podeželskih in mestnih šolah

Tudi v sklepnem delu ure jezikovnega pouka je bila najpogosteje izvedena frontalna UO (v 81 % mestnih šol in 75 % podeželskih šol), sledili sta ji mešana izvedba UO, tj. frontalne in individualne, ter individualna UO. Enako kot v uvodnem delu je bilo samo frontalnega dela več v mestnih šolah (46 %), poleg tega tudi skupinskega (8 %), v podeželskih pa več samo individualne UO (60 %) in dela v dvojicah (5 %). Ob primerjavi diagramov 5 in 6 izstopa v sklepnem delu izvedba »osamele«[10] individualne UO, 15 % vseh ur (11 % v mestnih šolah in 20 % v podeželskih). V več kot polovici ur jezikovnega pouka je bila izvedena individualna učna oblika, v 42 % mestnih šol in 60 % podeželskih šol. Vzrok je verjetno izvedba končnega preverjanja znanja, pri katerem učenci izkažejo razumevanje učne snovi. Samo v petih učnih urah (11 % vseh ur) je bilo učencem omogočeno učenje v dvojicah ali skupinah v celotnem sklepnem delu. Pri teh je število izvedb v mestnih in podeželskih šolah približno enako, tj. 3 v mestnih (12 %) in 2 v podeželskih (10 %).

10 Pri tem mislimo, da je v celotnem delu ure jezikovnega pouka potekala individualna UO.

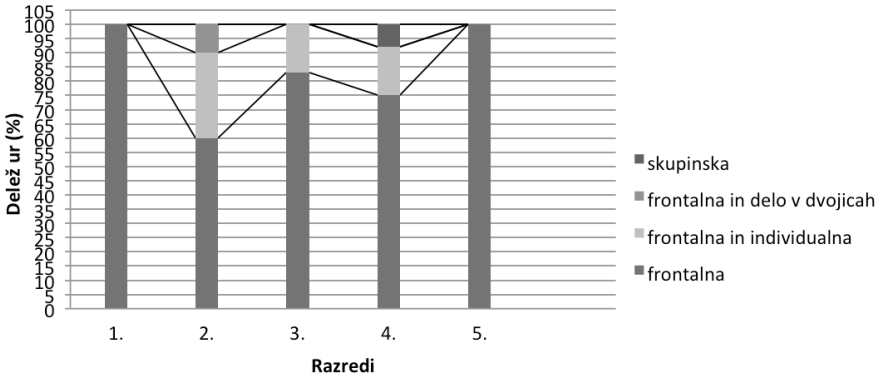

Diagram 7. Uvodni del učne ure – izvedba učnih oblik po razredih

V oddelkih petega in prvega razreda so imeli v uvodnem delu samo frontalno UO. Ta je prevladovala tudi v oddelkih drugega (60 %), tretjega (83 %) in četrtega razreda (75 %). Največ različnih UO (tri) je bilo v oddelkih drugega in četrtega razreda, delo v dvojicah je potekalo v enem oddelku drugega razreda (tj. 10 % oddelkov drugega razreda), po skupinah pa so delali v enem oddelku četrtega razreda (glede na število oddelkov četrtega razreda je to 8 %).

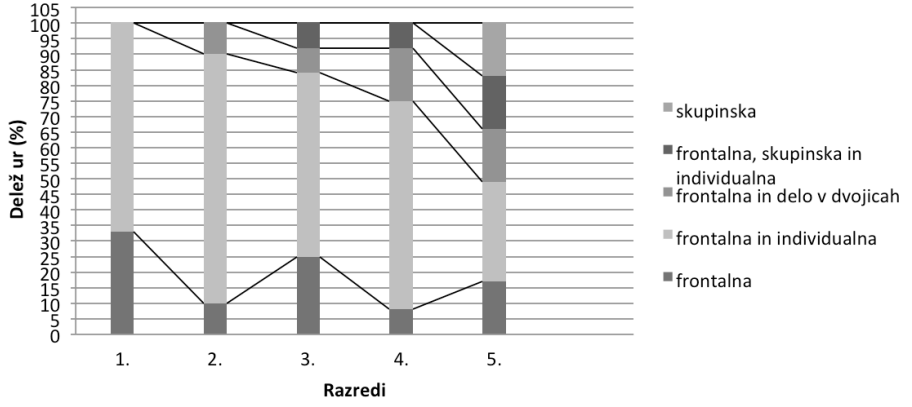

Diagram 8. Osrednji del učne ure – izvedba učnih oblik po razredih

V osrednjem delu ur jezikovnega pouka sta bili od 1. do 5. razreda najpogosteje izvedeni frontalna in individualna UO. Glede na število udeleženih oddelkov vsakega razreda je imelo samo frontalno UO največ oddelkov prvega razreda (33 %) in najmanj oddelkov četrtega (8 %), frontalno UO in individualno pa največ oddelkov drugega razreda (80 %), sledijo ji oddelki prvega in četrtega

razreda (67 %), najmanj pa je bilo te sestave v oddelkih petega razreda (32 %). Dela v dvojicah niso bili deležni prvošolci, skupinskega dela pa poleg prvošolcev tudi ne drugošolci. Učenci so celotni osrednji del ure delali po skupinah, samo v enem oddelku petega razreda, tj. 17 %. Iz diagrama 8 je razvidno, da se pestrost UO v osrednjem delu ur jezikovnega pouka s starostjo učencev veča.

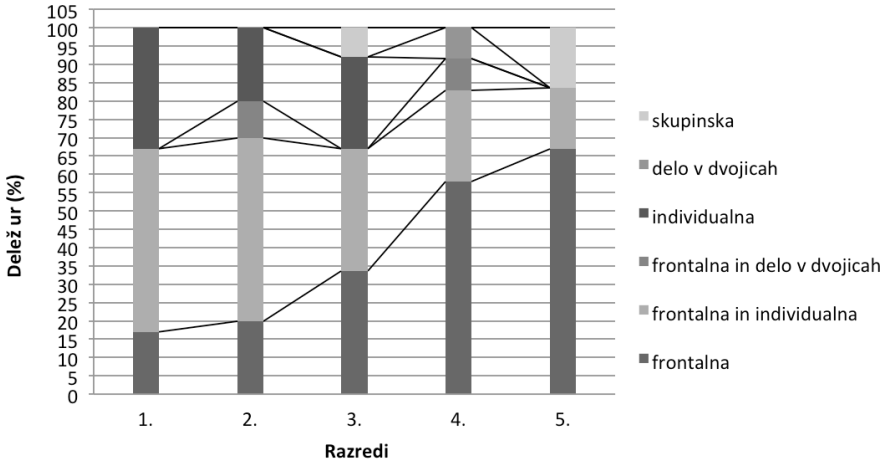

Diagram 9. Sklepni del učne ure – izvedba učnih oblik po razredih

V sklepnem delu ur jezikovnega pouka je bila pestrost UO po razredih največja. Pogostost frontalne UO se je z višjim razredom večala, pogostost individualne UO pa manjšala. Z upoštevanjem števila udeleženih oddelkov je odstotek frontalnega dela najvišji v petem razredu, tj. 66 %, sledi mu četrti razred z 58 %. Podobno je z izvedbo mešanih UO, frontalne UO in dela v dvojicah. Glede na število udeleženih razredov je odstotek najvišji v prvem in drugem razredu, tj. 50 %, temu sledita tretji razred s 33 % in četrti s 25 %. Učno uro so končali z delom v dvojicah v enem oddelku četrtega razreda in s skupinsko UO v enem oddelku petega razreda. Iz diagrama 9 je razvidno, da je bilo – tako kot v osrednjem delu ur jezikovnega pouka – tudi v sklepnem delu največ dela v dvojicah in skupinah v višjih razredih, tj. v četrtem in petem.

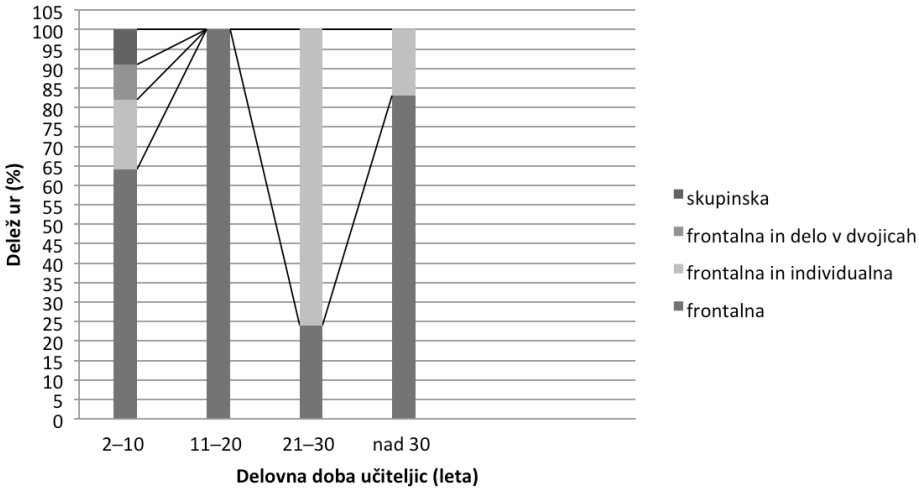

Diagram 10. Uvodni del učne ure – izbira UO glede na delovno dobo učiteljic

V uvodnem delu ure so najrazličnejše UO izvedle učiteljice, ki imajo 2–10 let delovne dobe. Od vseh učiteljic sta samo dve (18 %) iz že omenjene skupine imeli ali delo v skupinah ali v dvojicah; ena je imela poleg frontalnega dela še delo v dvojicah, ena pa skupinsko delo. Vse učiteljice, ki imajo delovno dobo 11–20 let, so uporabile samo frontalno UO, isto UO je uporabilo tudi pet oz. 83 % tistih, ki imajo več kot 30 let delovne dobe. Največ učiteljic z 21–30 let delovnih izkušenj, tj. 76 %, pa je imelo v uvodnem delu najpogosteje sestavo frontalne in individualne UO.

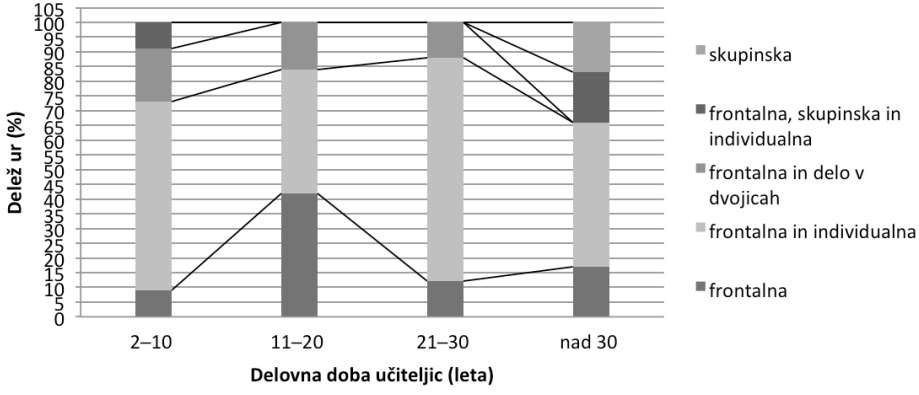

Diagram 11. Osrednji del učne ure – izbira UO glede na delovno dobo učiteljic

V osrednjem delu se je pestrost izvedenih UO povečala ne glede na delovno dobo učiteljic. Največja je bila pri učiteljicah z 2–10 let delovne dobe. Frontalno UO je tudi tu izvedlo največ učiteljic z delovno dobo 11–20 let (42 %). Enako kot v uvodnem delu so imele mešano sestavo UO, frontalne in individualne, najpogosteje učiteljice z 21–30 let delovne dobe, tj. 76 %. Dela v dvojicah ni izvedla nobena učiteljica z delovno dobo nad 30 let, medtem ko sta ga izvedli po dve učiteljici iz drugih skupin, tj. 18 % z 2–10 let delovne dobe, 16 % z 11–20 let in 12 % z 21–30 let. V osrednjem delu ure je imela skupinsko UO samo ena učiteljica z delovno dobo nad 30 let.

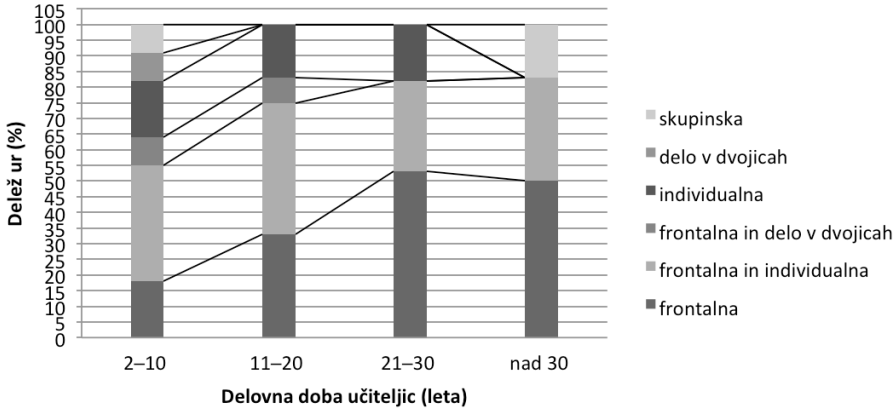

Diagram 12. Sklepni del učne ure – izbira UO glede na delovno dobo učiteljic

V sklepnem delu ure so največ raznovrstnih UO izvedle učiteljice z delovno dobo 2–10 let. Prav tako je imelo v sklepnem delu največ učiteljic iz omenjene skupine (18 %) delo v skupinah ali dvojicah, ena (9 %) je imela samo delo v dvojicah, ena (9 %) pa poleg te še frontalno delo. S skupinskim delom je učno uro končala samo ena učiteljica, in sicer z delovno dobo nad 30 let (tj. ista, kot je imela skupinsko UO že v osrednjem delu ure).

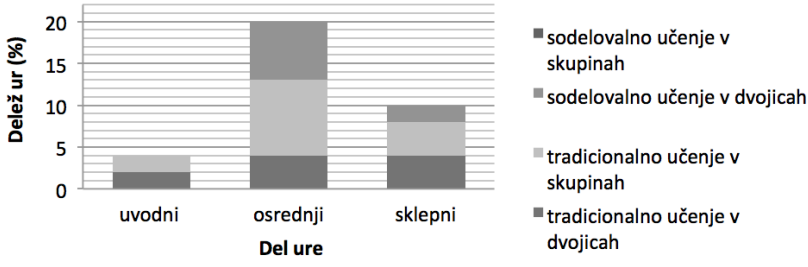

Diagram 13. Vrsta učenja v dvojicah in skupinah

Učni obliki delo v skupinah in dvojicah sta bili izvedeni v štirinajstih urah jezikovnega pouka (30 % vseh ur); pri tem smo upoštevali, da se je v dveh urah (4 %) skupinsko delo iz osrednjega dela nadaljevalo tudi v sklepnem delu. Sodelovalno učenje v skupinah in dvojicah je potekalo samo v štirih urah jezikovnega pouka, tj. 9 % vseh ur, tradicionalno učenje v skupinah in dvojicah pa v desetih urah[11] oz. 22 % vseh ur. Učiteljice so izvedle sodelovalno učenje v dvojicah, nobena pa v skupinah. Največ sodelovalnega učenja je bilo v osrednjem delu (7 %), manj v sklepnem delu (2 %), v uvodnem delu pa ga ni bilo v nobeni uri jezikovnega pouka. Učenci niso imeli sodelovalnega učenja celotni del ure, temveč v sestavi s frontalnim delom.

Interpretacija rezultatov

Rezultati raziskave kažejo, da učitelji pri jezikovnem pouku načrtujejo delo v dvojicah in skupinsko delo, toda UO sta v primerjavi s frontalno in z individualno UO izvedeni precej redko. Učitelji pri jezikovnem pouku pri predmetu slovenščina še vedno najpogosteje uporabljajo frontalno obliko dela ne glede na del učne ure (tj. uvodni, osrednji ali sklepni del). Največ raznovrstnih UO je izvedenih v sklepnem delu, najmanj pa v uvodnem delu. Če učitelji načrtujejo delo v dvojicah ali skupinah, ga najpogosteje izvajajo v osrednjem delu ure jezikovnega pouka in najmanj v uvodnem delu. V uvodnem delu učitelji kljub različnim možnostim priprave otrok na delo najpogosteje skušajo doseči motiviranost učencev s frontalnim pogovorom, npr. »No, učenci, o čem se mi pugovarjamo zdele zadnje ure pri slovenščini?«, »No, danes bomo spoznali ene besedice, ki js mislim, jih vi že poznate. /.../ A je kakšna razlika? Med tema dvema besedama?« »Mi se že cel teden pogovarjamo o kmetiji. /.../ Zdaj me pa zanima, če bi mi kdo od vas znal povedati, kaj je pravzaprav to sploh kmetija?« V sklepnem delu z individualno in frontalno obliko dela preverjajo razumevanje učne snovi, npr. »No, bomo prebrali zdej rešitve. Pa gremo kr lepo po vrsti. /.../«, »Zdej se boste pa polotili, zdej se bo pa polotu vsak sam, in sicer boste napisali vsak svojo strnjeno obnovo /.../«, »/.../ Učiteljica bom podala navodila za nadaljnje delo. To delo bo samostojno delo, in sicer delo v delovnem zvezku. /.../« Frontalno preverjanje, tj. nekajminutno sprotno ali končno, lahko učitelj zamenja s preverjanjem v dvojicah. Učenca pozorno poslušata odgovore/rešitve drug od drugega, o morebitnih različnih rešitvah se pogovorita, utemeljita svojo odločitev in skupaj poiščeta/preverita, kaj je ustrezno/pravilno.

Glede izvedbe učenja v dvojicah in skupinah v mestnih in podeželskih šolah je raziskava pokazala, da med njimi ni velikih razlik. V uvodnem delu so

11 Tudi pri tem izračunu smo upoštevali, da se je v dveh urah (4 %) skupinsko delo iz osrednjega dela nadaljevalo v sklepnem delu.

izkazale prednost podeželske šole, v osrednjem in sklepnem delu pa mestne. Razlika med njimi je 9 %. Za pogostost izvedbe UO v dvojicah in skupinah menimo, da ni pomembno, kje učitelji poučujejo, v mestu ali na podeželju, ampak je izvedba odvisna od njih samih. Raznovrstnost UO je upadala z višjo delovno dobo učiteljic. Izkazalo se je, da so se za delo v skupinah in dvojicah najpogosteje odločile učiteljice, ki imajo 2–10 let delovne dobe; to velja za vse dele učne ure. Vzrokov za tako izbiro UO je po našem mnenju več. Lahko je tema, ki se jo obravnava v določeni učni uri. Pogostejša vzroka pa se zdita starost otrok in motiviranost za pripravo sodelovalnih UO, ker je zanje priprava zahtevnejša oz. za učitelja zamudnejša kot priprava frontalne ali individualne UO.

Glede na število udeleženih oddelkov določenega razreda je bilo največ dela v dvojicah in skupinah v petem razredu, torej več pri starejših otrocih. Menimo, da sta najpogostejša vzroka za izogibanje sodelovalnih UO čas in morebitne težave z vodenjem otrok, saj je večja verjetnost, da se bodo med učenci pojavili nasprotovanja in spori med delom v dvojicah in skupinah kot pa pri frontalni in individualni UO. To pa od učiteljev zahteva dodatno energijo, mediatorske veščine in tudi čas.

Raziskava je potrdila naše domneve in trditev M. Marentič Požarnik (2000), da je v naših šolah še vedno premalo sodelovalnega učenja. Učenje v dvojicah in skupinah je pogosteje potekalo tradicionalno kot sodelovalno. V vseh primerih sodelovalnega učenja, ki je bilo izvedeno v dvojicah, so učenci sodelovali v igri vlog. Najprej so se morali v dvojicah pogovoriti in nato prikazati sočasni/nesočasni dejanji ali telefonski pogovor ali situacijo, v kateri se morajo nekomu opravičiti. Ta trditev je razvidna iz transkripcije posnetkov: »/.../ Najprej se v paru dogovorite, v paru se dogovorita, kdo bo klical in kdo bo odgovarjal na klic. /.../«, »Ste se dali v pare že sami ali vas jaz razdelim? /.../ boste odigrali telefonski pogovor. /.../ En v paru bo odigral tistega, ki kliče, drugi pa bo odigral tistega, ki je bil klicani. /.../« Po vsaki izvedbi je sledila evalvacija, ki jo je vodila učiteljica, in sicer najpogosteje tako, da je učence poslušalce/gledalce spodbujala z vprašanji, da ovrednotijo izvedbo, npr. »/.../ Sta to situacijo dobro odigrali? Bi se morali vikati med sabo?« ali pa »Ko bosta sošolca pred tablo prizorček odigrala, se bomo o tem prizorčku tudi pogovorili. Zdej pa vsi natančno poslušamo. /.../ Se je Petra ustrezno opravičila?« V nobenem primeru evalvacija ni bila usmerjena v izkušnje pri delu v skupini; zaradi izboljševanja sodelovalnega dela bi bilo smiselno v evalvacijo dodati tudi te izkušnje.

Različni avtorji (Peklaj et al., 2001; Johnson in Johnson, 2009a; Sharan, 2010) menijo, da sta pri sodelovalnem učenju zelo pomembni razdelitev nalog in soodvisnost, da je vsak učenec odgovoren za svoj prispevek h končnemu uspehu dvojice ali skupine. V posnetih urah so dale učiteljice, ki so izvedle

sodelovalno UO, dvojicam natančna ustna navodila[12], iz katerih je razbrati, da je bilo delo v dvojicah razdeljeno tako, da sta učenca sodelovala med seboj in da je vsak izmed njiju prispeval k uspešni izvedbi naloge, npr. »/.../ Zdej pa vaša naloga je, da nrdite v paru, in sicer tako kakor sedite /.../ Vaša naloga je tko, da nrdi vsak en stavek, kjer se dejanje sledi, in dejanje, ki ga dela istočasno. S pantomimo pokažeš svojemu sosedu in sosed mora ugibat stavek /.../« Pri tradicionalnih učnih oblikah ni bilo natančne delitve dela, npr. »Razdelili se boste v skupine po štiri. Vsaka skupina bo prišla po svoja dva lista in vaša naloga bo naslednja. Najprej boste pregledali, če ste pravilno razvrstili sličice. Če je sličica pravilno razvrščena, narediš zraven klukco. Če ni, prečrtaš. Drugi del naloge pa bo ta, da bosta pod posamezno sličico zapisali bes ..., kaj je na sličici, z besedo. Ste razumeli? Ko to naredite, prinesete oba lista nazaj in jih z magneti pritrdite na isto mesto, kot so zdaj. To lahko naredite brez prerivanja.« ali pa »/.../ Potem ima vsaka skupina risalni list. /.../ nekdo bo pisal. Lahko pa vas tudi več. /.../ Torej preberite, kaj je vprašanje, mate sličice, vi pa poiščite še kakšne nove, a je prou? Vsaj deset jih morate najti. /.../ Glejte, vsaka skupina ima flomaster, lahko pa s svojimi pišete. /.../ Vsaka skupina bo predstavila svojo nalogo in svoje vprašanje.« Če bi učiteljica hotela uresničiti sodelovalno skupinsko delo, bi morala vsakemu članu skupine dodeliti vloge (npr. oskrbovalec[13], bralec, zapisovalec, poročevalec) oz. bi se zanje morali dogovoriti v skupini; kljub temu bi moral vsak član predlagati dva pridevnika, nato bi si člani izmenjali mnenja in na koncu bi eden skupne predloge zapisal na list.

Sklepne misli

Iz rezultatov raziskave lahko sklepamo, da so slovenski učenci od 1. do 5. razreda pri jezikovnem pouku slovenščine še vedno prepogosto predvsem pasivni poslušalci in ne, kot poudarja Sharan (2010), da bi morali biti aktivni sodelujoči udeleženci učnega procesa. S prispevkom želimo učitelje ozavestiti o pomenu sodelovalnega učenja in da bi se odstotek za zdaj prevladujoče učne oblike, tj. frontalne učne oblike, pri jezikovnem pouku v osnovnih šolah znižal zaradi povečanja učenja v dvojicah in skupinah, vendar ne kot tradicionalni obliki, temveč sodelovalni. Verjamemo, da bi se z načrtnim stalnim uvajanjem sodelovalnih učnih oblik izboljšalo razredno sodelovanje in posledično bi bilo manj medvrstniških sporov. Pridružujemo se mnenju Y. Lv, da si učenec s pridobivanjem sposobnosti pri sodelovalnem učenju »postavlja potrebne temelje za prihodnost« (Lv, 2014, str. 1952). Menimo, da je za jezikovni pouk najpomembnejše,

12 Dve sta dali še pisno navodilo, ker so se naloge dvojic razlikovale.
13 Tisti, ki v skupino prinese npr. potrebščine za izvedbo naloge.

da bi se s sodelovalnim delom spodbujalo besedno sporazumevanje in da bi pogostejše izvajanje pozitivno vplivalo na razvoj posameznikove sporazumevalne zmožnosti. Prevlada frontalnega pouka je pokazala, da je med jezikovnim poukom še vedno največ sporazumevanja na ravni učitelj – učenec in zelo malo na ravni učenec – učenec. Prevladuje učiteljev govor, učenci pa imajo skromne možnosti za govorjenje, izražanje mnenj in razvijanje sodelovalnega dela. Druženje povečuje možnost za sporazumevanje in vpliva na učenje jezika, zato menimo, da je vključevanje sodelovalnega dela primerno tudi v oddelkih, v katerih so otroci, ki slovenski jezik slabo ali slabše znajo.

Nekaj učiteljic, udeleženk te raziskave, in C. Peklaj (Peklaj et al., 2001), ki je s sodelavkami objavila nekaj učnih priprav[14], so dokazale, da jezikovni pouk daje priložnost za spodbudno učno okolje in izvajanje raznovrstnih sodelovalnih učnih oblik oz. razvijanje sodelovanja, ki je za vsakega posameznika pomembno, saj se z njim – hočemo ali nočemo – v življenju pogosto srečujemo. Kdaj in kako pogosto se bo omenjena oblika izvajala, ni nikjer predpisano in je prepuščeno učiteljevi presoji.

Literatura

Bešter Turk, M. (2011). Sporazumevalna zmožnost – eden izmed temeljnih ciljev pouka slovenščine. *Jezik in slovstvo*, *56*(3/4), 111–130.

Bešter Turk, M. in Križaj Ortar, M. (2009). *Priročnik za učitelje – uvod. Za slovenščino v 4., 5., 6., 7., 8. in 9. razredu osnovne šole.* Ljubljana: Založba Rokus Klett. Pridobljeno 5. 3. 2014 s http://www.devetletka.net/resources/files/doc/test/OS_slovenscina/7.%20razred/Prirocniki_priprave/PR%20za%20ucitelje%20UVOD.pdf

Brown, H. in Ciuffetelli, D. C. (2009). *Foundational methods: Understanding teaching and learning.* Toronto: Pearson Education.

Deutsch, M. (1962). Cooperation and trust: Some theoretical notes. V M. R. Jones (ur.), *Nebraska symposium on motivation* (str. 275–319). Lincoln: University of Nebraska Press.

Deutsch, M. (1968). Field theory in social psychology. V G. Lindzey in E. Aronson (ur.), *The handbook of social psychology*, 1 (str. 412–487). Reading, MA: Addison Wesley.

Dewey, J. (1915). *The school and society.* Chicago, IL: University of Chicago Press.

Dewey, J. (2012). Šola in družba. Goran Gaber (pr.). Ljubljana: Pedagoška fakulteta.

Gabrijelčič, M. (1993). *Bogatimo besedni zaklad – z miselnimi vzorci.* Ljubljana: Državna založba Slovenije.

Gilles, R. M. in Ashman, A. F. (1998). Behavior and interactions of children in cooperative groups in lower and middle elementary grades. *Journal of Educational Psychology*, *90*(4), 746–757.

14 Učne priprave z načrtovano sodelovalno obliko so napisale osnovnošolske učiteljice, ki so omenjeno obliko dela izvedle pri pouku slovenščine.

Gilles, R. M. in Ashman, A. F. (2003). *Cooperative Learning*: *The social and intellectual Outcomes of Learning in Groups*. London: Farmer Press.

Hedge, T. (2005). *Writing.* Oxford: Oxford University Press.

Jacobs, G. M., Lee, C. in Ng, M. (1997). *Cooperative Learning in the Thinking Classroom. Research and Theoretical Perspectives.* Pridobljeno 5. 3. 2014 s http://files.eric.ed.gov/fulltext/ED408570.pdf

Johnson, D. W. in Johnson, R. T. (1985). Clasroom Conflict. Controversy Versus Debate in Learning Groups. *American Educational Research Journal*, *22*(2), 237–256.

Johnson, D. W. in Johnson, R. T. (1999). *Learning together and alone. Cooperative, competitive, and individualistic learning.* Boston: Allyn & Bacon.

Johnson, D. W. in Johnson, R. T. (2009a). *An Educational Psychology Success Story: Social Interdependence Theory and Cooperative Learning.* Pridobljeno 20. 5. 2014 s http://www.co-operation.org/wp-content/uploads/2011/01/ER.CL-Success-Story-Pub-Version-09.pdf

Johnson, D. W. in Johnson, R. T. (2009b). *Introduction to Cooperative Learning. An Overview Of Cooperative Learning.* Pridobljeno 13. 3. 2014 s http://www.co-operation.org/home/introduction-to-cooperative-learning/

Jolliffe, W. (2007). *Cooperative Learning in the Classroom*: *Putting It into Practice*. London : SAGE Publications.

Kerndl, M. (2013). *Diferenciacija in individualizacija pri pouku književnosti v tretjem triletju osnovne šole.* Doktorska disertacija. Ljubljana: Pedagoška fakulteta.

Križaj Ortar, M., Magajna, L., Pečjak, S. in Žerdin, T. (2000). *Slovenščina v 1. triletju devetletne osnovne šole.* Trzin: Izolit.

Lazarowitz, R., Hertz - Lazarowitz, R. in Baird, J. H. (1994). Learning Science in a Cooperative Setting: Academic Achievement and Affective Outcomes. *Journal of Research in Science Teaching, 31*(10), 1121–1131.

Lee, C. et al. (1997). *Cooperative Learning in the Thinking Classroom. Research and Theoretical Perspectives.* Pridobljeno 5. 3. 2014 s http://files.eric.ed.gov/fulltext/ED 408570.pdf

Lewin, K. (1948). *Resolving social conflict*s. New York: Harper.

Lv, Y. (2014). Cooperative Learning: An Effective Approach to College English Learning. *Theory and Practice in Language Studies*, *4*(9), 1948–1953.

Magajna, L. et al. (2008). *Učne težave v osnovni šoli: koncept dela.* Ljubljana: Zavod RS za šolstvo.

Marentič Požarnik, B. (1992). Izkustveno učenje – modna muha, skupek tehnik ali alternativni model. *Sodobna pedagogika*, *1–2*(43), 1–16.

Marentič Požarnik, B. (2000). *Psihologija učenja in pouka*. Ljubljana: DZS.

Marentič Požarnik, B. in Plut Pregelj, L. (2009). *Moč učnega pogovora*. Ljubljana: DZS.

Marjanovič - Umek, L. et al. (2004). *Razvojna psihologija*. Ljubljana: Znanstvenoraziskovalni inštitut Filozofske fakultete.

Montasser, M. A. W. M. (2014). The Effectiveness of Using the Cooperative Language Learning Approach to Enhance EFL Writing Skills among Saudi University Students. *Journal of Language Teaching and Research, 5*(3), 616–625.

Nicolas, J. D. in Miller, R. B. (1994). Cooperative Learning and Student Motivation. *Contemporary Educational Psychology, 19*, 161–178.

Novak, M. et al. (2009). *Smernice za izobraževanje otrok tujcev v vrtcih in šolah.* Zavod RS za šolstvo: Ljubljana. Pridobljeno 5. 3. 2015 s http://www.zrss.si/pdf/OEMS_TUJCI%20-%20SMERNICE%20-%20usklajeno%20junij%20doc%2021%208%202009.pdf

Papalia, D. E., Olds, S. W. in Feldman, R. D. (2001). *Human Development*. New York: McGraw-Hill.

Peklaj, C. et al. (2001). *Sodelovalno učenje ali kdaj več glav več ve.* Ljubljana: DZS.

Petek, T. (2012). Ozaveščenost o javnem govornem nastopanju – priložnost za profesionalni razvoj učitelja. *Jezik in slovstvo, 57*(3–4), 115–129.

Petek, T. (2013). Vloga in položaj slovenščine v vzgojno-izobraževalnem procesu. *Pedagoška obzorja, 28*(1), 32–44.

Plut Pregelj, L. (2012). *Poslušanje: način življenja in vir znanja.* Ljubljana: DZS.

Potočnik, N. (2010). *Učinek udejanja faz v procesu nastajanja neumetnostnih besedil*. Doktorska disertacija. Ljubljana: Pedagoška fakulteta.

Program osnovna šola. Slovenščina. Učni načrt (2011). Ljubljana: Ministrstvo RS za šolstvo. Pridobljeno 5. 3. 2014 s http://www.mizs.gov.si/fileadmin/mizs.gov.si/pageuploads/podrocje/os/prenovljeni_UN/UN_slovenscina_OS.pdf

Ross, J. in Smythe, E. (1995). Differentiating cooperative learning to meet the needs of gifted learners. A case for transformational leadership. *Journal for the Education of the Gifted, 19*, 63–82.

Sharan, Y. (2010). Cooperative Learning for Academic and Social Gains: valued pedagogy, problematic practice. *European Journal of Education, 45*(2), 300–313.

Sharan, S. in Shachar, H. (1988). *Language and Leraning in the Cooperative Classroom.* New York: Springer.

Siltala, R. (2010). *Innovativity and cooperative learning in business life and teaching.* University of Turku.

Slavin, R. E. (1983). When Does Cooperative Learning Increase Student Achievement? *Psychological Bulletin*, *94*(3), 429–445.

Yazdani Moghaddam, M. in Fakhraee Faruji, L. (2013). Cooperative Tasks and Lexical Development of EFL Learners. *The Electronic Journal for English as a Second Language,* 17(2).

Vodopivec, I. in Peklaj, C. (2003). *Sodelovalno učenje v praksi. Modeli poučevanja in učenja.* Ljubljana: Zavod Republike Slovenije za šolstvo.

Žarkovič Adlešič, B. (2000). Delo z razredom. V M. Pušnik, B. Žarkovič Adlešič in C. Bizjak, *Razrednik v osnovni in srednji šoli* (str. 65–207). Ljubljana: Zavod Republike Slovenije za šolstvo.

Kratka biografija

Alenka Rot Vrhovec je asistentka za didaktiko slovenskega jezika na Pedagoški fakulteti Univerze v Ljubljani, pred tem pa je dve desetletji poučevala na osnovni šoli. Njeno raziskovanje je usmerjeno na področje poučevanja slovenskega jezika na razredni stopnji, in sicer na opismenjevanje, ter poučevanje otrok, katerih prvi jezik ni slovenščina. Je soavtorica učbeniškega gradiva in e--didaktičnih pripomočkov ter izvajalka seminarjev tako v Sloveniji kot v tujini.

Teacher Competencies through the Prism of Educational Research

Cirila Peklaj[1]

The present article focuses on teacher competencies as a major factor that impacts student learning. Ultimately, all attempts to improve education converge in the teacher and the quality of his/her work with students. With their teaching methods, their communication and their classroom management, teachers can structure the kind of learning environment that will either promote or hinder learning. The purpose of the article is to analyse research on educational productivity in order to select the most important teacher competencies that are related to student achievement. A model of teacher competencies is developed that serves as a framework for understanding the synergetic effects of teacher competencies on achievement thorough promoting students' cognitive, affective and social processes. The teacher competencies that impact each of the processes are described and their impact on student achievement is explained.

Keywords: teacher competencies, teaching strategies, (meta)cognitive processes, affective-motivational processes, social processes, student achievement

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Učiteljeve kompetence skozi prizmo raziskav v izobraževanju

Cirila Peklaj

Članek se osredinja na učiteljeve kompetence kot najpomembnejši dejavnik, ki pri učencih vpliva na njihovo učenje. Vsi poskusi izboljšanja izobraževanja se vedno končajo pri učitelju in kakovosti njegovega dela z učenci. S svojimi metodami poučevanja, komunikacijo, z vodenjem oddelka lahko učitelji oblikujejo tako učno okolje, ki bo spodbujalo ali pa zaviralo učenje. Namen prispevka je analizirati raziskave na področju produktivnosti v izobraževanju, da bi lahko izluščili najpomembnejše učiteljeve kompetence, ki so povezane z dosežki učencev. V ta namen smo razvili model učiteljevih kompetenc, ki služi kot okvir za razumevanje sinergičnih učinkov učiteljevih kompetenc na dosežke prek spodbujanja spoznavnih, čustvenih in socialnih procesov. Opisane so učiteljeve kompetence, ki vplivajo na posamezne procese, razložen pa je tudi njihov vpliv na dosežke učencev.

Ključne besede: učiteljeve kompetence, strategije poučevanja, (meta) kognitivni procesi, čustveno-motivacijski procesi, socialni procesi, dosežku učencev

Introduction

Research on educational productivity emphasises the quality of teaching as one of the major factors influencing optimal student achievement (Hattie, 2009; Marzano, 2003; Walberg, 2006). In the knowledge society, expectations of teachers are very high. It is expected that they will have competencies for developing optimal learning environments for students and for promoting key competencies in students that will enable them to be successful in the rapidly changing society in the 21st century. The OECD has suggested that the key competencies are the ability to work in heterogeneous groups in different contexts and situations, the ability to be autonomous in life and work regarding planning and decision making, and the ability to use symbolic systems such as language, mathematics and ICT (Rychen & Salganick, 2001, 2003). In order to fulfil these expectations and develop optimal learning environments for students, teachers have to develop complex instructional, classroom management, communication and assessment competencies so as to facilitate students' cognitive, affective and social processes.

Nye, Konstantopoulos and Hedges (2004) estimated that teacher quality can explain between 7 and 21 percent of variance in student achievement. Research has also shown a difference of 39 percentage points in student achievement gains in one school year between students who spent a year with the most effective teachers and those who were taught by the least effective teachers: students with the least effective teachers registered gains of 14 percent, while those with the most effective teachers demonstrated gains of 53 percent (Haycock, 1998; Sanders & Horn, 1994; Wright, Horn, & Sanders, 1997). The least effective teachers add almost nothing to the students' knowledge in one year, and the cumulative effects of several years of being taught by such teachers can be devastating for the students' ability to cope with the complex requirements of the knowledge society.

The purpose of our study was therefore to analyse the research on educational productivity in order to determine the most important teacher competencies related to student achievement. The concept of competencies is defined as an individual's ability *to successfully meet complex demands in a particular context through the mobilisation of psychosocial prerequisites* (*including cognitive and non-cognitive aspects*) (Rychen & Salganick, 2003, p. 43). Competencies are therefore comprised of a cognitive level (the ability of complex thinking and resolving problems, as well as using the knowledge in a certain area), an emotional-motivational level (attitudes, values, readiness to take action) and a behavioural level (the ability to activate and use one's potential in complex

situations) (Weinert, 2001; Peklaj, 2010). The concept of teacher competencies was used in our study to describe complex instructional, classroom management, communication, problem-solving and assessment methods, techniques and strategies that teachers have to use in order to meet the complex demands of their teaching.

The model of teacher competencies was developed to serve as a framework for understanding the synergetic effects of teacher competencies on student achievement.

A model of teacher competencies

In order to synthesise information from such a large and diverse field of research, a framework was needed to guide the inquiry and reflection upon research results linking teacher competencies and student achievement. The starting point for developing a model was the notion that teachers have to promote overall student development and therefore must take into account the students' (meta)cognitive, affective-motivational and social processes.

Students and the processes that take place when students are engaged in learning activities were put at the centre of the teacher's interest in the classroom and at the centre of the model. Students are included in classroom work with their (meta)cognitive processes: they process information and solve problems, they try to remember the learning content, and they develop concepts by classifying, comparing and contrasting different aspects of objects and processes. They also regulate their own learning by planning, monitoring, evaluating and correcting learning tasks and processes. Furthermore, students in the class activate their affective-motivational processes when they set goals, develop attitudes towards teachers, subjects and peers, and develop interests and values related to their education. The third level of students' processes includes social processes. Students form relationships with the teacher and their peers in the classroom and school, they struggle to achieve high social status among peers and use various social skills to achieve their goals. All of these processes in the classroom lead to the best outcomes and the best student achievement when they are balanced and work in synergy. In order to achieve the best outcomes in students, teachers have to be focused on all there levels of processes in their teaching, taking each of them into account. For example, teaching focused only on cognitive goals (e.g., high grades) and neglecting the other two levels could lead to competition in the class, the rejection of some students, lower cohesiveness in the class, negative attitudes, low motivation and consequently lower achievement than could be achieved by taking into account all of the processes in class.

Teacher competencies as a requirement for achieving synergetic effects in students are thus organised into three groups: teacher competencies for promoting cognitive processes (e.g., knowledge in the broadest sense as well as (meta)cognitive strategies), teacher competencies for promoting affective-motivational processes, and teacher competencies for promoting social processes in students. The model is presented in Figure 1.

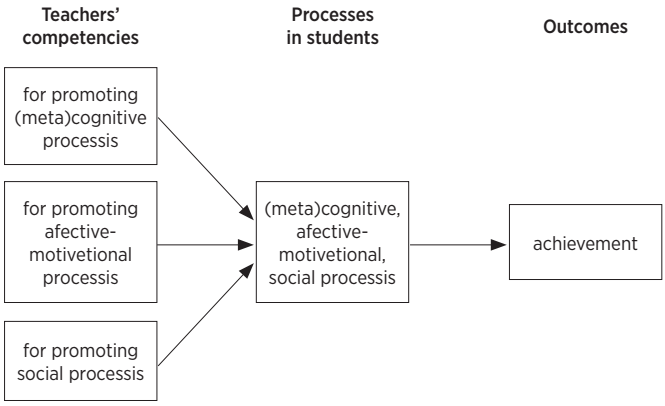

Figure 1. Model of teacher competencies and their effects on student achievement

In the present article, our interest will be focused on the effects of teacher competencies that have an impact on student achievement through students' (meta)cognitive, affective-motivational and social processes. Since competencies are defined as complex abilities with which an individual successfully meets the demands in a particular context, and given that these competencies have cognitive as well as non-cognitive aspects (Rychen & Salganick, 2003), the literature search was also focused on the connection between cognitive and non-cognitive aspects of teachers' work in the classroom and student achievement. It included the concepts of teaching strategies, teacher methods and activities (classroom management, communication, problem solving), teacher values and attitudes, and the relationship of these concepts to student achievement. The literature search comprised meta-analyses and other synthetic studies investigating the effects of teaching, teacher methods and activities in the classroom on student achievement. The ERIC and PsychArticles databases were used, as well as four extensive review studies: Beesley and Apthrop, (2010), Hattie (2009), Marzano, Gaddy and Dean (2000) and Walberg (2006). The research included different research designs, from descriptive, quasi-experimental to

experimental. In the descriptive studies, differences between teachers with different levels of competencies were observed, while, in the experimental (or quasi-experimental) studies, teachers who used certain methods or strategies in their teaching were compared with teachers who did not use them. The different teacher competencies, or the methods and strategies they used, were evaluated in terms of their effect on student achievement. Student achievement was measured with tests (teacher-made, experimenter-made or standardised), grades or other student output (e.g., essays, projects). Effect sizes were usually expressed in Cohen *d* values as the mean difference between two groups in standard deviation units. These values tell us the extent of standard deviation to which the result in the achievement test by the experimental group using a certain method in the classroom will increase or decrease from the average result in the control group. Effect sizes around 0.20 are small, 0.50 are moderate and 0.80 are large (Cohen, 1988). Sometimes effect sizes are expressed in Hedges *g*, which takes into account correction for small sample sizes (Hedges & Olkin, 1985). Hattie (2009) suggested that, for educational practice, effect sizes larger than 0.40 represent evident improvement in the measured variable. In terms of achievement, this effect size means greater than average student gain in one school year. In longitudinal studies in the US and New Zealand, the average effect sizes were $d = 0.24$ and $d = 0.35$, respectively (Hattie, 2009). Therefore, the effect size of 0.40 was used as a criterion for the inclusion of teacher competency effects in our analysis, as well.

In the further analysis, the results are organised into three sections: (1) teacher competencies for promoting students' cognitive and metacognitive processes, (2) teacher competencies for promoting affective-motivational processes, and (3) teacher competencies for promoting social processes. In each section, a summary of the analysis is presented in tables consisting of four columns (from left to right): the teacher competencies, the processes in students that are influenced by these teacher competencies, the effects of the teacher competencies on student achievement (i.e., effect sizes expressed in *d* or *g* values), and the author(s) of the review study or meta-analysis.

Teacher competencies for promoting (meta)cognitive processes in students

The bulk of the research on teacher factors and student outcomes is related to promoting cognitive and metacognitive processes in students. Thus, teacher competencies related to cognitive and metacognitive processes that enable students to process information more efficiently are discussed first.

Teachers' instructional competencies are organised according to the sequence most commonly used in an average class. They can influence students' metacognitive processes (i.e., planning, monitoring, evaluation, regulation; Hacker, 1998; Kluwe, 1982) or cognitive processes.

Table 1. *Effects of teacher competencies for facilitating (meta)cognitive processes and outcomes in students*

Teacher competencies	Processes in students	Achievement effect size – *d (g)*	Research
Assessment of previous knowledge	Metacognitive – planning	0.48	Walberg (2006)
Previous knowledge activation	Metacognitive – planning	0.57	Marzano et al. (2000)
Defining learning goals	Metacognitive – planning	0.56	Hattie (2009)
Verbal clarity	Cognitive	0.75	Hattie (2009)
Posing questions	Cognitive	0.46	Hattie (2009)
Hypotheses setting and testing	Cognitive	0.60, 0.46(*g*)	Walberg (2006); Allen (2010)
Identifying similarities and differences	Cognitive	1.31, 1.61, 0.65(*g*)	Marzano et al. (2000); Walberg (2006); Apthorp (2010)
Use of nonverbal aids (pictures, maps, graphs), concept mappings	Cognitive	0.75, 0.57	Walberg (2006); Hattie, (2009)
Use of ICT (video, animations)	Cognitive	0.52	Hattie (2009)
Formative feedback	Metacognitive – monitoring, evaluation, regulation	0.73, 0.94, 0.76(*g*)	Hattie (2009); Walberg (2006); Igel, Clemons, & Apthorp (2010)
Homework with teacher's comments	Metacognitive – monitoring, evaluation, regulation	0.83	Walberg (2006)

At the beginning of the class, the teacher activates the students' cognitive structure by posing questions and explicitly setting the learning goals for that specific class (Hattie, 2009; Walberg, 2006; Marzano et al., 2000), enabling the students to connect their existing knowledge with the new information. Thus, the teacher launches the first step in the students' metacognitive process, i.e., their awareness of the information and concepts they already know, and their awareness of what they do not yet know. Research consistently shows effects around 0.50 on student achievement if the teacher systematically stimulates the students' prior knowledge.

The next section of teacher competencies is related to information processing and helping students to integrate information and store it in the long-term memory in such a way that they will be able to retrieve it when needed. One of the necessary conditions for high student achievement is the teacher's verbal clarity, the appropriateness of the language they use in explaining the learning matter and in giving directions and requirements (Hattie, 2009). According to Hattie (2009), posing questions related to learning content is an important teacher competence that improves achievement. The quality of the questions asked is even more important for the students' cognitive processes than the quantity. Higher-level questions that require classification, comparison, and creation of metaphors and analogies lead to higher achievement. Research has revealed that the greatest effects on student knowledge are achieved by promoting identification of similarities and differences in content (Apthorp, 2010; Marzano et al., 2000; Walberg, 2006), thus enabling students to develop more complex schemas, highly connected knowledge and deeper levels of understanding (Apthorp, 2010). The development and testing of hypotheses (Allen, 2010; Walberg, 2006) by promoting inductive and deductive thinking have very similar effects. Students will be better able to transfer knowledge to other situations and will have a better understanding of lesson concepts (Allen, 2010).

In addition to verbal clarity and systematic explanations, higher student knowledge is also related to the teacher's use of visual aids in instruction (Hattie, 2009; Walberg, 2006). Nonverbal aids such as pictures, maps and graphs enable students to use both verbal and nonverbal channels in working memory, thus increasing the possibility of storing information in long-term memory more efficiently. Concept maps in the form of visual organisers (e.g., flowcharts, taxonomies, V-diagrams) make relationships between information and concepts more evident and promote meaningful learning and retention (Dexter, Park, & Hughes, 2011). Dexter and his associates (Dexter et al., 2011) found this to be very effective in students with learning disabilities. Effect sizes for the use of graphic organisers on achievement in science were 1.05, with the effect also persisting in delayed testing ($g = 0.88$). Large effects sizes were also found in meta-analyses taking into account regular classes (i.e., $g = 1.27$; Kablan, Topan, & Erkan, 2013). In some cases, teachers could also use concrete manipulatives in addition to pictures, e.g., in teaching mathematics for students on a concrete operational level ($d = 0.45$; Carbonneau, Marley, & Selig, 2013). Recent meta-analysis of spatial skill intervention showed an effect size of $g = 0.47$ for improvement of spatial skills (Uttal et al., 2013). These results were found for interventions executed by trainers or teachers, for subjects of different ages, for both sexes, and for interventions that used video games or spatial tasks.

Thus, teachers should systematically use visual aids in their teaching, while at the same time developing spatial skills in order to improve student knowledge.

Research has also shown that supporting teaching with the use of information technology (IT) is important for achieving even better effects in student knowledge (d = 0.42) at the K-12 grades level (Tamim, Bernard, Borokhovski, Abrami, & Schmid, 2011). However, the use of IT does not in itself guarantee better student knowledge; teachers must use it thoughtfully in well-planned learning situations. Research has demonstrated (Hattie, 2009) the best effect on achievement when the use of IT is combined with teacher explanations, when it includes different tutorial systems that lead students through the learning process and give them an opportunity to rehearse and get feedback, when learning tasks are challenging for students, and when teachers receive appropriate training for the use of IT in teaching. Therefore, teachers should constantly improve their IT competencies in order to use them in instruction in such a way that promotes student knowledge and achievement at an optimal level.

The next group of teacher competencies is again connected with students' metacognitive processes, with the regulation of their thinking and learning. This group concerns teacher feedback (Hattie, 2009; Igel, Clemons, & Apthorp, 2010; Marzano et al., 2000; Walberg, 2006), especially when it contains information about the correctness of students' reasoning or performance, and about the next steps for further improvement. Feedback helps students to understand the necessary changes required in order to improve learning, but must be informative and descriptive rather than evaluative if it is to support student self-regulation (Igel et al., 2010). Students can also get feedback on homework, which was found to have a larger effect on secondary school student achievement than on primary school students (Cooper, Robinson, & Patall, 2006). Marzano (2003) also suggests that teachers should give students purposeful, appropriately difficult homework, ensuring a high level of probability that they will successfully complete it with appropriate parental support, without requiring parents to become teachers.

One often emphasised teacher competency is the ability to promote students' self-regulative learning. Self-regulation enables students to undertake lifelong learning and to adequately respond to rapid changes in the environment, thus helping them to successfully cope with these changes. Learning how to learn is one of eight key competencies that should be acquired during the period of schooling (Recommendations of the European Parliament and of the Council of 18th December 2006 on key competencies for lifelong learning, 2006), which is why we also analyse the effects of promoting students' self-regulation on student achievement. Contemporary perspectives on self-regulative learning emphasise that self-regulation consists of cognitive, metacognitive and affective-motivational

processes, and that it is always influenced by social context (Boekaerts, 1997; Garcia & Pintrich, 1994; Schunk & Zimmerman, 1998). Our analysis will therefore include the effects of teacher competencies for promoting (meta)cognitive as well as motivational self-regulation on student achievement.

Various interventions promoting self-regulation have shown the positive effects of self-regulation on student achievement (Dignath, Buettner, & Langfeldt, 2008; Dignath & Bűttner, 2008; Hattie, 2009; Marzano et al., 2000; Perry, Alberg, & Tung, 2012; Walberg, 2006). The effects on performance were greater when the interventions were researcher-directed (d = 0.86) rather than teacher-directed (d = 0.46). The greatest effects were found in mathematics performance, with d = 0.99 for research-directed intervention and d = 1.00 for teacher-directed intervention (Dignath, Buettner, & Langfeldt, 2008). Dignath and Bűttner (2008) reported that the best effects on achievement were found when self-regulation was promoted with a combination of metacognitive, cognitive and motivational strategies. Teachers can facilitate self-regulative learning by scaffolding, providing feedback, providing support for self-regulation or by directly teaching cognitive and metacognitive strategies (Seidel & Shavelson, 2007).

Table 2. *Effects of teacher promotion of (meta)cognitive strategies on student achievement*

Teacher competencies for development of self-regulation	Processes in students – strategies	Achievement effect size – *d (g)*	Research
Planning and goal setting	Metacognitive strategies – planning	0.49, 0.60	Lavery (2008, in Hattie, 2009); Dignath et al. (2008)
Self-instructions	Metacognitive strategies – planning, monitoring	0.62	Lavery (2008; in Hattie, 2009)
Monitoring	Metacognitive strategies – monitoring	0.45, 0.78, 0.91	Lavery (2008, in Hattie, 2009); Perry et al. (2012); Dignath et al. (2008)
Self-evaluation	Metacognitive strategies – evaluation	0.62, 0.69	Lavery (2008, in Hattie, 2009); Dignath et. al. (2008)
Taking records, notes	Cognitive strategies – rehearsal	0.59, 1.00, 0.90(*g*)	Lavery (2008, in Hattie, 2009); Marzano et al. (2000); Igel, Clemons, Apthorp, & Bachler, 2010)
Rehearsing and memorising	Cognitive strategies – rehearsal	0.57	Lavery (2008 in Hattie, 2009)
Organising and transforming	Cognitive strategies – elaboration	0.85, 0.84	Lavery (2008, in Hattie, 2009); Dignath et al. (2008)
Concept mapping	Cognitive strategies – elaboration, organisation	0.57	Hattie (2009)

Intervention research on self-regulation has shown that metacognitive and cognitive strategies can have substantial effects on cognitive outcomes in students (Ciu, 1998; Hattie, 2009; Perry et al., 2012). Lavery (2008, in Hattie, 2009) found that the best results were achieved in strategies that are activated in the "forethought" phase of self-regulation according to the social-cognitive models of self-regulation (Schunk & Zimmerman, 1998; Zimmerman, 2000), the phase in which students think about upcoming learning tasks. The goals students set in this phase serve as criteria by which they judge how successful they have been in the learning situation, what they have to change and how (Wigfield, Klauda, & Cambira, 2011). Self-instructions, i.e., verbalising the steps of problem solving or another given task, also proved to be a successful metacognitive strategy for guiding the steps in the performance phase of self-regulation (Lavery, 2008, in Hattie, 2009). Proceeding towards previously set goals helps students focus their attention and monitor progress. However, self-monitoring is not enough for high achievement; all of the necessary steps must be taken in the reaction and reflection phase of self-regulation: firstly, reflection on one's own performance, then judgment of its correctness and success according to the goals set, and finally corrections have to be made when necessary.

Teachers must therefore support students in learning how to set proximal as well as distal goals in order to achieve successful self-regulation. They have to teach them to use self-instructions to help them monitor the course of their actions in learning tasks and to check their work before they finish it and hand it in. Teachers must also emphasise the importance of evaluation and correction of the discrepancies between previously set goals and the actual performance. The research on facilitating self-regulation has also demonstrated higher effect sizes when intervention includes reflection upon metacognitive strategies and explicitly shows students the benefit of using these strategies (Dignath, Buetner, & Langfeldt, 2008).

In addition to metacognitive strategies, students can use various cognitive strategies to store information in the long-term memory. Research shows that rehearsal, elaboration and organisation strategies considerably improve student performance (Hattie, 2009; Lavery, 2008, in Hattie, 2009; Dignath et al., 2008). Teachers have to convince students that rehearsing is an important strategy, and that to be able to use the learning matter in the future it is not enough just to hear or read it once. An even more challenging mission for the teachers is to persuade students to take notes in the classroom, which will help them be successful in learning. Students often believe that everything can be found on the Internet, and they therefore do not need to put any effort

into note-taking or rehearsing. Teaching students how to take notes and how to rehearse to be effective is essential. Organising learning matter, looking for differences and similarities, summarising by selecting, sorting and combining information, outlining major concepts and organising them according to their importance of generality improves the students' comprehension of information (Igel et al., 2010). Research on intervention in self-regulation also shows that researcher-directed interventions yield better results than teacher-directed interventions (Dignath et al., 2008). In the future, more emphasis should therefore be placed on training teachers how to promote self-regulation in students. If teachers teach strategies connected with domain-specific knowledge during everyday classes, students will be better able to see the relevance of strategy use, which will increase the possibility of their using the strategies in the future.

Teacher competencies for promoting affective-motivational processes in students

Learning processes in the classroom are not only related to the cognitive level, they are always embedded in an affective context. In school, students develop positive or negative attitudes toward their teachers and the subjects taught; they either enjoy learning or they are bored in class. This emotional context influences their learning performance to a great extent. The effects of student-teacher relationships on achievement have been studied with direct observation and with evaluations of these relationships by teachers, students and parents. Research has constantly demonstrated significant positive effects of positive teacher-student relationships on student achievement (Cornelius White, 2007; Hattie, 2009; Hattie & Clinton, 2008). Positive relationships were evident in teachers' non-directivity, in their acceptance and appreciation of different students' attitudes and contributions, and in their way of developing an open and positive climate in the class, so that students are not afraid of asking questions and participating with their own solutions. Teacher empathy and warmth, their ability to adapt to individual differences, is also an inherent dimension of a good relationship (Cornelius White, 2007). Students have to perceive these dimensions in teachers' behaviour in order for them to have an effect on achievement. If teachers want to gain the respect of the students, they have to show the students respect (Hattie & Clinton, 2008).

Table 3. *Effects of teachers' development of affective-motivational processes on student achievement*

Teacher competencies for development of affective-motivational processes	Processes in students	Achievement effect size – d	Research
Positive relationships with students	Affective processes	0.72	Hattie (2009)
Non-directivity		0.75	Cornelius White (2007)
Empathy		0.68	Cornelius White (2007)
Warmth		0.67	Cornelius White (2007)
Respect for students		0.61	Hattie & Clinton (2008)
Adapting to individual differences		0.41	Cornelius White (2007)
Positive attitude towards the subject and teaching		0.90	Hattie &Clinton (2008)
High expectations – challenges	Motivational processes	0.67, 0.53	Hattie (2009)
Self-efficacy		0.46	Hattie (2009)

One of the most effective teacher characteristics that influences student outcomes is their passion for their own subject and for teaching and learning (Hattie & Clinton, 2008), as evident in their everyday teaching (Frenzel, Goetz, Lűdtke, Pekrun, & Sutton, 2009; Hattie & Clinton, 2008). Students can sense the teacher's enthusiasm in their verbal and nonverbal communication about the teaching content, as well as in their remarks related to their reading in the field, to the latest findings and their relevance for student work in the class.

From the motivational point of view, the teacher's ability to set relatively high learning goals that represent a challenge for students (Hattie & Clinton, 2008) is another important teacher competence. Teachers also have to show students that they believe in their ability to learn and achieve these goals. Therefore, learning goals must be achievable, while at the same time being high enough to require effort from the students in attaining them. Attaining such goals also increases student self-efficacy, encouraging persistence in learning and, consequently, achievement of the goals (Hattie, 2009).

Some teacher competencies related to students' affective-motivational processes are connected with the students' motivational self-regulation, especially their action control (Dignath et al., 2008). Research has shown (Dignath et al., 2008) that the effects of self-regulation interventions are higher when they include cognitive, metacognitive as well as motivational components of self-regulation. The first important motivational strategy is successful time regulation. Time regulation includes the students' ability to plan and correctly

judge the amount of time required for learning a task, and above all the ability to delay gratification (Mischel & Gilligan, 1964). Teachers have to systematically train students how to set proximal and more distal goals, together with the use of volitional strategies such as ignoring distractions and ruminations about past mistakes (Zimmerman, 2000).

Table 4. *Effects of teacher development of affective-motivational strategies on student achievement*

Teacher competencies for development of affective-motivational strategies	Processes in students	Achievement effect size – *d*	Research
Self-consequences	Affective- motivational strategy	0.70	(Lavery, 2008, in Hattie, 2009)
Help seeking	Affective- motivational strategy	0.60	(Lavery, 2008, in Hattie, 2009)
Time management	Organisational strategy	0.44	(Lavery, 2008, in Hattie, 2009)

Effective self-regulation can be also achieved through the use of self-consequencing (Lavery, 2008, in Hattie, 2009). Students can imagine or arrange a reward or punishment for successfully finishing or failing to finish a task. Training on self-consequencing includes choosing appropriate rewards for achievement. Social rewards (e.g., taking some time to talk to one's best friend after finishing a school project) are better than material rewards.

In order to develop students' motivational self-regulation, teachers must also facilitate help-seeking strategies as a way to improve performance and to achieve excellence in a particular field. The teacher can promote this by showing that help-seeking is a successful way of increasing learning, and not merely an expression of incompetence or a lack of ability (Nelson-LeGall, 1992). This will enable students to include this strategy in their repertoire of self-regulation for the prevention of underachievement.

Teacher competencies for promoting social processes in students

The last group of teacher competencies that have an important influence on student achievement is connected with the social process in the classroom. In their meta-analysis, Roseth, Johnson and Johnson (2008) found that improvement of the social climate and social relations in the classroom by 1 *SD* (standard deviation) can boost achievement by 0.63 *SD*. The teacher can

improve social relations in the classroom by promoting social inclusion and cohesion. Social inclusion is related to the feeling that all members of the class (teacher and students) strive towards the same goal and nobody is excluded (Hattie, 2009). Teachers have to prevent the development of cliques and friction in their classes by actively involving all of the students in the class work. They can use cooperative learning methods to achieve this goal, especially by structuring social interdependence in small groups as well as with various methods for developing an awareness of class membership (Johnson & Johnson, 1987; Kagan, 1989; Peklaj & Vodopivec, 1999). Social interdependence exists in a group when students perceive that their individual and group goals are connected in such a way that they cannot achieve their individual goals if the group as a whole does not achieve its goal as well (Johnson & Johnson, 1992).

Table 5. *Effects of teacher development of social processes on student achievement*

Teacher competencies for development of social processes	Processes in students	Achievement effect size – *d*	Research
Classroom climate	Social processes	0.63	Roseth, Johnson, & Johnson (2008)
Classroom cohesion		0.53	Hattie (2009)
Classroom management		0.52, 0.52	Marzano (2000); Hattie (2009)
Peer influences		0.53	Hattie (2009)

Closely related to social processes in the class are teachers' classroom management competencies in the broadest sense. Efficient classroom management includes teachers structuring classroom activities in such a way that learning activities take place smoothly, without unnecessary delays, and without empty time when nothing is happening in the class. The teacher must be aware of the processes in the class and act both preventively and responsively to avoid disruptions; it is better to take action before anything happens that would disturb the learning process. Establishing classroom rules about desired behaviour in the class can prevent a lot of problems (Marzano, 2000; Hattie, 2009). It is very important that teachers also react to inappropriate behaviour in the class, and that they use rewards and consequences. Marzano (2000) reports that the combined use of punishment and reinforcement significantly reduces student misbehaviour ($d = 97$). A reduced level of misbehaviour allows for the development of an optimal learning environment in which students can feel safe and focus on learning goals.

Teachers' social-related competencies should also focus on developing the students' academic social skills, which are related to higher student achievement and to their better acceptance in the class. Academic social skills concern students' relationships with the teacher and with their peers, including cooperative skills (giving and receiving help, following instructions, sharing things with others, etc.), assertiveness (taking initiative, asking questions, etc.) and self-control (appropriate response to poor grades and to peers' behaviour: put-downs, rejections, etc.). Students with good social skills can use the educational environment and its potential to a greater extent than students with poor academic social skills. They also develop more friendships and therefore use peers' care, help and support in the class to a larger extent, which consequently enhances their achievement.

Konold, Jamison, Stanton-Chapman and Rimm-Kaufman (2010) found that students' social skills predict up to 10 percent of variance in their achievement. A recent study in the field of economics (Chattey, Friedman, Hilger, Saez, Whitemore Schanzenbach, & Yaga, 2010; Chetty, Friedman, & Rockoff, 2011) revealed the economic value of teacher competencies. The research used data from the project STAR (Student Teacher Achievement Ratio) from Tennessee, and attempted to answer the question of the influence that the quality of education at the beginning of school had on the participants when they were 27 years old. The results were very informative. It was found that the effects of more experienced teachers were evident in their former students' income. The most important teacher competencies and their effects were not those that operate through cognitive processes (that is, better knowledge), but those that operated through the development of students' academic social skills (that is, effort investment, initiative, interest and appropriate behaviour). An increase of 1 *SD* in these skills leads to a 0.20 *SD* increase in income per year.

Conclusions and implications for teacher education

The aim of our analysis was to examine teacher competencies and their effects on achievement through the prism of educational research. A model of teacher competencies was developed to serve as a framework for structuring the analysis. The model consists of three elements: teacher competencies, processes in students that are affected by teacher competencies, and outcomes in students (i.e., achievement). At the centre of the model are students' processes in the classroom, that is, (meta)cognitive, affective-motivational and social processes, which must be balanced in order to achieve the best student outcomes. Teacher competencies are also organised into three groups according to the processes they promote.

The analyses of research related to teacher competencies and students' outcomes revealed the importance of taking into account all three levels of students' processes in the classroom. The inclusion criteria for a teacher competence were *d* values producing achievement higher than the average students' gain in a school year. Comparison of teacher competencies revealed moderate to large effects of teachers' instructional competencies related to students' cognitive and metacognitive processes on student achievement, as well as of teacher competencies to promote affective-motivational processes. The effects of teacher competencies for promoting social processes on student achievement are moderate. On the basis of our analysis, we can conclude that all three groups of teacher competencies are important for student gains. We can also assume that the best results in students could be achieved by facilitating the synergetic effects of (meta)cognitive, affective-motivational and social processes in students. This has been confirmed by other studies. For example, differences in all three groups of competencies were found in research of the differences between future teachers who had passed and who had failed to pass the exam for a licenced teacher in the USA (Hattie & Clinton, 2008). More competent teachers (i.e., teachers who passed the exam) had a deeper understanding of their subject, of teaching and of the effects of their own teaching on students. Furthermore, they had a sense of control in the classroom, they had high levels of passion for teaching and learning, they respected their students, and they developed a positive classroom climate that fostered learning.

The complexity of the competencies that promote student achievement brings very high requirements for teachers and makes teaching one of the most demanding professions. Our findings also have some practical implications for teacher education. Firstly, teaching requires a lot of very complex competencies that cannot be developed overnight; they must be developed in the course of well-executed pre-service and in-service training closely linked to practical work in the classroom. Therefore, the partnership between universities and schools is a necessary condition for successful teacher education. This partnership enables a curriculum based on a knowledge of student development, learning, social context and subject matter (Darling-Hammond, 2006).

Secondly, synergetic effects on students' outcomes require the development of complex instructional, management, assessment and communication competencies of teachers. Thus, in addition to the development of instructional competencies, a great deal of emphasis in teacher education and professional development should also be placed on the development of competencies related to affective and social processes, in order to equip teachers with the necessary tools for working with different students and for the development of

optimal learning environments. Future teachers can develop these competencies by connecting theory and practice, through constant reflection on already achieved competencies, and through performance assessment based on professional standards.

References

Allen, J. (2010). Generating and testing hypotheses. In A. D. Beesley & H. S. Apthorp (Eds.), *Classroom instruction that works. Research report* (pp. 114–129). McRel Making a Difference. Retrieved 18.08.2014 from http://eric.ed.gov/?id=ED543521

Apthorp, H. S. (2010). Identifying similarities and differences. In A. D. Beesley & H. S. Apthorp (Eds.), *Classroom instruction that works. Research report* (pp. 14–31). McRel Making a Difference. Retrieved 18.08.2014 from http://eric.ed.gov/?id=ED543521

Beesley, A. D., & Apthorp H. S. (2010). *Classroom instruction that works. Research report*. McRel Making a Difference. Retrieved 18.08.2014 from http://eric.ed.gov/?id=ED543521

Boekaerts, M. (1997). Self-regulated learning: a new concept embraced by researchers, policy makers, teachers and students. Learning and Instruction, 7(2), 161–186.

Carbonneau, K. J., Marley, S. C., & Selig, J. P. (2013). A meta-analysis of the efficacy of teaching mathematics with concrete manipulatives. Journal of Educational Psychology, 105(2), 380–400.

Chattey, R., Friedman, J. N., Hilger, N., Saez, E., Whitemore Schanzenbach, D., & Yaga, D. (2010). How does your kindergarten classroom affect your earnings. Evidence from project STAR. *NBER Working Paper Series. Paper NO. 16381.* Retrieved 09.01.2011 from http://obs.rc.fas.harvard.edu/chetty/STAR.pdf

Chetty, R., Friedman, J. N., & Rockoff, J. E. (2011). The long-term impacts of teachers: Teacher value-added and student outcomes in adulthood. *NBER Working Paper Series. Working Paper 17699.* Cambridge, MA: National Bureau of Economic Research. Retrieved 09.09.2014 from http://obs.rc.fas.harvard.edu/chetty/value_added.pdf

Chiu, C. W. T. (1998). Synthesizing metacognitive interventions: What training characteristics can improve reading performance. *Paper presented at symposium, "Metacognition: Assessment & Training", at the Annual Meeting of the American Educational Research Association*, in San Diego, California. April 13-17, 1998. Retrieved 20.08.2014 from http://files.eric.ed.gov/fulltext/ED420844.pdf

Cohen, J. (1988). *Statistical Power Analysis for the Behavioral Sciences* (2nd ed.). New Jersey: Lawrence Erlbaum Associates.

Cooper, H., Robinson, J. C., & Patall, E. A. (2006). Does homework improve academic achievement? A synthesis of research, 1987-2003. *Review of Educational Research, 76*(1), 1–62.

Cornelius White, J. (2007). Learner-cantered teacher-students relationships are effective: A meta-analysis. *Review of Educational Research, 77*(1), 113–143.

Daling-Hammond, L. (2006). *Powerful teacher education: Lessons from exemplary programs*. San Francisco, CA: Jossey-Bass.

Dexter, D. D., Park, Y. J., & Huges, C. A. (2011). A meta-analytic review of graphic organizers and science instruction for adolescents with learning disabilities: Implications for the intermediate and secondary science classroom. *Learning Disabilities Research & Practice, 26*(4), 204–213

Dignath, C., & Bűttner, G. (2008).Components of fostering self-regulated learning among students. A meta-analysis of interventions at primary and secondary school level. *Metacognition Learning, 3*, 231–264.

Dignath, C., Buettner, G., & Langfeldt, H. P. (2008). How can primary school students learn self-regulated learning strategies most effectively? A meta-analysis on self-regulation training programmes. *Educational Research Review, 3*, 101–129.

Frenzel, A. C., Goetz, T., Lűdtke, O., Pekrun, R., & Sutton, R. (2009). Emotional transmission in the classroom: exploring the relationship between teacher and student enjoyment. *Journal of Educational Psychology, 101*(3), 705–716. DOI: 10.1037/a0014695

Garcia, T., & Pintrich, P. R. (1994). Regulating motivation and cognition in the classroom. The role of self-schema's and self-regulatory strategies. In D. H. Schunk & B. J. Zimmerman (Eds.), *Self-regulation of learning and performance: Issues and educational applications* (pp. 127–153). Hilsdale, NJ: Erlbaum.

Hacker, D. J. (1998). Definitions and empirical foundations. In D. J. Hacker, J. Dunlosky, & A. C. Graesser (Eds.), *Metacognition in educational theory and practice* (pp. 1–24). Mahwah, NJ: LEA.

Hattie, J. A. C. (2009). *Visible learning: A synthesis of over 800 meta-analyses relating to achievement.* London: Rutledge.

Hattie, J. A. C., & Clinton, J. (2008). Identifying accomplished teachers: A validation study. In L. Ingvarson & J. A. C. Hattie (Eds.), *Assessing teachers for professional certification. The first decade of the National Board of Professional Teaching Standards* (pp. 313–344). Oxford, UK: Elsevier.

Haycock, K. (1998). Good teaching matters… a lot. *Thinking K-16*, *3*(2), 1–14.

Hedges, L. V., & Olkin, I. (1985). *Statistical methods for meta-analysis*. Boston: Academic Press.

Igel, C., Clemens, T., & Apthorp, H. (2010). Setting objective and providing feedback. In A. D. Beesley, & H. S. Apthorp (Eds.), *Classroom instruction that works. Research report* (pp. 105–113). McRel Making a Difference. Retrieved 18.08.2014 from http://eric.ed.gov/?id=ED543521

Igel, C., Clemens, T., Apthorp, H., & Bachler, S. (2010). Summarizing and note taking. In A. D. Beesley, & H. S. Apthorp (Eds.), *Classroom instruction that works. Research report* (pp. 14–31). McRel Making a Difference. Retrieved 18.08.2014 from http://eric.ed.gov/?id=ED543521

Johnson, D. W., & Johnson, R. T. (1987). *Learning together and alone: Cooperative, competitive and individualistic learning*. Englewood Cliffs: Prentice-Hall.

Johnson, D. W., & Johnson, R. T. (1992). Positive interdependence: Key to effective cooperation. In R. Hertz-Lazarowitz & N. Miller (Eds.), *Interaction in cooperative groups: The theoretical anatomy of group learning* (pp. 174–199). New York: Cambridge University Press.

Kablan, Z., Topan, B., & Erkan, B. (2013). The effectiveness level of material use in classroom instruction: A meta-analysis study. *Educational Sciences: Theory & Practice, 13*(3), 1638-1644.

Kagan, S. (1989). *Cooperative learning. Resources for teachers*. San Juan Capistrano, CA: Resources for

teachers.

Kluwe, R. H. (1982). Cognitive knowledge and executive control: Metacognition. In D. R. Griffin (Ed.), *Animal mind – human mind* (pp. 201–224). New York: Springer Verlag.

Konold, T. R., Jamison, K. R., Stanton-Chapman, T. L., & Rimm-Kaufman, S. E. (2010). Relationships among informant based measures of social skills and student achievement: A longitudinal examination of differential effects by sex. *Applied Developmental Science, 14*(1), 18–34.

Marzano, R. J. (2000). *A new era of school reform: Going where the research takes us*. Aurora, CO: Mid Continent Research for Education and Learning.

Marzano, R. J. (2003). *What works in schools: Translating research into action*. Alexandria, Virginia: Association for Supervision and Curriculum Development.

Marzano, R. J., Gaddy, B. B., & Dean, C. (2000). *What works in classroom instruction*. Aurora, Co: McREL. Retrieved 20.08.2014 from http://www.peecworks.org/peec/peec_research/I01795EFA.3/Marzano%20What_Works.pdf

Mischel, W., & Gilligan, C. F. (1964). Delay of gratification, motivation for the prohibited gratification, and responses to temptation. *Journal of Abnormal and Social Psychology, 69*, 411–417.

Nelson-LeGall, S. (1992). Children's instrumental help seeking: Is role in the social acquisition and construction of knowledge. In R. Hertz-Lazarowitz & N. Miller (Eds.), *Interaction in cooperative groups: The theoretical anatomy of group learning* (pp. 49–70). New York: Cambridge University Press.

Nye, B., Konstantopoulos, S., & Hedges, L. V. (2004). How large are teachers effects? *Educational Evaluation and Policy Analysis, 26*(3), 237–257.

Peklaj, C. (2010). Teacher competencies in a knowledge society. In C. Peklaj (Ed.), *Teacher competencies and educational goals* (pp. 37–50). Schriften zur Bilduns- und Freizeitwissenschaft, Band 6. Aachen: Shaker Verlag.

Peklaj, C., & Vodopivec, B. (1999). Effects of co-operative versus individualistic learning on cognitive, affective, metacognitive and social processes in students. *European Journal of Psychology of Education, 14*(3), 359–373.

Perry, V., Albeg, L., & Tung, C. (2012). Meta-analysis of single-case design research on self-regulatory interventions for academic performance. *Journal of Behavioral Education, 21*, 217–229.

Recommendations of the European Parliament and of the Council of 18th December 2006 on key competencies for lifelong learning (2006). *Official Journal of the European Union, L 349/10, EN, 30. 12. 2006*. Retrieved 21.01.2008 from http://eur-lex.europa.eu/LexUriServ/site/en/oj/2006/l_39420061230en00100018.pdf

Roseth, C. J., Johnson, D. W., & Johnson, R. T. (2008). Promoting early adolescents' achievement and peer relationships: The effects of cooperative, competitive, and individualistic goal structures. *Psychological Bulletin, 13*(2), 233–246.

Rychen, D. S., & Salganik, L. H. (2001). *Defining and selecting key competencies.* Seattle: Hogrefe & Huber Publishers.

Rychen, D. S., & Salganik, L. H. (2003). *Key competencies for a successful life and a well-functioning society.* Seattle: Hogrefe & Huber Publishers.

Sanders, W. L., & Horn, S. P. (1994). The Tennessee value-added assessment system (TVAAS): Mixed model methodology in educational assessment. *Journal of Personal Evaluation in Education, 8,* 299–311.

Schunk, D. H., & Zimmerman, B. J. (1998). *Self-regulated learning. From teaching to self-reflective practice*. New York: Guilford.

Seidel, T., & Shavelson, R. J. (2007). Teaching effectiveness research in the past decade: The role of theory and research design in disentangling meta-analysis results. *Review of Educational Research, 77*(4), 454–499.

Tamim, R. M., Bernard, R. M., Borokhovski, E., Abrami, P. C., & Schmid, R. F. (2011). What forty years of research says about the impact of technology on learning: A second-order meta-analysis and validation study. *Review of Educational Research, 8*(1), 4–28.

Uttal, D. H., Meadow, N. G., Tipton, E., Hand, L. L., Alden, A. R., Warren, C., & Newcombe, N. S. (2013). The malleability of spatial skills: A meta-analysis of training studies. *Psychological Bulletin, 139*(2), 352–402.

Walberg, H. J. (2006). Improving educational productivity: An assessment of extant research. In R. F Subotnik & H. J. Walberg (Eds.), *The scientific basis of educational productivity* (pp. 103–160). Greenwich, Co: IAP.

Weinert, F. E. (2001).Concept of competence: A conceptual clarification. In D. S. Rychen & L. H. Salganik (Eds.), *Defining and selecting key competencies* (pp. 45–66). Seattle: Hogrefe & Huber Publishers.

Wigfield, A., Klauda, S. L., & Cambira, J. (2011). Influences on the development of academic self-regulatory processes. In B. J. Zimmerman & D. H. Schunk (Eds.), *Handbook of self-regulation of learning and performance* (pp. 33–48). New York: Rutledge.

Wright, S. P., Horn, S. P., & Sanders, W. L. (1997). Teacher and classroom effects on student achievement. Implications for teacher evaluation. *Journal of Personal Evaluation in Education, 11,* 57–67.

Zimmerman, B. J. (2000). Attaining self-regulation. A social cognitive perspective. In M. Boekaerts, P. R. Pintrich, & M. Zeidner (Eds.), *Handbook of self-regulation* (pp. 13–41). San Diego, CA: Academic Press.

Biographical note

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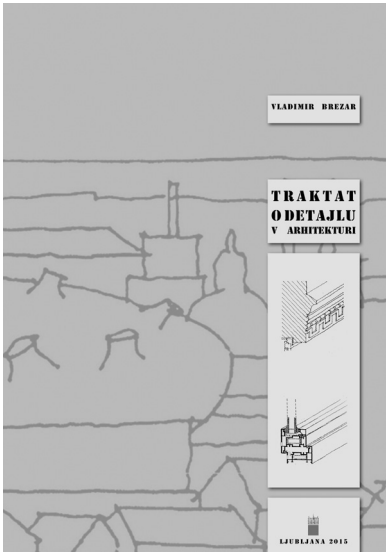
Brezar, V. (2014). Traktat o detajlu v arhitekturi [A Treatise on Detail in Architecture]. Ljubljana: University of Ljubljana, Faculty of Architecture. 51 p. ISBN 978-961-6823-56-2

Reviewed by Domen Zupančič



Detail entails materialisation of the idea of function. A detail shows elements that have been successfully assembled to form a harmonious whole. The Viikki Church in Finland is such an example. JKMM architects realised a crosslap joint of six timber construction elements resulting in the gracious spatial network of the ceiling. The joint reaches beyond the notion of construction, it *serves as an emblem of the genetic code and the embodiment of architecture* (Tectonics in Architecture, Čeferin, P. (Ed.), 2014, p. 30). The book "A Treatise on Detail in Architecture" conveys its message in a similar way. The challenging title does not reflect a pretentious wish on the part of the author to stand out in the field of the description of architecture; rather, it embodies the fundamental idea of communicating his own experiences to readers.

In terms of content, the text is a genuine academic treatise corroborated by drawings. The black-and-white line drawings are perfectly theological. With a Franciscan-like simple clarity, they address beginners, enthusiasts in the field of architecture becoming acquainted with the semantics and grammar of architecture. Brezar sums up his introductory thoughts with a depiction of "the perennial" division between different methods of teaching at the Ljubljana school. He wilfully unveils the proverbial opposition between Vurnik and Plečnik, which both masters also projected onto their students.

The introduction commences with the original state (genesis) of detail, with the search for the sustainable existence of a structure. In the process, the author sensibly highlights the area of the multiple use of elements from

basic constructional solutions to the styling of elements (columns). Due to the economy of the solutions, the designer's creative potential passes onto the field of formalism by way of the parameters and coding of architectural elements. Brezar conscientiously links the theme with anthropology and the technology for realising details.

In terms of meaning, the chapter "Compounding and Assemblage" provides real evidence of the wisdom arising from the author's experiences. The text is broken down into sub-chapters: Assemblage, Joint, Gravitation and Frame Recess. The creative process is directed by these very basic elements that make sense of the assemblages. Assemblage means putting all of the parts together to form a whole featuring fresh characteristics and functions. Every assembly contains a contact, a juncture, frequently as a non-material joint in the form of a shadowy line. The author also underscores the meaning of detail by quoting Loos, Bauhaus and Le Corbusier, observing how their ideas were reflected back to Europe from the United States. This architecture of pure forms, free from superfluous ornamentation, was often carelessly imitated and frequently poorly materialised.

Alongside the criticism, there is a range of schemes and drawings of elements that cover topics from the issue of assembling equal elements into a composition to the materialisation of a point, a straight line and a plane. Brezar also articulates a thought that is relevant to his work: What is the daring wish to design a building enclosure, and the tendency towards a monolithic and continuous surface? It is believed that this remains an unachievable dream, but that is not quite true; there is a trick, a trick for the observer. At this point, the author leaves out the contemporary facade envelopes with integrated LED lights, because such structures act merely as media elements in a technocratic urban space. He surely wilfully omitted this content, given that he carries on in a traditional, basic manner with the chapter "Detail as a Message". In this chapter, he critically refers to the impoverishment of forms, which he clearly illustrates by comparing a Baroque table leg with the leg of a modern table, where the leg merely stands for "a high degree of surface treatment". A qualitative leap in the content of the book occurs with the chapter on semantic paradox, where the text comes closest to a treatise on detail. A detail is not a mere functional element, it is also important for the observer. The paradox of simplifying architectural elements is tied up with new, contemporary materials that make the existence of these architectural solutions possible.

Where does the essence of the paradox reside? Brezar discerns its *locus* in the enthusiasm to use contemporary materials for shaping assemblages, an enthusiasm accompanied by frequent beginners' mistakes such as failing to

sufficiently consider the laws of nature and neglecting the holistic approach while conferring sense on and grasping the function of architecture. The most evident example is the comparison between a bifora and a contemporary window frame. Repetitions of details and assemblages on a facade are inevitable, but they can be individualised, as every embedment is unique.

The theme of repetition and uniqueness of embedment is described insufficiently in the theory of architecture. C. Alexander is often the chief source, with his records of rites and life habits associated with architectural elements.

The conclusion of the treatise is left hanging in mid-air with a paragraph about "non-houses", "blob buildings" and similar structures in the architectural landscape, which is doubtlessly evidence of the individualisation of contemporary Western society. Everyone is becoming their own axis of life, everydayness is becoming a trend, a vogue. Blob building necessitates a *non-treatise*, i.e., verbal explanation. Here the treatise reaches the point of inflection; Brezar quotes Alberti's thought about the healing of grief and the overcoming intimate feelings of decay by skilfully observing built edifices. This is no doubt a self-immunising reaction of the treatise's author. There is light at the end of the corridor!

Brezar's selection of supplements reveals part of his architectural intimacy, ranging from unveiling concept composition and the realisation of details, to the imaginariness of a staircase handrail. These supplements are not a random collection of drawings to fill vacant pages; they wisely determine the end of the treatise and announce the development of a virtual world in architecture accepted by the architectural community as being equal to the real one.

The monograph on detail, written in Slovenian and complemented with sketches, has enormous potential for the description of architecture.

Architect and professor Vladimir Brezar is a Slovenian version of the internationally acknowledged author and excellent draughtsman Francis Ching, who works in the USA.

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