

COMMUNICATION AND TEACHING AND LEARNING METHODS (SOCIAL WORK FORMS) IN MULTIMEDIA ONLINE DISTANCE EDUCATION

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The aim of this paper is to show that teaching and learning methods (social work forms) and communication which can be used in traditional in class education can be also implemented in multimedia online distance education. This is possible because of functional opportunities of ICT. The paper presents different types of communication and possible teaching and learning methods in multimedia online distance education. It also describes particular types of communication, primarily personal and impersonal, and their relationship in modern distance education. Some characteristics of personal communication are also included in impersonal communication supported by new media and ICT like non-verbal communication. Furthermore, this paper shows particular methods in traditional learning and possible methods in distance learning and teaching supported by computer, Internet and multimedia software. It shows that students' work and learning in distance online education with new media can be provided by all teaching and learning methods as they can be used in traditional in class teaching and learning. Also, this paper shows that students in distance learning can work individually and together (cooperative learning) in pairs or in groups on their tasks. Team instruction can also be provided in distance learning by new media and ICT. The paper shows that new media, ICT and multimedia software enable the overlap between the features of personal and impersonal communication in multimedia distance learning, and that this type of learning and teaching methods can be realized in multimedia online distance education.

Keywords: distance education, educational communication, multimedia, teaching and learning methods, social work forms

In regular classes person who learns and person who teaches are in the same physical place and in the same time. This means that immediate mutual work and communication within a teaching situation is supported by specific strategies for specific purpose to be achieved. Regular education considers that students (pupils) and teacher meet to plan and organize classes for learning and teaching. In this type of education communication between students and teachers is personal (direct), and all social work forms are possible as well. Since those who teach and those who learn can not meet in

the same physical space, there are organized classes corresponding to these demands and needs. Class in which people learn and teach are in different place and time is called distance learning. Since teachers and students in distance learning can not establish a direct relationship, their work is being mediated through a particular media, and transfer of information. Modern technology allows a wide range of media that can be used in such classes. The special quality of transfer of information and sending and delivery of content (the establishment of the relationship) is supported by relationship of two or more types of media which are supplements in this work (multimedia). In other words, the change in distance education in those terms is that distance education is no longer mediated through the paper (Caladine et al., 2010). Because of their simultaneity, communication through multimedia and the Internet in distance learning differs from a traditional meaning of impersonal communication. The question is which form of communication in multimedia distance learning and the social forms of work permits such a course, especially because these forms of communication and social forms of work are being used in our everyday life.

Types of communication in teaching and learning

Communication (lat. *communicare* - general, statement) means the exchange of information between one, two or more persons or in relation to a machine (computer, multimedia package). Structure of the communication consists of information sources (transmitter), information media including the transfer of information and recipient of information. Also, this structure includes disturbing factor in the transfer of information. Different authors classified communication in the classroom in different ways, but all of authors list personal and impersonal communication as two basic forms of communication (Bognar & Matijević, 2005; Stevanović, 2004). The term of personal communication refers to any type of communication between two or more persons face to face. Direct communication assumes that people who interact are physically located in the same place without the use of media tools. When two or more people communicate using some type of media, this type of communication is called impersonal communication. Also, it should be noted that a person can communicate using several types of machines (such as computer, Internet, multimedia package), where machine (or any type of technological machine) sends back information to the person who works with machine/technical tools.

Multimedia distance learning assumes that communication between participants is (at least in some extent) impersonal. The development of computers and the Internet enables us (in terms of distance learning) to see, hear, work and speak to each other even if we are many kilometers away. In terms of verbal and nonverbal communication, it is particularly significant that we can interact and communicate with our moves of body (body language), which is now possible because of development of ICT.

Social work forms in teaching and learning

Social work forms are defined by the number of persons who work in the classroom including teachers who teach in relation to students who work on tasks. In other words, social works forms are related to number of students and teacher who communicate and work together (or alone) on some type of the task. Various authors usually define the four basic forms of social work in education (Bognar & Matijević, 2005; Jelavić, 1998; Matijević &

Radovanović, 2011; Poljak, 1991; Stevanović, 2003): Frontal work, individual (independent) work, work in pairs and group work.

Frontal work primarily covers the work of a teacher with several students. One teacher teaches at the same time the group of students. This form is primarily the economic one because the teacher also teaches more students, but the main drawback is that this form does not respect individual differences among students and this type of social work for is primarily focused on the teacher and his/her work.

Group work assumes that three or more students cooperatively solve problems and work on a task. The optimal number of persons working in the group is three to five. Group work has its own articulation, and has a structure which consists of an agreement (forming groups), forming the tasks, the work of the group, reports of a group or representatives on the group's work (presenting the results of the group), group discussion on the results and conclusions and evaluation of the work of group. Tasks which are given to the group can be differentiated and undifferentiated (all groups work on the same task or each group works on a special assignment). Group leaders can be determined by the teachers, but it may be left to each group to choose their own leader. It should also be noted that formation of groups must consider individual abilities and characteristics of students. It is desirable that groups are heterogeneous with respect to the abilities and characteristics of students.

Working in pairs assumes that two students are working together (communicate, consult and collaborate) on the same tasks, and helping each other. The most important four types of work in pair are: 1) all pairs are working on identical task, 2) all pairs deal with identical first part of the task, and the second part of each pair is different, 3) a group of pair work on the same task, and 4) each pair has different task.

Individual form includes an individual work of students on a task in accordance with their capabilities. This type of work primarily takes into account individual differences among students which frontal teaching is not able to appreciate. In the individual work students take the tasks through their own activities and work. Students can choose their own tasks, or the task can be given by teacher.

Teamwork or work in tandem means the work of two teachers along with one class. This form of social work form increases the possibility of individualized teaching.

Multimedia online distance education

Media and tools that are described by Holmberg (1979) in terms of distance learning such as print, video and audio recordings, computer software, telecommunications, etc., are now connected by multimedia online teaching in a synchronized and simultaneous whole. The development of multimedia enables distance learning to occur in "real time". Multimedia, Internet and computer give opportunity to distance learning not to be separated in time. Multimedia online lessons reduce what various experts call "transactional distance" (Benson & Samarawickrema, 2009; Gorsky & Caspi, 2005; Moore, 1993), the psychological and communication space (difference) between students and teachers. The distance learning course mediated through multimedia, computer and Internet enable students and teacher to work together in the same (real) time, and to communicate simultaneously in visual, verbal and audio way.

Multimedia online education allows students to be active in learning, but also to work with other students and the teachers (*supported collaborative learning, computer-supported collaborative learning (CSCL)*), and that they construct their own knowledge (Laurillard, 2009). McLoughlin (2002) considers increasing students' activities through the distance learning to be essential for the development of distance learning. When constructing computer programs, all components of multimedia distance learning should be taken into account: learning models, the structure of teaching, collaborative environment, pedagogical models of teaching and learning, students' activities and students' meta-cognition (Asanok, Kitrakhan & Brahmawong, 2008).

Practice has shown that a variety of online social networks are used just to facilitate the possibilities of multimedia communications to users of these networks (*Facebook*). *Skype* and *Dimdim* are using cameras, microphones, speakers, etc. to enable participants to be in "real time", to see and hear each other, and communicate and work together on specific content using audio-visual communication). Also this type of education is learner-centered education (Barrett, Bower & Donovan, 2007; Hannum et al., 2008). These features of human activity and communication using the Internet and multimedia software have the possibility of wide use in the classroom, especially from the aspect of the virtual classroom (McBrien, Jones & Cheng, 2009), where people do not have to really be in their classroom (spatially distant classrooms), but all participants in these classes can be found in their own private place (at home, workplace, etc.).

Communication and social work forms in multimedia online distance learning and teaching

Communication in multimedia online distance learning and teaching

As noted above, the contemporary media and multimedia and development of computers and the Internet expand the meaning and possibilities of communication in a distance learning course. Because of distance learning, student and teacher in most of their communication are in direct relation (communication), and they use various types of media to establish communication. Communication in distance education is mediated through impersonal communication. The multimedia online distance learning communication is mediated through the Internet and computer software program (multimedia package). Distance learning is characterized by the relationship between teaching and learning and mental fitness of students (Matijević, 1999), and referring to all types of communication and social work form. Teaching at distance involves considerably more independent learning as opposed to regular classes. Multimedia software enable the overlap between the features of face-to-face and multimedia distance learning (Woo et al., 2008).

Distance learning course was developed simultaneously within the framework of individual media features. Modern software and technical capabilities of the various social networking sites allow to communicate with people who can hear, see and speak to each other, and also to work together on tasks. Exactly what people in this communication may see and hear is extended by the means of personal within impersonal communication and provides new opportunities in teaching. Although this communication is essentially impersonal (because it is mediated through some type of media), it contains the characteristics of personal communication. Specifically, in

this type of communication, except partly verbal communication, participants can see each other's facial expressions and the space that surrounds them. They can also see clearly explained body movements. In other words, the online multimedia teaching enables non-verbal communication and body language as a component of personal communication. In addition to the above mentioned aspects of communication, people who communicate in such classes can clearly demonstrate a variety of material things (two-dimensional and three-dimensional) as well as pictures, models, etc.).

Generally, the use of the Internet, computers and software programs (with possession of video camera, microphone, speakers and headphones) provides a wide range of working activities that may be performed by people who interact without being in direct communication (Timmis et al., 2010). Such activities are realized by using online social networks such as *Skype*, *Dimdim* and other programs. Some programs allow work of all participants on the same material/content (writing and drawing, design, etc.). An example of such program is *Dimdim* program. In the teaching process, the possibility of (multi)media can be used in online videoconferences and lectures (Kop, 2010).

Social forms of work in a multimedia online distance learning and teaching

In teaching, communication and social work forms are related to work between students and teachers, group of students, one or more teachers and students, or various numbers of persons who work together on task. The basis for any of these forms is the hardware equipment such as cameras, speakers, headphones, microphone (Caladine et al., 2010) and software support in the form of programs that enable communication and simultaneous operation of more than one person at a time. Technical advances in the development of computers, multimedia (multimedia packages) and the Internet enable distance learning which takes place in each of these social work forms.

Frontal work of students and teachers is organized by the same principles as in the regular classroom. The teacher also works with higher numerical formation of students. Although, as in the regular classroom, students' activity is significantly lower than teachers'. In the multimedia online courses, the student has ability to put simultaneously their comments on the work surface (if it is allowed by features of a computer program). On the other hand, students can be in the group in the same physical place, but they can also be separated, where each individual student works on their own PC. An example of this type of social work form is online videoconferences (Lawson et al., 2010) and lectures supported by various computer programs such as *Illuminate Live* (McBrien, Jones & Cheng, 2009; Reuchle & Loch, 2008).

In the multimedia online distance learning, group work can take all of the characteristics of such work as in regular classes. The structure and articulation of work also remains unchanged. Contemporary social online networks such as *Dimdim* enable that participants can simultaneously see, hear, speak to each other and work on the same task (write, read, make phone calls, to correspond, to draw, etc.). Online social networks such as *Skype*, or blogs (Hou et al., 2009) allow formation of interest groups for each other. These options allow the teacher to monitor and cooperate simultaneously with a number of separate groups of students. Also, the use

of two computer monitors increases the possibilities of working in groups, where an additional computer monitor increases the "workspace". Also, the group work is associated with the teamwork of teachers, where all class characteristics are the same as in group work.

Opportunity to work in pairs in multimedia online distance learning is completely the same as in group work. There is a difference in the form of articulation and teaching in relation to group work which is not limited by capabilities of hardware and software support.

Individual (independent) work of students on a task and certain facilities in its essence is not limited by interaction with others via the Internet. The student works independently to solve problems, tasks, create their own content, etc. Various multimedia packages are created for this type of work.

Conclusion

In the concept of new culture of learning supported with new media (Rodek, 2011), practice has shown that the concept and meaning of impersonal communication is expanded, and that within impersonal communication, which was one of the essential features of distance teaching, personal characteristics of communication also appear in distance learning. Certainly, it should be noted that communication in distance learning is essentially still impersonal since it is mediated through some form of media. Characteristics of personal communication between students and teachers appear to be able to communicate non-verbally. Because of the temporal and spatial distance between pupils and teachers in traditional distance learning, social work forms in this type of education were questionable. In multimedia online distance education there are possible all social work forms with limitation of certain features of computer programs. Modern computer technology (and its development) along with Internet access and using appropriate multimedia software has enabled various types of communication and social work forms in all types of distance education.

References

- ASANOK, M., KITRAKHAN, P., & BRAHMAWONG, C. (2008). Building a Critical Components for Successful Multimedia-based Collaborative eLearning Design Framework. *International Journal of the Computer, the Internet and Management*, 16 (3), 37.1-37.10.
- BARRETT, K. R., BOWER, B. L., & DONOVAN, N. C. (2007). Teaching styles of community college instructors. *The American Journal of Distance Education*, 21 (1), 37-49.
- BENSON, R., & SAMARAWICKREMA, G. (2009). Addressing the context of e-learning: using the transactional distance theory to inform design. *Distance Education*, 30 (1), 5-21.
- BOGNAR L., & MATIJEVIĆ, M. (2005). *Didaktika*. Zagreb: Školska knjiga.
- CALADINE, R., et al. (2010). New Communications: A Renaissance in Videoconference Use. In Veletsianos, G. (Ed.), *Emerging Technologies in Distance Education* (pp. 249-266). Edmonton: AU Press.
- GORSKY, P., & CASPI, A. (2005). A critical Analysis of Transactional Distance Theory. *The Quarterly Review of Distance Education*, 6 (1), 1-11.
- HANNUM, W. H., IRWIN, M. J., LEI, P., & FARMER, T. W. (2008). Effectiveness of using Learner-centered principles on student retention in distance education courses in rural schools. *Distance education*, 29 (3), 211-229.
- HOLMBERG, B. (1979). *Obrazovanje na daljinu*. Zagreb: Birotehnika.

- HOU, T., CHANG, K., & SUNG, Y. (2009). Using blogs as a professional development tool for teacher: analysis of interaction behavioral patterns. *Interactive Learning Environments*, 17 (4), 325-340.
- JELAVIĆ, F. (1998). *Didaktika*. Jastrebarsko: Naklada Slap.
- KOP, R. (2010). Using social media to Create a Place That Supports communication. A Renaissance in Videononference Use. In Veletsianos, G. (Ed.), *Emerging Technologies in Distance Education* (pp. 269-283). Edmonton: AU Press.
- LAURILLARD, D. (2009). The pedagogical challenges to collaborative technologies. *International Journal of Computer-Supported Collaborative Learning*, 4 (1), 5-20.
- LAWSON, T., COMBER, C., GAGE, J., & CULLUM-HANSHAW, A. (2010). Images of the future for education? Videoconferencing: a literature review. *Technology, Pedagogy and Education*, 19 (3), 295-319.
- MATIJEVIĆ, M. (1999). Didaktika i obrazovna tehnologija. In Mijatović, A. (Ed.), *Osnove suvremene pedagogije* (pp. 487-511). Zagreb: HPKZ.
- MATIJEVIĆ, M., & RADOVANOVIĆ, D. (2011). *Nastava usmjerena na učenika*. Zagreb: Školska knjiga.
- MCBRIEN, J. L., JONES, P., & CHENG, R. (2009). Virtual Spaces: Employing a Synchronous Online Classroom to Facilitate Student Engagement in Online Learning. *International Review of Research in Open and Distance Learning*, 10 (3), Retrieved from <http://www.eric.ed.gov/PDFS/EJ847763.pdf> [22.05.2011]
- McLOUGHLIN, C. (2002). Learner Support in Distance and Networked Learning Environments: Ten Dimensions for Successful Design. *Distance Education*, 23 (2), 149-162.
- MOORE, M. G. (1993). Theory of transactional distance. In Keegan, D. (Ed.), *Theoretical Principles of Distance Education* (pp. 22-38). New York, NY: Routledge.
- POLJAK, V. (1991). *Didaktika*. Zagreb: Školska knjiga.
- REUCHLE, S., & LOCH, B. (2008). Conducting a Trial of Web Conferencing Software: Why, How, and Perceptions from the Coalface. *Turkish Online Journal of Distance Education*, 9 (3), 19-28.
- RODEK, S. (2011). Novi mediji i nova kultura učenja. *Napredak*, 152 (1), 9-28.
- STEVANOVIĆ, M. (2003). *Didaktika*. Rijeka: Digital point.
- STEVANOVIĆ, M. (2004). *Škola po mjeri učenika*. Varaždinske Toplice: Tonimir.
- TIMMIS, S., JOUBERT, M., MANUEL, M., & BARNES, S. (2010). Transmission, transformation and ritual: an investigation of students's and researcher's digitally mediated communication and collaborative work. *Learning, media and Technology*, 35 (3), 307-322.
- WOO, K., et al. (2008). Web-based lecture technologies: blurring the boundaries between face-to-face and distance education. *Research in Learning Technology*, 16 (2), 81-93.