8th International Conference Interdisciplinarity in Engineering, INTER-ENG 2014, 9-10 October 2014, Tirgu-Mures, Romania

Media convergence and diversification - the meeting of old and new media

Jasmina Arsenijevića, Milica Andevski²*

¹Pre-School Teacher Training College in Kikinda, Veljka Petrovića 6/55, 21000 Novi Sad, Serbia
²Faculty of Philosophy, Zorana Dindića 1, 21000 Novi Sad, Serbia

Abstract

The aim of this study is to examine new media competencies of the members of the Serbian academic community in relation to their digital participation (Facebook, Twitter, YouTube, forums and message boards). The questionnaire has a high representativeness coefficient of KMO=.90, while the questionnaire as a whole has a high reliability of .91. The results indicate that there is a significant correlation between the respondents’ digital participation and almost all NML components. The greatest contribution of this study is in overcoming the empirical and theoretical dilemmas about the relationship and interactions between the modern man and social networks within the digital environment. Our research shows that there is a positive correlation between the respondents’ participation in digital social networks and new media literacy.

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Keywords: media; media literacy; media competence; media convergence and diversification; digitalization.

1. Introduction

“Computer has become inevitable media of learning which, in addition to computer games, surfing the Internet and chatting, focuses on series possibilities of usage” [1: 2904] and have “the most important role in the production and economy and in all spheres in the lives of individuals“ [21: 258]. With the Internet and other new media

*Corresponding author. Tel.: +381-63-826-4878.
E-mail address: minapane@open.telekom.rs

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Peer-review under responsibility of “Petru Maior” University of Tirgu Mures, Faculty of Engineering
doi:10.1016/j.protcy.2015.02.164
dominating the sphere of communication and spreading of information nowadays, a new kind of literacy has been brought into focus - new media literacy (NML). Being new media literate means being able to find one's way in the world of media, "swim" in the vast ocean of information, move from being fascinated with new technologies to being able to selectively evaluate media content, form attitudes, recognize the right path and distinguish them from a dead end street. „The processes of adoption of the media competence are found today under the altered conditions of increased ‘interactivity’ of the new media” [1: 6066]. Further analysis of the aspects and elements of media competencies specifies the following concepts: understanding and using the media, mastery of the media, creating and evaluating media content. All this requires “knowledge, creativity, ability and aspiration of changes in thinking, requirements and expectations” [22: 265].

The prospect of new media is in the possibility of participation, collaboration and interaction between individuals. This requires the emergence of new media literacy (NML) and familiarization with the nature and social significance of media - this issue was pioneered by Henry Jenkins. Jenkins [9] defined twelve competencies for the involvement in new media and participatory culture, stressing the importance of education for adapting to these socio-technological trends. Education should value and strengthen these competences, and use them as a resource for further development. Thus a new area of research emerges: the definition and measurement of media literacy.

Most studies are focused on either measuring the ability of understanding written and audiovisual messages [6, 8, 13, 17], or assessing the effectiveness of various media literacy programs, especially those within education [13, 7].

A significant breakthrough in the development of research methodology for new media literacy was achieved by Ioana Literat [11], who developed and tested a research instrument for the assessment of this phenomenon based on the already defined NML competencies by [9]. The questionnaire involves a comprehensive understanding of both old and new media phenomena, and processes simultaneously the access to media messages and creating multimedia content. Her exploratory study included 327 U.S. adult respondents.

The significance of this research lies in identifying and defining groups of users of the Web 2.0 media and digital space. Experience shows that different individuals have different possibilities for participation; we are at the periphery - some parts of the population are excluded from development, not only because they don't have access to a computer, but also because they are new media illiterate. This digital divide is often present because people question the safety of the Internet, but are also unsure how to navigate the domain of the media, which has become the shaper of social reality and creator of consciousness. We believe that this divide could be reduced through improving media competence and literacy, thus making people feel steady and secure in accessing the media, finding safer navigation and shaping their identity.

2. Participatory Culture

The concept of Jenkins' participatory culture [9] was established in his White Paper, where he defines the basic competencies for participation in the media realm:

1. **Play**: the ability to experiment through problem-solving strategies.
2. **Performance**: the ability to assume alternative identities for the purpose of improvisation and discovery, i.e. the ability to assume and explore alternative identities.
3. **Simulation**: the ability to construct, apply and analyze dynamic models of real-life processes, i.e. the ability to construct and interpret real-life processes.
4. ** Appropriation**: the ability to recycle media content in a creative way, i.e. the skill to meaningfully appropriate and process media content.
5. **Multitasking**: the ability to perceive one's environment on a global scale and focus on specific details as needed; the skill of simultaneously performing different activities.
6. **Collective Intelligence**: the ability to create collective knowledge for the purpose of reaching a common goal.
7. **Judgment**: the ability to assess the credibility and ethical acceptability of media content.
8. **Transmedia Navigation**: the ability to multimediually monitor narrative worlds, beyond the boundaries of a particular medium; the ability to follow the flow of stories and information across a variety of mediums.
9. **Networking**: the ability to use networks to search for, analyze and publish information and knowledge, i.e. the ability to search, combine and distribute information.
10. **Negotiation**: the ability to understand different social values and adopt alternative standards; the ability to participate in various communities, to recognize and respect different perspectives, to accept and follow alternative norms.

11. **Distributed Cognition**: the ability to meaningfully interact with tools that expand intellectual capacities.

12. **Visualization**: the ability to create and understand the visual presentation of information; the ability to better understand concepts through visual imagination.

According to Jenkins, the main task of the 21st century school is to develop these competencies through appropriate pedagogical methods.

### 3. Research Methodology

The research was conducted in 2013 among the members of the Serbian academic community, including high school students, teachers, and university professors, scientific institutes researchers, as well as a wider highly educated population. The questionnaire was distributed throughout Serbia via e-mail, as well as via social networks.

Our starting point were the media competencies that Jenkins believes to be essential in shaping and defining media literacy, and we went on to examine to what extent they are established in the social and media reality of Serbia. The research was carried out using Ioana Literat's instrument, which is modified for the purpose of improving its validity and reliability and adapted to the sample from Serbia. Questionnaire modifications and modified questionnaire analysis results are presented in [3].

The aim of this study is to examine the connection between new media competencies of the members of the Serbian academic community and their digital participation (general and individual digital participation on social networks and communication platforms: Facebook, Twitter, YouTube, forums and message boards). So the main research problem is can be summarized by the following question: Is there a connection between the respondents' digital participation and the components of new media literacy?

The importance of the research problem is reflected in the fact that these social networks, made available through new media, have opened up a new, digital world, enabled access to an abundance of information, instant communication and interaction with media content, thus provoking a change in one's perspective, even identity. But the question is: can social networks serve their intended purpose and have the desired effect if their users are not new media literate? That is why the subject of this study - the connection between new media literacy and digital participation - is quite a relevant and current one, especially regarding the members of the academic community.

The original study by Literat [11], as well as a similar one conducted on a sample of Turkish students [4] suggested that there are significant differences in media literacy depending on digital participation, which shows that such studies are significant and that further analysis is needed. The research presented in this study went a step further by examining the differences in new media literacy relating to individual media, especially propulsive media such as forums and message boards.

We started with the assumption that the respondents who are more exposed to media and more actively participate in digital social networks will exhibit more developed media literacy competences. Also, we assumed that the more active participants in social networks, such as Facebook, YouTube, Twitter, forums and message boards, will possess more developed components of multimedia literacy (both old and new media literacy).

The study sample was **appropriate**, with elements of **deliberate sampling**, and it included 726 respondents (64.3% female), aged 14-66 (AM=28.6, SD=12.5). The largest part of the sample consisted of college students (29.3%), followed by high school students (27.3%), while the rest included respondents with higher education. This structure allowed the sample to be observed as part of the population that makes up the educational and academic community in Serbia. Those surveyed included respondents from the fields of social sciences and humanities (56.2%), technological sciences (31.1%) and mathematical and natural sciences (12.7%). The study sample was predominantly from urban areas (80.9%), namely 25.6% from Belgrade and 41.5% from Novi Sad.

The questionnaire operationalizing NML competences was, with the author's consent, translated, adapted and modified in areas which proved less reliable in the previous study [11]. The questionnaire also contained questions that were not related to new technologies, so media competences were examined through technological, but also social and cultural aspects.
The questionnaire had a high representativeness coefficient of KMO = .90. The ten components extracted after a principal component analysis corresponded to Jenkins' NML competencies. They made up the theoretical framework of the study, and nine were complete thematic matches (judgment, negotiation, multitasking, transmedia navigation, appropriation, visualization, play, collective intelligence and distributed cognition), while the tenth fused two components: performance and simulation.

Item analysis and examining the reliability of the extracted components indicated that the questionnaire as a whole had a high reliability of .91, slightly higher than the reliability of the original version (.903). Combined with insight into the structure of the components, this suggests that the modifications to the questionnaire were justified. Alpha coefficients of individual components were also above average (.65 to .84), indicating a high reliability of media literacy components measurement. Detailed results of the analysis of the main components of this research and their structure, as well as a comparison with the results of the original questionnaire are presented in a separate publication [3].

4. Research Results

4.1. The Correlation between the Respondents' Media Literacy Components and Digital Participation

The MANOVA multivariate statistical analysis, with grouping variables relating to Facebook, revealed a statistically significant correlation between the hours spent on Facebook and media literacy components (F(10,715) = 10.89, p = .000). As for univariate effects, significant correlation was evident with all components of media literacy except visualization, play and distributed cognition. Hence, there was a statistically significant univariate correlation with the following components: performance and simulation (F(1,724) = 36.46, p = .000), judgment (F(1,724) = 3.99, p = .046), negotiation (F(1,724) = 13.36, p = .000), multitasking (F(1,724) = 19.02, p = .000), transmedia navigation (F(1,724) = 29.15, p = .000), appropriation (F(1,724) = 3.77, p = .053) and collective intelligence (F(1,724) = 34.47, p = .000). Higher scores for the aforementioned media literacy components were achieved by respondents who spent more time on Facebook.

There is a multivariate significant correlation between the hours spent on Twitter and media literacy components (F(10,715) = 4.97, p = .000). As for univariate effects, significant correlation was evident with all components of media literacy except judgment, visualization and play, while the correlation with distributed cognition was of no statistical significance (F(1,724) = 2.96, p = .086). Hence, there was a statistically significant univariate correlation with the following components: performance and simulation (F(1,724) = 24.03, p = .000), negotiation (F(1,724) = 4.24, p = .040), multitasking (F(1,724) = 10.93, p = .001), transmedia navigation (F(1,724) = 22.07, p = .000), appropriation (F(1,724) = 9.86, p = .002) and collective intelligence (F(1,724) = 16.65, p = .000). Higher scores for the aforementioned media literacy components were achieved by respondents who used Twitter more.

There is a multivariate statistically significant correlation between the hours spent on YouTube and media literacy components (F(10,715) = 9.45, p = .000). As for univariate effects, significant correlation was evident with all components of media literacy except judgment, visualization and distributed cognition. Hence, there was a statistically significant univariate correlation with the following components: performance and simulation (F(1,724) = 36.71, p = .000), negotiation (F(1,724) = 10.44, p = .001), multitasking (F(1,724) = 29.63, p = .000), transmedia navigation (F(1,724) = 38.72, p = .000), appropriation (F(1,724) = 6.16, p = .013), play (F(1,724) = 4.15, p = .042) and collective intelligence (F(1,724) = 21.73, p = .000). Higher scores for the aforementioned media literacy components were achieved by respondents who spent more time on YouTube.

There is a multivariate statistically significant correlation between the hours spent on forums and message boards and media literacy components (F(10,715) = 8.65, p = .000). As for univariate effects, significant correlation was evident with all components of media literacy, namely performance and simulation (F(1,724) = 16.53, p = .000), judgment (F(1,724) = 39.72, p = .000), negotiation (F(1,724) = 35.58, p = .000), multitasking (F(1,724) = 17.57, p = .000), transmedia navigation (F(1,724) = 6.82, p = .003), appropriation (F(1,724) = 19.66, p = .000), visualization

\[\text{division into groups includes both those who do and do not use Twitter.}\]
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(F(1,724)=8.96, p=.000), play (F(1,724)=28.33, p=.000), collective intelligence (F(1,724)=45.45, p=.000) and distributed cognition (F(1,724)=7.90, p=.005). Higher scores for the aforementioned media literacy components were achieved by respondents who spend time on forums and message boards.

Considering the low number of respondents who use MySpace/Bebo/Friendster and other social networks (27) blogging (56) and podcasting (18), MANOVA was not conducted.

4.2. Results Overview

The new media literacy competences that displayed the most significant differences relating to digital participation were performance and simulation, negotiation, multitasking, transmedia navigation, appropriation and collective intelligence. The NML competencies with the least degree of difference were visualization and distributed cognition, followed by judgment and play. The results consistently show that higher scores on media literacy components were achieved by those who displayed greater digital participation. Forums and message boards from all the aspects of digital participation have the highest degree of correlation with new media literacy components, which suggests that those frequenting them possess the most developed NML competencies (Table 1). Following the forums and message boards are YouTube and then Facebook.

Table 1: Correlation between the respondents’ media competences and digital participation

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5. Discussion

The results consistently show that higher scores on media literacy components were achieved by those who displayed greater digital participation, which supports our expectations, as well as previous findings by Literat [11] on the U.S. adult population and [4] on a sample of Turkish students.

What is interesting is that of all the aspects of digital participation, forums and message boards have the highest degree of correlation with all ten media literacy components, which suggests that those frequenting them possess the most developed NML competencies (Table 1). Following the forums and message boards are YouTube and then Facebook. This phenomenon can be explained by the fact that the main characteristic of digital media is interaction; people communicating, networking and interacting with each other and with media content helps boost their competencies of collective intelligence, performance and simulation, negotiation, multitasking, transmedia navigation and appropriation.

This reflects the intention of digital media to shape the users of the so-called net generation. They will be (co)creators of multimedia content (appropriation) through strong social and collective action that will often have a synergetic effect (hence the evident collective intelligence); they will be connecting with users from different cultures (negotiation), and accessing media content multidimensionally (transmedia navigation); they will change their points of view and their identities by learning through abundant simulation opportunities offered by new media (performance and simulation); they will possess the ability to perform several activities at the same time (multitasking). Unfortunately, what users of social networks lack is judgment - critical evaluation of media content -

1 division into groups includes both those who do and do not frequent forums and message boards.
a characteristic that is not conditioned by the use of new media and technology, and represents an important competency that should be developed for a meaningful and reflective approach to the media.

The low degree of correlation between digital participation and the component *distributed cognition* may be due to the low reliability of this scale, which contains only two items exclusively relating to offline behaviour. This indicates that this component has certain limitations. It is possible that, since it examines the respondents' tendency to acquire knowledge through a variety of sources, this component cannot provide precise divisions within our academic sample that is already oriented towards the acquisition of knowledge. Therefore, planning future research will require further development of this area of the research instrument, as well as choosing a wider research sample.

6. Conclusion

We are witnessing the expansion of ways of thinking and working that is taking place within the framework of a participatory, convergent culture and the virtual structure of the Internet. The priorities are changing: declaration and knowledge content is being replaced by procedure and knowledge management. Procedural order has become the main model of an objective, pedagogical and collective organization of knowledge, where the importance of content is decreasing and that of access and validation is increasing.

New media, especially social networks, represent a powerful and propulsive direction of information and communication technologies, and a significant resource for the expansion of knowledge. Academic and educational (but also business) circles identify these capacities and use them for personal and professional purposes. Recent studies, such as the one conducted at American universities, show that social networks are becoming not only a personal, but also a professional resource for the members of the academic community. They are increasingly being used not only for personal development, training and dissemination of knowledge among students and professors, but also as a standard teaching tool [20].

Our findings suggest that multimedia features (the digital realm of the Internet, interaction and communication) generally lead to the enhancement of media competences. On the other hand, the study has intensified the already traditional criticism directed at education. Here we want to emphasize the insufficient role of media education in strengthening media competencies.

An interesting feature of the study is that the results obtained from a sample of Serbian respondents do not differ significantly from those of similar studies conducted in different political, cultural, economic, social environments and conditions [11, 4]. A special contribution of this study is that it has confirmed the theoretical assumptions about media convergence, which takes place in the minds of those who access and observe the media [9, 10], emphasizing the need for diversification in the approaches and use of media. Our ideal of accessing the media, especially the Internet, is changing the old notions and relations by directly increasing the ability to create, discuss, exchange. Therefore, it is not the media, but those who use it that create public opinion.

The greatest contribution of this study is in overcoming the empirical and theoretical dilemmas about the relationship and interactions between the modern man and social networks within the digital environment. Analysts have had disagreements over whether participation in the digital sphere decreases or in fact increases a person's intellectual, cognitive, emotional and social capacities. Our research shows that there is a positive correlation between the respondents' participation in digital social networks and new media literacy.

Contradictions and media bipolarity are increasingly obvious and intense, and Serbia has reached a critical point of creating an educational policy that will be directed towards strategically reviewing and planning the current, as well as anticipating future educational needs. This would be a step forward on the road to achieving the standards in the concept of media competence that exist in the European environment and educational policy.

Acknowledgements

This paper is a result of a research conducted within the project “Digital media technologies and socially educational changes” (Project no. 47020), with the financial support of the Ministry of Education, Science and Technological Development of the Republic of Serbia for the period 2011-2014.
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