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The new role of teachers in the new multimedia learning environment

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Abstract

Learners in primary and secondary education live and grow up in an environment rich in multimedia. They spend only 180 days per year in school and do not go to school for the remaining 185 days of the year. By the end of their secondary education, these children will have spent more time with the new media than in school. A school which strives to cater for their needs must differ greatly from the school of the previous century. In such a school, teachers will be expected to take on new roles as experts as they teach and facilitate their learners’ development. Besides the new media, teachers’ roles are conditioned by the new scientific theories from the areas of didactics and psychology. Innovative and transformative learning and constructivism, along with the new multimedia environment, create new roles for teachers. By assuming these roles, they will be able to more usefully and more closely meet the needs of learners in primary and secondary education in the 21st century.

*Keywords: Teacher, learner, primary education, secondary education, multimedia, learning environment.*

1. Introduction

There are many reasons for teachers in schools to embrace new pedagogical roles that differ from those that might have met the needs of learners and schools in the previous century. However, in some countries of South East Europe, teacher education faculties continue to train teachers according to didactic theories and models that were more suitable for the former than for the present century.

The teacher as lecturer cannot meet the expectations of today's children and adolescents. The aims of education and learning, or the pedagogical outcomes expected from school, cannot be achieved with the methodological scenarios that predominate in today's schools.

Although teachers are thoroughly familiar with constructivist learning theories (Duit, 2012, Reich, 2006), the curricular theories developed in the Anglo-Saxon world (Ellis, 2004, Reece and Walker, 2001, Schiro, 2008), and the theories provided by Rogers, Gardner, Maslow and other representatives of humanistic psychology, a great number of schools still have curriculum-centred teachers rather than a learner-centred curriculum.

Learners come to school from homes where they are surrounded by various powerful and attractive media, which compete fiercely with what is provided or what is happening at school. These include satellite TV, the internet (including all other networks and communication opportunities offered by the internet), mobile phones and a multitude of mobile versions of the computer (iPhones, Smartphones, PC Tablets, iPads). Informal learning through these new media increasingly competes with the formal education acquired at school (Keegan, 2002).

1. **Teaching for the past or for the future**

New scientific understandings and new methodological solutions in the area of pedagogy and didactics are emerging only very slowly. As a result of this slow pace, the answers to the numerous questions and problems related to teaching and learning, proposed in the last half-century by Edgar Dale, Jerome Bruner, Abraham Maslow, Carl Rogers, Howard Gardner and others, have not changed very much the arrangement of the classroom or the manner of teaching of most teachers and in many schools.

Naturally, we would like to know why this is so.

Professional literature by Russian authors translated in the 1950s can still be found on the market, and such literature is bought and used in Croatia and in neighbouring states, as is literature by domestic experts who wrote under the influence of the Russian authors. There is also a large amount of scholarly literature following the theories of German theoreticians from the previous century. Many teachers at universities teach this to future teachers and do not see this as a problem because they do not know (and do not try to learn) more recent theories of education and learning.

Some twenty years ago, Yager (1991) showed how a teacher or teachers can apply the ideas of the constructivist model of learning in the classroom. In addition to the recommendation to use this model in the training of new teachers, Yager (1991) offers ideas on how teachers can adapt to the needs of the new generations of students in the classroom in line with the constructivist learning theory.

Here are some of these recommendations to teachers (Yager, 1991):

* encourage students to ask questions during class
* encourage students to share their ideas for resolving various problems
* encourage students to find and select information to resolve various problems
* acknowledge the students' critical views during class
* encourage and support the use of electronic devices for all class activities
* encourage students to compare and relate phenomena and events that are being covered in class
* encourage students to analyse facts, phenomena, causes and to share personal comments about everything

they learn

* encourage and appreciate any problem the students observe related to the topic covered in class
* connect everything that is learned at school with events outside school and with the students' personal lives

and experiences.

Again, it is clear that a need has arisen for a type of teacher who is prepared to assume new roles in comparison with the roles teachers had in the previous century. This teacher is expected to be flexible, tolerant, creative and cooperative. He or she has to be a teacher who encourages and inspires, and not a teacher who controls, assesses, criticises or prohibits (Daithí, 2005).

Sixty years ago, Edgar Dale pointed out the limitations of some teaching strategies and teaching media, and the need to select a suitable place, and suitable strategies and media, for effective pedagogical action. In many classrooms even today, sixty years later, none of this is acknowledged (see Dale, 1969).

Howard Gardner's multiple intelligence theory also requires some changes from teachers and other experts on school issues regarding the internal organisation of the school and the design of teaching activities. Students should be informed, in line with their age and their capacity to understand, about their personal and individual characteristics, or their strengths and weaknesses, and helped to create a positive realistic self-image (awareness of their personal abilities, confidence, security...). Students must be helped to know themselves, to discover their strengths and individual abilities, which will further be encouraged and developed by teachers. Every student must and should discover in which of the seven types of intelligence he or she can achieve the best results, or which types of intelligence constitute his or her strengths. Teaching premises and teaching projects must be designed in ways that enable individuals to develop the types of intelligence in which they can achieve adequate and acceptable results. This is made possible by continuously changing teaching strategies and equipping the premises for teaching activities with suitable material and equipment.

Maslow's hierarchy of needs theory can greatly help teachers in selecting teaching strategies and in organising learning in a modern school. However, one has to consider, besides this theory, facts and understandings about the place of the new media in the life of children and young people, and the role the media play in the organisation of each teacher's own work.

Let us contemplate the needs that Maslow designated by the terms *safety*, *love*, *belonging*, or *respect.* The new media (for example, mobile phones, the internet, Facebook and other social networks) also bring about new forms of threat or feelings of (un)safety. Cyberbullying is a new threat to the safety of individuals, and is quite widespread among teenagers. We also observe a need for new competences and roles of teachers who organise class activities in which the potential participants of Cyberbullying also take part. This is a chance to review the teaching syllabi and the role of the teacher in activities connected with these syllabi. The categories that Maslow marks as *love* and *belonging* also acquire new contents, forms and significance with the arrival of the new media. The views of experts are divided when it comes to whether the new media contribute to enriching human communication and the quality of communication and life in general, or whether they are a source of new forms of alienation. However, virtual networks have enabled many people to widen the circle of persons with the same or similar interests and to discover that there are many people who respect them and support their plans and projects. This is very important for education and growing-up, although many teachers and parents have difficulties in finding their way in these new circumstances.

We often ask ourselves what is more important today: to retain content and information, or to know how to find information, how to learn, and how to solve problems? There are much better media for storing information than the student's brain! Thus, the answer is self-explanatory: it is more useful to have procedural and metacognitive knowledge than declarative knowledge (Gagne).

Bruner's discovery learning also acquires new meaning with the new media, and offers fresh opportunities for the teacher and for building the learner’s confidence. The new media enable learners to engage in more constructive and creative activities and free the potentials of the teacher to provide activities that are pedagogically more valuable.

Instead of preparing the presentation of content through an oral lecture or presenting it with the assistance of modern equipment and programs (such as a smartboard or PowerPoint presentation), the teacher may organise the learning space in the classroom in the form of centres of interest. Instead of having the teacher in the centre of the classroom, it is better to have an abundance of material and equipment to be used by learners for individual or group activities. Therefore, the teacher must make available a variety of material for learning and studying in the classroom.

Another thing teachers can do is to help students develop their own learning plan and create their own, individual and individualised curriculum. In didactic literature, such a teacher-student relationship is regulated through a didactic contract in which, from time to time, the parents may also be included.

This is not a novelty in pedagogical theory and practice, since this idea was also advocated eighty years ago by Celestin Freinet, and today his followers develop individual weekly and monthly learning plans for each student. Naturally, today this has been made easy through the use of the new media, especially the internet and PCs.

And while thirty or sixty years ago teachers would find justifications in the difficulties that occur due to the large number of students in the classroom (sometimes over 30), and the lack of necessary teaching equipment, today these factors have been overcome with the emergence of the new media, so that teachers have many more opportunities to be more efficient and interesting than they had in the past.

A great deal of discussion is taking place on the ways of evaluating learning outcomes (Gatto, 2009; Liessmann, 2008; Zhao, 2009; Sahlberg, 2011). The excessive external testing of students in schools for the needs of various national and international projects is frequently criticised, as is internal evaluation, which is more a cause of fear of school than a positive means to encourage students to learn.

Experts in the organisation of school increasingly deal with the relationship of apersonal and personal media, that is, with the new roles of students that are conditioned or facilitated by the new media (Köck, 1977; Leask, M. & Meadows, 2002; Kron & Sofos, 2003; Tulodziecki & Herzig, 2004; Arnold & Lermen, 2006).

1. **Learning and/or teaching**

*Learning and teaching* are the two most important activities that take place during class. One of these activities regards students, and the other teachers. We train teachers at teacher education faculties to teach students. The list of competences that students must acquire and improve during their schooling includes what is known in professional literature as *learning how to learn*.

Teachers have to *implement the teaching curriculum.* What does the expression (to implement the teaching curriculum) actually mean? What is the teacher's role in this *implementation*, and what is the role of the learner?

Schools do not usually evaluate (assess) the competence of *knowing how to learn;* what is evaluated is rather how much knowledge someone has. Unfortunately, students that know a lot of data (information) are still appreciated more than students who are competent in critical thinking, analysing, evaluating, comparing data, and, on the basis of these activities, are able to research, discover, conclude, produce new ideas, or resolve problems.

The new media that can be found in school and in the students' homes allow for new learning styles and strategies. These possibilities have been more frequently discovered by students than by teachers. It is the students who analyse the options offered by these media in order to better fulfil their teachers' expectations. If they need to write an essay, they try to find help on the internet rather than from books. If they need to successfully answer questions in a test, they look for ideas to ease this awkward situation on their mobile phones and various other ICT devices. Thus, students in a secondary school in Zagreb used a Viber connection through an iPhone placed in a plastic pencil box, which was lying on the desk to help them do a German test. At the beginning of the class, the students established a Viber connection with a friend in Munich. During the test, the friend in Munich answered the questions for the students in Zagreb. The students in Zagreb considered here that the end justified the means.

To answer one of the questions in a TV game show, candidates can use the "call-a-friend" lifeline. Wishing to be humorous, students often ask teachers, "Can I use the call-a-friend lifeline?" Well, this is how we resolve many problems in our private lives or at work, so why should we not give our students this choice? And finally, the function of schooling should be to prepare children for their future life and work, and in order to resolve problems in life and at work, we often consult our friend over the phone, on the internet or by communicating with them face to face.

Students have always been ahead of their teachers in finding ways to make their school or examination tasks easier to solve. Such resourcefulness should not be punished, but, on the contrary, creativity must be encouraged, and examination questions should be set in a way that allows students to use all available technical devices (from books to ICT), because this is how they will perform most tasks in their future job.

*Learning how to learn* defines a competence today that is significantly different from the one conveyed by this term some thirty or fifty years ago. Now, *knowing how to learn* means knowing how to use various sources of knowledge to find information and solve problems.

Today, when a number of technical aids allow for new learning strategies and styles, the teacher's activity (teaching) still dominates. All national control and supervision mechanisms endeavour to answer the question of *what* and *how t*he teacher works, instead of *what* and *how* the learners work.

1. **Conclusion**

Nowadays, the new media allow for the achievement of a long-known ideal: a school tailored to fit the learners. Instead of a single general teaching curriculum for a whole generation of students in a country or school, today it is possible, much more than some fifty or hundred years ago, to achieve this ideal in the form of an individualised curriculum tailored to fit each particular student. Thus, the off-the-peg curriculum can be replaced by an individualised or individual teaching curriculum.

Since some important functions of the teacher can be assumed by the new media (for instance, the transfer and presentation of information, objective and efficient communication), teachers can devote more time to deal with direct pedagogical activities, to educate, and to resolve children's and young people's developmental and educational problems, to organise various projects and other events that are useful for learning, development and education, and to enrich young people's lives.

Emphasis in the class process should be placed on learning rather than on teaching. This means certain changes in the roles of teachers and learners, as well as radical changes in the methodological scenarios implemented in schools. Instead of lecturing, in order to "implement the curriculum" it is better to select well-known and proven experiential learning strategies and activities, such as workshops, learning by research and discovery, problem solving, case studies, exercises, games and simulations.

**References**

Arnold, R. & Lermen, M. (Hrsg.) (2006). *eLearning-Didaktik*. Baltmannsweiler: Schneider Verlag Hohengehren.

Daithí, Ó. M. (2005) New teacher and student roles in the technology-supported language classroom. Retrieved November 24, 2012 from: <http://www.itdl.org/Journal/Feb_05/article01.htm>

Dale, E. (1969). *Audio visual methods in teaching* (Third Edition). Dryden Press, New York.

Duit, R. The constructivist view in science education - what it has to offer and what should not be expected from it. Retrieved November 24, 2012 from: <http://www.if.ufrgs.br/public/ensino/N1/3artigo.htm>

Ellis, A. K. (2004). *Exemplars of curriculum theory*. Larchmont, N. Y.: Eye on Education.

Gatto, J. T. (2009). *Weapons of mass instruction: A schoolteacher’s journey through the dark world of compulsory schooling*. Gabriola Island, BC : New Society Publishers.

Keegan, D. (2002). *The future of learning: From* ***e****Learning to* ***m****Learning*. ZIFF Papiere 119, Hagen: Zentrales Institut für Fernstudienforschung, FernUniversität.

Köck, P. (1977*). Didaktik der Medien.* Ludwig Auer Verlag, Donauwörth.

Kron, W. F. & Sofos, A. (2003). *Mediendidaktik: Neue Medien in Lehr – und Lernprozessen*. München und Basel: Ernst Reinhardt Verlag.

Leask, M & Meadows, J. (2000). *Teaching and learning with ICT in the primary school*. London and New York: Routledge Falmer.

Liessmann, K. P. (2008) *Theorie der Unbildung: die Irrtümer der Wissensgesellschaft*. München & Zürich: Piper.

Reece, I. & Walker, S. (2001). *Teaching, training and learning: A practical guide*. Sunderland: Business Education.

Reich, K. (2006). *Konstruktivistische Didaktik*. Weinheim und Basel: Beltz Verlag.

Sahlberg, P. (2011). *Finnish lessons*. New York: Teachers College, Columbia University.

Schiro, M. S. (2008). *Curriculum theory: Conflicting visions and enduring concerns.* Los Angeles (Calif.): Sage Publications.

Taylor, E. W. (Ed.) (2006). [*Teaching for change: Fostering transformative learning in the classroom*.](http://explore.bl.uk/primo_library/libweb/action/display.do?tabs=moreTab&ct=display&fn=search&doc=BLL01013433685&indx=61&recIds=BLL01013433685&recIdxs=0&elementId=0&renderMode=poppedOut&displayMode=full&frbrVersion=&dscnt=0&ublrpp=10&vl(174399379UI0)=any&scp.scps=scope%3A%28BLCONTENT%29&frbg=&tab=local_tab&dstmp=1353660019134&srt=rank&mode=Basic&dum=true&tb=t&vl(freeText0)=Teaching%2C+Training+and+Learning&vid=BLVU1) San Francisco: Jossey-Bass.

Tulodziecki, G. & Herzig, B. (2004). *Mediendidaktik: Medien in Lehr- und Lernprozessen*. Stuttgart: Klet Cota.

Yager, R. E. (1991). The constructivist learning model: Towards real reform in science education. Science Teacher, 58 (6), 52-57.

Zhao, Y. (2009). *Catching up or leading the way: American education in the age of globalization*. Alexandria (Virg.): Association for Supervision and Curriculum Development.