



Sciences of Education

Issue 01 February 2018 Publisher: Pantelis Georgogiannis Patras, Greece



International e-journal peer-reviewed

Sciences of Education

Issue 01

Patras, February 2018

Title: Sciences of Education

ISSN: 2585-3821

p.p. 86, size 17,5 X 25 cm.

Publisher:

Pantelis Georgogiannis Antoniou Oikonomou 8, 26504 - AgiosVassilios, Patras, Greece Tel/Fax: 2613019948 website: http://e-journal.inpatra.gr email: e-journal@inpatra.gr

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Iliadou Vasiliki

"I came; I saw;I conquered". Sign up; Participate; ...drop out?

Abstract

The introduction of Massive Open Online Courses (MOOCs) has changed perspectives in online courses as it has offered learning opportunities to a diverse and massive audience. Apart from its worldwide popularity and impressive enrollment figures, the majority of MOOCs still face challenges regarding steep dropout rates. Due to low retention, MOOCs have received criticism that they have failed to have the transformative effect on the online education landscape. This paper will draw attention on different aspects of MOOC attrition and will identify factors that may explicitly or implicitly be connected to drop out. Further on, possible implications for future MOOC design and implementation are being considered so as to support different patterns of engagement and motivation.

Keywords: Massive Open Online Courses (MOOCs), online education, enrollment, dropout rates

1. Introduction

The rapid growth of Information and Communication Technologies has affected all aspects of human life, including education. Teaching practices and learning have undergone tremendous changes in recent years as educators have attempted to capitalize on the potentials of technology. Lifelong learning and non- formal training, which are inherent in modern society, have urged formal education providers, such as several prestigious universities, to consider alternative ways of providing training to a wider audience with the establishment and assistance of high profile platforms. The launching of MOOCs by elite universities has resulted in MOOCs entering the mainstream. MOOCs, that is, Massive Open Online Courses have emerged as an evolution of distance education and online learning. Attempting a definition for MOOCs has been a bewildering and challenging venturing over the last years in which they have been in the field of education.

According to Khalil, & Ebner "MOOCs enable free (university-level) education on an enormous scale". However, enormous and massive may have various interpretations when applied to numbers of students that MOOCs attract. Coursera, which is considered one the biggest providers, has a user base of 17 million students, while Future Learn has reached 3 million students in 2015. A MOOC is "open in the sense of being no-cost, and it's open in the sense of having no application requirements"². There are no enforced prerequisites, so their potential audience could be diverse, as they could be people of all ages, genders, background, education, interests, needs, and different levels of ICT or English competence. Being "massive" and "open", these courses are intended to attract a vast number of learners than would be possible through conventional teaching³. Furthermore, being online means that all the learning activity takes place when connected to the internet in interactive environments. Finally, like traditional courses and other online courses they have a beginning and an end, content which is "somewhat structured and sequenced", assignments and forums or blogs for student interaction (Siemens, 2013, p. 6)⁴. MOOCs affect society in various ways: they may expand or enrich teaching practices, forcing institutions to demonstrate

Citation: Iliadou, V. (2018), "I came; I saw;I conquered". Sign up; Participate; ...drop out?, *Theory and Research in the Sciences of Education*, 01/2018, p.p. 7-20. At: <u>http://periodiko.inpatra.gr</u>

¹ Khalil, H., & Ebner, M. (2014). MOOCs completion rates and possible methods to improve retention-A literature review. In *World Conference on Educational Multimedia, Hypermedia and Telecommunications, 1* pp. 1305-1313, p.1305.

² Marques, J., & McGuire, R. (2013). What is a Massive Open Online Course Anyway? *MOOC News and Reviews*, In: <u>http://moocnewsandreviews.com/what-is-a-massive-open-online-course-anyway-attempting-definition/</u>[Accessed on 16 March 2016]

³ Onah, D. F. O., Sinclair, J. & Boyatt, R. (2014). Dropout rates of massive open online courses: behavioural patterns. In *Proceedings of the 6th International Conference on Education and New Learning Technologies (EDULEARN14)*, pp. 5825-5834, In <u>https://library.iated.org/publications/EDULEARN14</u> [Accessed on 21 March 2016]

⁴ Siemens, G. 2013. Massive Open Online Courses: Innovation in Education? *Open Educational Resources: Innovation, Research and Practice*, 5.

new pedagogies and develop content that would otherwise be impossible to be developed by a single instructor. Secondly, they may make interesting curriculum accessible to new learners beyond any constrains of locations of time and place. Not surprisingly, this emerging potential in the field of education has been in the public eye and attracted the attention of education researchers and practitioners.

Research in the field has indicated though, that in spite of high enrollment rates, very few students manage to complete the course and seem to withdraw at different stages of the course. An impressive 90% of students who sign up for a course fail to complete it. Even though MOOC retention rates cannot be contrasted to those of traditional online or even on-campus courses for a variety of reasons, attributes of MOOCs should be investigated for future improvement. These factors that constitute learners' commitment to traditional courses, where failure to complete the course has future implication, are definitely not applicable to MOOCs.

2. Drop-out reasons

It is within the attempted definition that one should endeavor to shed light on the reasons that may cause low completion rates. Gamage, Perera, & Fernando, have identified ten dimensions that may have an impact on effective Elearning according to the Grounded Theory: Interaction, collaboration, motivation, network of opportunities & future directions, pedagogy, assessment, content, usability, technology support for learners⁵.

2.3. Variability in motivation

Motivation for enrolment may differ across students and it may even include those whose main purpose of enrolment is get more familiar with MOOCs themselves and do not intend to fully engage in it, or those who are eager to acquire a new skill. Belanger & Thornton have shown in their survey conducted regarding a MOOC on Bioelectricity that student motivations typically fall into one of four categories and motivation should be decomposed in order to be interpreted and analyzed⁶. First and most frequent reason is that students enroll because they want to support lifelong learning or increase their knowledge regardless of completing the course or not. Second, they want to have a firsthand experience, out of curiosity for on line learning⁷. A third reason is due to its

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⁵ Gamage, D., Perera, I., & Fernando, S. (2014, January). Effective eLearning through MOOC: lessons learnt in selecting a MOOC. In *Proceedings of the 22nd International Conference on Computers in Education*. Nara. Japan.

⁶ Belanger, Y., & Thornton, J. (2013). *Bioelectricity: A quantitative approach. Duke University's first MOOC*. Duke University Libraries, In <u>http://hdl.handle.net/10161/6216</u>, p.10 [Accessed on 17 March 2016]

⁷ Hew, K. F., & Cheung, W. S. (2014). Students' and instructors' use of massive open online courses (MOOCs): Motivations and challenges. *Educational Research Review*, *12*, 45-58. Doi:10.1016/j.edurev.2014.05.001

flexible and convenient nature, beyond obstacles met in traditional educational options. Finally, a certain percentage may sign up for social networking reasons and "intellectual simulation" (Belanger & Thornton)⁸.

The degree, as well as the source of motivation, can potentially be a predictor of retention or completion. Participants may initially not intend to follow the course outline or may simply be interested in taking only a few tasks and topics. Given the present situation, motivation of potential students relies mainly on intrinsic rather than extrinsic factors. Motivation, either extrinsic or intrinsic, namely, whether enrolling driven by a desire to enrich and enhance skills or to prepare for an exam, can predict the effort students will put in for the course requirements. Proper attention to learners' needs and motivation levels will provide designers with an insight and possible solutions to existing and arising problems. The notions of self-regulation and motivation are strongly interdependent. Self-regulation defines those qualities that learners demonstrate in order to engage with non- traditional, lacking certification and credit, however demanding learning environments9. A self-regulated person demonstrates autonomy and self-discipline, directs, and evaluates learning towards goals which have been set, gaining expertise, skills and knowledge. Being in charge of their learning and monitoring their learning pace, they clarify ambiguities and complexities by using a number of self-learning and reflective strategies. Different levels of self-regulation might have corresponding rates of drop-out. It has been argued that MOOCs may favor those who are highly privileged in terms of education as studies conducted indicate a higher percentage of educated students, who have had a successful learning experience in the past, are conscious in terms of the learning goals pursued, their learning strategies and are thus self-regulated¹⁰.

2.3. Lack of digital competence

Learners' digital illiteracy or lack of digital competence is a major determinant in meeting the course requirements. MOOC participation can be a threefold challenge; coping with language obstacles, the digital or technical skills required and an inadequate background knowledge. Cross believes that "Learning the technology itself was therefore often an objective in its own right for many"¹¹.

⁸ Belanger, Y., & Thornton, J. (2013). *Bioelectricity: A quantitative approach. Duke University's first MOOC*. Duke University Libraries. Retrieved from <u>http://hdl.handle.net/10161/6216</u> [Accessed on 17 March 2016] 9 Campbell, J., Gibbs, A. L., Najafi, H., & Severinski, C. (2014). A comparison of learner intent and behaviour

in live and archived MOOCs. *The International Review of Research in Open and Distributed Learning, 15*(5), In <u>http://www.irrodl.org/index.php/irrodl/article/view/1854/3097</u> [Accessed on 19 March 2016]

¹⁰ Jordan, K. (2014) Initial trends in enrolment and completion of massive open online courses. *International Review of Research in Open and Distance Learning*, *15*, (1) 133–159, In http://www.irrodl.org/index.php/irrodl/article/view/1651 [Accessed on 20 March 2016]

¹¹ Cross, S. (2013). Evaluation of the OLDS MOOC curriculum design course: Participant perspectives, expectations and experiences, In http://oro.open.ac.uk [Accessed on 20 March 2016] p.10.

Being constantly required to get familiar with new and unfamiliar technology and new formats could inevitably entail low self-confidence, dissatisfaction and eventually abandoning the course¹². In addition, a baseline background knowledge is presupposed, necessary and requisite for fully engaging with the material provided by the course instructors. When learners do not fully master the course content, they felt insufficient and less confidence¹³. Since interaction and communication is mainly text-based, learners have to possess a minimum standard of reading and writing skills, sometimes not even in their native language. Students may find themselves in an uncomfortable situation having to participate in forums or synchronous chats where they are required to reply instantly in a foreign language¹⁴. Factors such as these negatively correlate with the overall success of a MOOC.

2.4. Lack of instructor support and peer assessment

A further impediment that may arise and is closely related to lack of digital competence is lack of support on the part of the tutor which is another major issue to be taken into account when examining drop-out rates in MOOCs. Students are often unfamiliar with on-line learning, teaching, or may face language problems that require some guidance or further support. Reserchers report evidence from a paid tutor-supported version of a MOOC that allowed "access to additional resources and direct support from experienced teaching staff" and resulted in a higher percentage of participants completing quizzes throughout the MOOC¹⁵. "An instructor acts more as a facilitator fostering a space for learning connections to occur"¹⁶. Lack of student support entails poor feedback, or automated or peer feedback. Traditional methods of assessment are not applicable, thus, a combination of peer and self-assessment is highly encouraged and employed¹⁷.

¹² Onah, D. F. O., Sinclair, J. & Boyatt, R. (2014). Dropout rates of massive open online courses: behavioural patterns. In *Proceedings of the 6th International Conference on Education and New Learning Technologies (EDULEARN14)*, pp. 5825-5834, In <u>https://library.iated.org/publications/EDULEARN14</u> [Accessed on 21 March 2016]

¹³ Zheng, S., Rosson, M. B., Shih, P. C., & Carroll, J. M. (2015). Understanding student motivation, behaviors and perceptions in MOOCs. In *Proceedings of the 18th ACM Conference on Computer Supported Cooperative Work & Social Computing*. (pp. 1882-1895). ACM, In <u>http://dl.acm.org/citation.cfm?id=2675217</u> [Accessed on 20 March 2016]

¹⁴ Khalil, H., & Ebner, M. (2014). MOOCs completion rates and possible methods to improve retention-A literature review. In *World Conference on Educational Multimedia, Hypermedia and Telecommunications, 1* pp. 1305-1313

¹⁵ Onah, D. F. O., Sinclair, J. & Boyatt, R. (2014). Dropout rates of massive open online courses: behavioural patterns. In *Proceedings of the 6th International Conference on Education and New Learning Technologies (EDULEARN14)*, pp. 5825-5834, In <u>https://library.iated.org/publications/EDULEARN14</u> [Accessed on 21 March 2016]

¹⁶ Zheng, S., Rosson, M. B., Shih, P. C., & Carroll, J. M. (2015). Understanding student motivation, behaviors and perceptions in MOOCs. In *Proceedings of the 18th ACM Conference on Computer Supported Cooperative Work & Social Computing*. (pp. 1882-1895). ACM, In <u>http://dl.acm.org/citation.cfm?id=2675217</u> [Accessed on 20 March 2016] p.1883.

¹⁷ Godwin-Jones, R. (2014). Global Reach and Local Practice: The Promise of MOOCs. Language Learning

However, issues such as the extent that other students' knowledge allows peer assessing or consistency in the quality of feedback provided, appear one of the challenges to be handled¹⁸. Jordan raises the issue of "the impact of different assessment types", whether it is automatic assessment or peer grading, which is inevitably related to receiving a certificate of completion¹⁹.

2.5. Lack of interactivity

Low levels of interactivity are a significant parameter that deters MOOCs from taking full advantage of their potential. Tutor-instructor and peer to peer interactivity and communication have been identified as the key components as learners "construct their own knowledge and develop their personal learning network from the nodes and connections in the digital environment"20. Failure of communication between teachers and learners and learners themselves leads to disappointment and disengagement from the tasks. The communication factor may prove to be of prime importance for the construction of bonds that will support and engage the learner in a MOOC. In contrast to a traditional learning environment, where learners may appeal to the instructor or any co-learner available and willing to provide support, "the asynchronous nature of many MOOCs, combined with unusual study patterns, and global time zones, means that students may not receive the support they need in a timely fashion"21. MOOCs provide a social environment that does not guarantee engagement and learning because of the vast number of participants that may enroll at different stages of the course having very few things in common. "As massive communities of strangers that lack shared practices that would enable them to form supportive bonds of interaction, these communities grow in an unruly manner"22. While weaker or stronger bonds between different groups may develop, there is always the risk of students finding themselves left out or being unable to find their way in never-ending threads and comments.

[&]amp; Technology, 18(3), 5-15. In <u>http://www.llt.msu.edu/issues/october2014/v18n3.pdf#page=10</u>, [Accessed on 23 March 2016]

¹⁸ Hew, K. F., & Cheung, W. S. (2014). Students' and instructors' use of massive open online courses (MOOCs): Motivations and challenges. *Educational Research Review*, *12*, 45-58. Doi:10.1016/j.edurev.2014.05.001

¹⁹ Jordan, K. (2014) Initial trends in enrolment and completion of massive open online courses. *International Review of Research in Open and Distance Learning*, *15*, (1) 133–159, In <u>http://www.irrodl.org/index.php/irrodl/articl e/view/1651</u> [Accessed on 20 March 2016], p. 151.

²⁰ Khalil, H., & Ebner, M. (2014). MOOCs completion rates and possible methods to improve retention-A literature review. In *World Conference on Educational Multimedia, Hypermedia and Telecommunications, 1* pp. 1305-1313, p. 1305.

²¹ Khalil, H., & Ebner, M. (2014). MOOCs completion rates and possible methods to improve retention-A literature review. In *World Conference on Educational Multimedia, Hypermedia and Telecommunications, 1* pp. 1305-1313, p. 1309.

²² Yang, D., Sinha, T., Adamson, D., & Rose, C. P. (2013). Turn on, tune in, drop-out: Anticipating student dropouts in massive open online courses. In *Proceedings of the 2013 NIPS Data-driven education workshop*, (11), 14-23, p. 14.

2.6. Catering for individual differences?

Godwin-Jones has analyzed Sebastian Thrun's claim of the possibility of having only a few Universities worldwide providing MOOCs in the future²³. This claim is based on the assumption that "all people learn the same way" and cultural differences are of trivial importance, therefore diminishing or even obliterating the need for local educational opportunities. However factors such as individuality or cultural dimensions may render the one-size-fits-all MOOC format unsuitable and inconsistent with individual needs or different cultural environments. Learning material will engage students in a different way or they may require more time on the part of the learners so as to be completely mastered. Principles of differentiated instruction do not apply, as individual differences or learning styles are not taken into account and participants do not receive personalized feedback. While Daniel argues that this is a common practice with on line learning he also refers to "on line intervention and presence in the form of discussion, encouragement" that caters for individual needs²⁴.

2.7. Workload and lack of time

Lack of time has been indicated as one of the main withdrawal reasons. Activities and tasks or even home assignments in MOOCs may require a considerable amount of time. Peer-grading also requires time and effort. Some students, even though motivated, may not be able to manage their time or fit the course study time within their busy every day schedules²⁵. The amount of workload as well the duration of the course are aspects negatively correlated to the completion of the MOOC²⁶. Where there are deadlines to be met, or material to be covered within a specific time, it becomes even more difficult to keep up with the demands. The idea of self-paced learning may contradict this time constrain, to a certain degree, but peer-graded assignments or forum participation may require a stable week to week engagement.

²³ Godwin-Jones, R. (2014). Global Reach and Local Practice: The Promise of MOOCs. *Language Learning & Technology*, *18*(3), 5-15. In <u>http://www.llt.msu.edu/issues/october2014/v18n3.pdf#page=10</u>, [Accessed on

²³ March 2016], p.9.

²⁴ Daniel, J. (2012). Making sense of MOOCs: Musings in a maze of myth, paradox and possibility. *Journal of interactive Media in education*, 2012 (3), p. 13.

²⁵ Gótl, C., Rizzardini, R. H., Chang, V., & Morales, M. (2014). Attrition in MOOC: Lessons learned from drop-out students. In *Learning Technology for Education in Cloud. MOOC and Big Data* (pp. 37-48). Springer International Publishing.

²⁶ Campbell, J., Gibbs, A. L., Najafi, H., & Severinski, C. (2014). A comparison of learner intent and behaviour in live and archived MOOCs. *The International Review of Research in Open and Distributed Learning*, *15*(5), In http://www.irrodl.org/index.php/irrodl/article/view/1854/3097 [Accessed on 19 March 2016]

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2.8. Hidden costs

Although free and at no cost, students may realize that there might be hidden costs which are revealed along the way. Unpublished material or books that can only be purchased and not be accessed online are suggested by the instructors. Although "the use of textbooks is beneficial for the students since they can refer to standard offline sources" enforced paid textbooks are negatively associated to student retention²⁷. Additionally, sometimes a certificate or extra support is offered at a price.

3. Future Policy Implications

Becoming aware of the reasons behind withdrawal and identifying the areas in which MOOCs have a potential for improvement will provide a source of insight towards designing MOOCs that will cater for the needs of a great number of people, promote commitment and therefore eliminate attrition.

The massive nature of MOOCs has affected and transformed the traditional moderator and tutor roles of online learning to being curators and facilitators. Curators' roles are focused on "amplifying, curating, aggregating, filtering or selecting, modeling, and staying present"28. The power shift and the new roles whose prominent attribute is equality is apparent in different studies. Siemens states that sharing of control "is reflected in access to learning content, social media and content creation tools reflective of the participatory nature of the Web"²⁹. Knowledge is not distributed but generated and co-constructed as learners interact across different technologies and tools, such as Twitter, Facebook, Blogs and Wikis. Furthermore, the curator's role as a researcher is very crucial in future MOOC design and at preliminary stages when they may be assisted by qualitative and quantitative resources and diagnostic tests that will provide useful data as to the learners' profiles motivation, and background. Curators should employ strategies and techniques to stimulate students' initiative and encourage them to learn³⁰. Learners' time and effort invested in MOOCs is largely dependent on their achievement goals as well as their background experience and skills. Identifying the academic background as well as previous academic experience of MOOC participants is a valuable piece of advice to define the kind of support and the

²⁷ Adamopoulos, P. (2013). What makes a great MOOC? An interdisciplinary analysis of student retention in online courses. In: Thirty Fourth International Conference on Information Systems, p. 15.

²⁸ Adamopoulos, P. (2013). What makes a great MOOC? An interdisciplinary analysis of student retention in online courses. In: Thirty Fourth International Conference on Information Systems, p. 3.

²⁹ Siemens, G. 2013. Massive Open Online Courses: Innovation in Education? *Open Educational Resources: Innovation, Research and Practice*, 5, p.11.

³⁰ Wen, M., Yang, D., & Rost, C., (2014, May). Linguistic reflections of student engagement in massive open online courses. *In Proceedings of the International Conference on Weblogs and Social Media* (Michigan June 1-4 2014), California: The AAAI Press.

assistance required on the part of MOOC providers. In addition, what is to be taken into account is that a typical face to face classroom may not have high demands in terms of technological tools used, whereas an online course requires development of online learning skills, such as self-regulated learning and time management ability, especially to those with poor academic experience. Colleges should provide support that could possibly entail introductory courses with the aim of developing such on line learning skills or even bridging courses in a MOOC environment³¹.Trained Teaching Assistants might be considered as an option to support students and provide advice of a technical or of a learning nature.

As MOOCs "fail to provide the kind of social environment that is conducive to sustained engagement and learning", a systematic attempt has to focus on ways to encourage a sense of belonging and promote collaboration and interaction³². Student to student and "student to instructor" interaction are key aspects of success and may largely influence student satisfaction. Research findings recommends that platforms should aim at enhancing knowledge construction and student interaction with the introduction of other tools such as wikis or blogs that enhance student collaboration and communities of practice. This might be a challenge as individual differences in academic expertise may determine the formation of subgroups, which according to Adamopoulos puts constraints to "autonomy, openness and diversity"33. Forums foster a sense of belonging to a virtual learning community where students refer to, in order to seek encouragement, clarifications, supplementary recourses or to negotiate meaning and stimulate learning³⁴. Furthermore, establishing peer assessment in contrast to computer assessment will strengthen bonds among students and although it should be implemented with caution, it is a good way to achieve deep learning and provide timely and frequent feedback. Peer grading enhances interactivity and motivation³⁵. Instead of aiming at exclusively delivering content, MOOCs should also focus on enhancing collaboration with the assistance of technology, "offering different balances of content delivery and conversational models of

³¹ German Rectors' Conference, (2014). *The potential and problems of MOOCs: MOOCs in the context of digital teaching*, In <u>https://www.hrk.de/press/press-release/press-release/meldung/german-rectors-conference-publishes-reader-on-the-potential-and-problems-of-moocs-3587/</u> [Accessed 22 on March 2016]

³² Yang, D., Sinha, T., Adamson, D., & Rose, C. P. (2013). Turn on, tune in, drop-out: Anticipating student dropouts in massive open online courses. In *Proceedings of the 2013 NIPS Data-driven education workshop*, (11), 14-23, p.14.

³³ Adamopoulos, P. (2013). What makes a great MOOC? An interdisciplinary analysis of student retention in online courses. In: Thirty Fourth International Conference on Information Systems, p.14.

³⁴ Castrillo, de Larreta Azelavn, M. D., (2015). Language Teaching in MOOCs: The integral role of the instructor. In E. Martin-Monje & E. Barcena (Eds.), *Language MOOCs: Providing Learning, Transcending Boundaries*, pp. 67-90.

³⁵ Khalil, H., & Ebner, M. (2014). MOOCs completion rates and possible methods to improve retention-A literature review. In *World Conference on Educational Multimedia, Hypermedia and Telecommunications, 1* pp. 1305-1313.

learning"³⁶. When students interact with each other, whether synchronously or asynchronously, they activate other mechanisms and broaden their individual understanding of a particular topic.

If meaningful learning needs to take place learners have to engage with the course content in that way. Different levels of engagement with the course content as demonstrated by participation and replies in the MOOC forums are indicative of future behavior. As the teaching and didactics of many MOOCs reflects an obsolete teaching practices, new teaching methods, advanced and original have to be implemented, "with feedback, transparency and experimental and stimulating competitive character with gamification"³⁷. Gamification could enhance motivation and encouragement and reinforce the interactive aspect of MOOCs. Zutshi, O'Hare & Rodafinos have also made it evident that alternative channels of content delivery should be carefully organized and provided with the aim of eliminating technological failures that may discourage and affect the student experience³⁸.

Course design should require an average workload from students without spanning many weeks as the longer the MOOC duration, the more possible it is to affect learners' commitment to it³⁹. Course design should also ensure that activities and assessment are well prepared and instructions for completing or assessing them are clear to learners, by providing them in an explicit and detailed way⁴⁰. Another option to handle the heterogeneity of the learners and their differences in studying time would be to scale the content. Teaching content may be offered at different levels so that learners are given options for adapting the knowledge to their individual learning styles.

"The certificates should be enhanced offering both knowledge verification and student identification" as they have been identified as having a small but assertive impact⁴¹. Public policy should apply a formal recognition of

³⁶ Zheng, S., Rosson, M. B., Shih, P. C., & Carroll, J. M. (2015). Understanding student motivation, behaviors and perceptions in MOOCs. In *Proceedings of the 18th ACM Conference on Computer Supported Cooperative Work & Social Computing*. (pp. 1882-1895). ACM, In <u>http://dl.acm.org/citation.cfm?id=2675217</u> [Accessed on 20 March 2016], p.1893.

³⁷ German Rectors' Conference, (2014). *The potential and problems of MOOCs: MOOCs in the context of digital teaching*, In https://www.hrk.de/press/press-releases/press-release/meldung/german-rectors-conference-publishes-reader-on-the-potential-and-problems-of-moocs-3587/ [Accessed on 22 March 2016], p. 17.

³⁸ Zutshi, S., O'Hare, S., & Rodafinos, A. (2013). Experiences in MOOCs: The perspective of students. *American Journal of Distance Education*, 27(4), 218-227. DOI: 10.1080/08923647.2013.838067

³⁹ Jordan, K. (2014) Initial trends in enrolment and completion of massive open online courses. *International Review of Research in Open and Distance Learning*, *15*, (1) 133–159, In <u>http://www.irrodl.org/index.php/irrodl/articl e/view/1651</u> [Accessed on 20 March 2016]

⁴⁰ Zutshi, S., O'Hare, S., & Rodafinos, A. (2013). Experiences in MOOCs: The perspective of students. *American Journal of Distance Education*, 27(4), 218-227. DOI: 10.1080/08923647.2013.838067

⁴¹ Adamopoulos, P. (2013). What makes a great MOOC? An interdisciplinary analysis of student retention in online courses. In: Thirty Fourth International Conference on Information Systems, p. 3.

Siemens, G. 2013. Massive Open Online Courses: Innovation in Education? *Open Educational Resources: Innovation, Research and Practice*, 5, p.15.

accomplishment that will provide participants with tangible outputs, whose role will be twofold: to attract learners to enroll initially and to engage them in the course requirements. If MOOCs is embedded in a university's degree program, then it becomes a "teaching format for an established part of the curriculum"⁴². Alternatively, badges could certify attendance to a MOOC or identify and confirm the quality of the course and the knowledge acquired

Blended learning is a teaching approach that harmoniously combines the advantages of two different learning environments; a face to face classroom and e-learning. Applying such an approach on MOOCs would mean that students could possibly use the MOOC course for their individual and unaided learning and transfer the knowledge acquired in a traditional classroom setting.

4. Conclusion

Given the open voluntary access to a MOOC the need arises to investigate dropouts from a new perspective taking into consideration "situational factors of participants such as when they have joined the course and their intentions for the course"⁴³. Notions such a drop out and completion are difficult to define and may be complex to compare and analyze. Zheng et al. state that finishing a course is either interpreted as meeting the course requirements as they have been initially set, or may be perceived as satisfying their personal learning goals and needs, closely connected to their motivation of enrollment⁴⁴. Once motivation is decomposed, the concept of meaningful learning is not interpreted by retention time in the course, but by fulfilling the learners' personal needs which may be achieved at different stages of the course⁴⁵. As MOOCs lack uniformity of motivations that was not supported or not feasible in previous educational contexts, future course design should be either directed toward meeting learning demands, or linking completion to a recognition of accomplishment. The former will allow high levels of student autonomy, while the later will enhance students' professional development, thus linked to their advancement in the workplace.

Understanding and analyzing completion rates is a starting point for

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⁴² German Rectors' Conference, (2014). *The potential and problems of MOOCs: MOOCs in the context of digital teaching*, In <u>https://www.hrk.de/press/press-releases/press-release/meldung/german-rectors-conference-publishes-reader-on-the-potential-and-problems-of-moocs-3587/</u> [Accessed 22 on March 2016], p.20.

⁴³ Liyanagunawardena, T. R., Adams, A. A., & Williams, S. A. (2013). MOOCs: A systematic study of the published literature 2008-2012. *The International Review of Research in Open and Distributed Learning*, *14*(3), 202-227, p. 210.

⁴⁴ Zheng, S., Rosson, M. B., Shih, P. C., & Carroll, J. M. (2015). Understanding student motivation, behaviors and perceptions in MOOCs. In *Proceedings of the 18th ACM Conference on Computer Supported Cooperative Work & Social Computing*. (pp. 1882-1895). ACM, In <u>http://dl.acm.org/citation.cfm?id=2675217</u> [Accessed on 20 March 2016]

⁴⁵ Liyanagunawardena, T. R., Adams, A. A., & Williams, S. A. (2013). MOOCs: A systematic study of the published literature 2008-2012. *The International Review of Research in Open and Distributed Learning*, *14*(3), 202-227.

improving challenging areas and aspects of MOOCs. Initial profile questionnaires, post surveys and case studies may provide valuable information towards retaining students' interests and attention. The importance of establishing E-learning quality criteria with regard to course design, content, ease of use and the media through which content is delivered is therefore rendered highly important.

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Citation: Iliadou, V. (2018), "I came; I saw;I conquered". Sign up; Participate; ...drop out?, *Theory and Research in the Sciences of Education*, 01/2018, p.p. 7-20. At: <u>http://periodiko.inpatra.gr</u>

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Menelaou Niki

Adult Experiential Learning on Ethics in the Social Media

Abstract

The "active" social networker and ethical behaviour on the web is defined. Where can the line be drawn between "ethical" and "unethical" behaviour on the social media? The fact that the line separating freedom of expression and speech and inappropriate postings and behaviour may be fine and unclear is examined. Examples of real postings that may classified as "unethical" are presented and critical comments on their effects on the social media user, individuals and society are made. Experiential learning from the reading of such postings and of actions and reactions of users following their upload is also examined.

The importance of the provision of opportunities for media literacy and ethical guidance and resources for internet users prior to them posting on the social media, which are in fact public platforms, is particularly focused on.

Key words: Active Social Networker, Ethics, Experiential Learning, Media Literacy, Language, Ethical Guidance.

1. Introduction

It was back in 1997 when the first social media site "Six degrees" appeared; it was followed by "My space", "LinkedIn", "Facebook", "Twitter", "Tumblr", "Instagram" and other sites, each of them gaining users according to their compatibility with the philosophy of communication behind it. For example, Instagram is being used by people who communicate better with pictures, LinkedIn is used by professionals to find jobs, people and socialize. With the rapid emergence of exciting new technologies in the field of the social media, it will be very interesting to see how people will use them in the coming decades. The appearance of the social media has given every individual the opportunity to connect with others and therefore "behave" on the web. However behaviour is interrelated with rules and values. The philosophical study of moral values and rules is defined as ethics. The connection of ethics with the conduct of web users in an era when literacy in the use of technology is no longer optional but required as Langlois $(2012)^1$, argues, is deeply reflected in this paper. The qualities that constitute an "ethical behaviour on the web" and the qualities that define an "active social networker" are elaborated at a time when nobody can deny the freedom of expression and the advantage of the immediate transmission of information to millions of receivers that the New Media offer.

Often, the line separating freedom of expression through oral or written speech and inappropriate posting and behaviour may be very fine and unclear. Adults have already gained a substantial amount of experiential learning on the issue of misconduct on the web since the advent of the social media at the end of the nineties and of the consequences of such a kind of behavior. Examples of such misconduct are demonstrated followed by a critical appraisal on behalf of the writer.

2. Definition of Active Users

Nigel Brookson (2013)², argues that one cannot really compare social networking sites like Facebook and Twitter as "they operate differently, offer different services and people interact with them differently; they provide a different approach to how we wish to communicate with someone else at different times". Consequently, he adds that "each social networking site will have a different way of calculating what constitutes an active user and a monthly active user from the number of registered users they have".

¹ Langlois, M. (2012), *Technology and Time Management: Some Simple Tips*. In: <u>http://www.gamertherapist.</u> com/2012/06/02/technology-and-time-management-some-simple-tips/ (retrieved on 18/8/2017)

² Brookson, N. (2013), *Definition of Active Users*. In: <u>http://www.thinkingit.com.au/blog/definition-of-active-users</u> (retrieved on 10/10/2017) $\Sigma \epsilon$ όλες τις υποσέλιδες παραπομπές αναφέρεται πάντα ο αριθμός της σελίδας ή των σελίδων απ' όπου αντλήθηκαν πληροφορίες ή αποσπάσματα για τη συγγραφή του κειμένου

Citation: Menelaou, N. (2018), Adult Experiential Learning on Ethics in the Social Media, *Theory and Research in the Sciences of Education*, 01/2018, p.p. 21-32. At: http://periodiko.inpatra.gr

Brookson gives the example of Facebook, which defines an active user "as someone who has visited Facebook.com and logged-in (or has been logged in) or who has taken an action with a Facebook feature (e.g. clicked 'like', etc.). If the user doesn't do any of those things for 30 days, he is not an active user (and therefore not a monthly active user either)". He goes on to argue that one cannot be considered as an active user if he/she just reads postings and photos without commenting or clicking.

3. Defining Ethics on the Web

In order to attempt to understand any connection between ethics and social networks, we should clarify what "ethical behaviour" means. Today one does not have to be a journalist to publish comments, opinions, ideas or objections. Individuals from all over the world act as disseminators of information taking the role of journalists in an informal manner. If we take the example of Greece, as Christodoulides (2006)³ notes, according to the Code of Ethics that The Athens Union of Daily Newspaper Journalists and the Greek Association of Journalists' Unions were then implementing since 1998, information is not a commodity or a means for indoctrination. In its first paragraph, the above Code of Ethics states that the journalist as a worker has to "focus on the dissemination of the truth as his prime task and consider the distortion or non-revelation of truth as an insult for society and an unlawful act on his behalf". We may very well add that additionally, the avoidance of the revelation of the complete truth or the partial revelation of facts also constitute unlawful acts. The above code of ethics also states that the journalist has to send out information and news objectively and must not be influenced by personal, social, religious, cultural or racial values and beliefs; he/she has to engage into previous research regarding the accuracy of the information or news he/she is about to transmit, taking into consideration the consequences of such a transmission; he/she has to correct in time and with the appropriate presentation tools inaccurate information and false statements which offend an individual's integrity and to transmit the opposite or accurate view without expectations for a response that would place him/her in an advantageous position against the offended person.

The point is to demonstrate the effect that can be exercised on the wider social context by the application of ethical behaviour by not only individual journalists who may be working in state or private media organizations but also by web and social media users or social networkers as they are more commonly called. Both journalists and social networkers play crucial roles in guiding the public either towards reality or towards a distorted social image. This is

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³ Boyd, A., (2006), (Transl.) Christodoulides, A. *Broadcast Journalism-Techniques of Radio and Television News*. Athens: Cactus Editions

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undoubtedly an authority of unparalleled size as it enables the media not only to affect societal trends and values but most importantly to shape them; and the speed with which the shaping or even the transformation of societal trends and values takes place today is enormous since such a bulk of information can be disseminated just by touching a button. Successful writers, artists, charismatic leaders and people with strong personalities brought social change in the past but time was needed for their views to reach the public and be assessed and accepted. Today the public's reaction to strong and documented information and ideas can bring change almost automatically. Instant communication can influence the values we learn as children and our views about what is right and wrong. Thus the authority that was exercised on society by the classical media is greatly enhanced today with the advent and the booming of the new media. Almost twenty years ago, Ramonet (1999)⁴ had already focused on the constant concentration of authority on the media which no longer served their role as critics but exercised a rigid form of authority which he rated as second in the social setting with the economy rating as first and politics as third. Today, one can easily support Ramonet's view just by adding the comment that experience has revealed that social networkers as well as journalistic sites' readers tend to believe what they read without critically appraising information. Another alarming fact is that networkers observe postings related to wrongdoing and misconduct sometimes on an everyday basis and either react, comment or just passively get informed without reacting or participating in dialogues related to such postings. A moral issue is raised under such circumstances, the issue of not reacting but tolerating, thus in a way accepting injustice, unfairness and misbehaviour.

Mayer (2012)⁵, points out that in situations of unfairness two emotions, righteous anger and empathy, lead to constructive responses that benefit the victim. For example, righteous anger is associated with having concern for (and a desire to help) distressed others. Similarly, empathy promotes helping others in need and inhibits aggressive responses that harm others. Constructive behaviours relate to interactions with the victim like showing compassion, talking through the issue, helping the victim develop a plan for moving forward and interactions with the perpetrator like having a direct, honest, non-combative conversation with him. Consequently, if expressions of anger and empathy about cases of unfairness and misconduct posted on the web are absent, victims not only lack support and compassion but they are left with a devastating feeling of abandonment from others and massive indifference on the part of society in general.

Let us focus in the next lines on the restrictions of freedom of expression

⁴ Ramonet, I. (1999), (Transl.) Mourkousis, F. *The Tyranny of the Media*. Athens: Polis Editions∆εν πρέπει να υπάρχει διάκενο μεταξύ των παραπομπών. Βλ προηγούμενες παραπομπές

⁵ Mayer, D., *Why (In)justice in the Workplace Matters*. In: <u>http://positiveorgs.bus.umich.edu/wp-content/</u><u>uploads/DMMayer_Why_inJustice_Matters.pdf</u> (retrieved on 3/9/2017)

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which aim at protecting individuals, groups or organizations from damaging their reputation, revealing confidential information about them and other types of misconduct exercised by journalists or web users.

4. The European Convention on Human Rights' Article 10

To take the example of what is happening in our country, Cyprus, the Cyprus Media Complaints Commission, established in 1997 by the Cyprus Union of Journalists, the Publishers Association, and the Owners of Electronic Mass Communication Media, had recently had its newly appointed members for the years 2017-2019. The Commission refers to the European Convention on Human Rights, which in its Article 10⁶, provides the right to freedom of expression and information, subject to certain restrictions that are "in accordance with law" and "necessary in a democratic society". This right includes the freedom to hold opinions, and to receive and convey information and ideas.

European Convention on Human Rights - Article 10 - Freedom of expression

- 1. Everyone has the right to freedom of expression. This right shall include freedom to hold opinions and to receive and impart information and ideas without interference by public authority and regardless of frontiers. This article shall not prevent States from requiring the licensing of broadcasting, television or cinema enterprises.
- 2. The exercise of these freedoms, since it carries with it duties and responsibilities, may be subject to such formalities, conditions, restrictions or penalties as are prescribed by law and are necessary in a democratic society, in the interests of national security, territorial integrity or public safety, for the prevention of disorder or crime, for the protection of health or morals, for the protection of the reputation or rights of others, for preventing the disclosure of information received in confidence, or for maintaining the authority and impartiality of the judiciary.

The media should care about society, and to quote Costley, Elliot and Gibbs (2010)⁷ on Baier's position that there is moral obligation carried along with caring, "one leaves others the opportunity to harm one….and also shows one's confidence that they will not take it". The three aforementioned writers elaborate on this and go further on to remark that if you accept an offered trust, you are in a privileged and powerful position; you are trusted not to use your authority to

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⁶ European Convention of Human Rights, *Article 10 freedom of Expression*. In: <u>http://www.echr.coe.int/</u> <u>Documents/Convention_ENG.pdf</u>(retrieved on 10/9/2017)

⁷ Costley, C., Elliot, G. and Gibbs, P. (2010), Doing Work Based Research. London: Sage Publications

Citation: Menelaou, N. (2018), Adult Experiential Learning on Ethics in the Social Media, *Theory and Research in the Sciences of Education*, 01/2018, p.p. 21-32. At: http://periodiko.inpatra.gr

manipulate and exploit the trustee⁸.

With the rapid evolution of technology today, individuals and society are the trustees which trust not only the traditional Media but also the New Media including social media and social networkers, who in their turn get powerful and privileged. It is up to their own notion of moral obligation and personal code of ethics not to take advantage of or manipulate others.

5. Examples of Ethical and Unethical Behavior on the Web

The contemporary and widespread social media are public platforms where someone may post whatever information or comment that he/she would not mind sharing with everyone else. A rational individual would not disclose any personal information that he/she would like to share only with relatives or close friends on the web. Social networkers are often driven away by the flow of the dialogues and discussions with others and post personal information that could harm them when revealed to everyone using the web. Consequently, the damage is already done and in the majority of cases social networkers regret about their posting seconds or minutes after they have done so.

Employees posting insulting remarks about colleagues, political party leaders or members of political parties using inappropriate and offensive language referring to individuals with opposite views face problems when the latter take legal measures against them and report them to the Cyber Crime services or offices of the countries involved. In Cyprus, the Cyber Crime Combatting Office at the Cyprus Police investigates cases that concern internet offences and offences related to Computers, according to L. 22(III)/2004, the Law on the Convention against Cyber Crime (Ratifying) Law. The Office namely deals with cases of unlawful intervention – interference in IT systems and computer data, as well as cases of child pornography. The Cyprus Police has also issued an online Cyber-Crime Insertion form for complaints and information.

In Greece, we very recently had the example of a lawyer in Salonica who posted some insulting remarks about the external appearance of Greek women enjoying the beach and the sea at the beginning of the summer without caring about body fitness issues which went viral on the social media; he was widely criticised by society in general and many TV programmes' presenters discussed his postings and even hosted him just to get the response that "he only wrote his opinion like he had previously done on many other occasions with no implications at all". Many arguments were made on this incident some supporting the view that we cannot impose restrictions on expression or limits on the freedom of speech

⁸ Menelaou, N. (2010), Workplace Ethics-The case of the Media, *Major International Conference in Work Based Learning*, organized by Middlesex University Institute for work based Learning, Frederick University, European University, Nicosia University, 24-26 June 2010, published in Conference's Proceedings CD.

Citation: Menelaou, N. (2018), Adult Experiential Learning on Ethics in the Social Media, *Theory and Research in the Sciences of Education*, 01/2018, p.p. 21-32. At: http://periodiko.inpatra.gr

and others supporting the view that offending the looks of ordinary, everyday women as opposed to the imported, ideally presented, western body prototypes constituted indeed an unfair and offensive pattern of behaviour. The lawyer as mentioned above had not regretted his posting but in a way tried to present a better image of himself when he used posting to stress the importance of donating funds to help children in need. This action can also be explained as an attempt to turn the attention of his readers to something else and in this case something not only ethically accepted but praised.

Another practice that the writer would like to point to, is that external bodies like governments, firms or institutions often visit the social media accounts of individuals in order to get personal information about them, examine the way they behave and get a picture of their lives in general. Such practices can be characterised as an invasion in the private life of individuals "who voluntarily give up their privacy by willingly providing personal information for other benefits on the internet" as Woo (2006)⁹, states.

With endless social networking opportunities and particularly the tool of Instagram, youngsters post photos, videos and messages exposing indecent clothing, underage drinking, even drug using and other unacceptable practices. Williams, H. in a study about "the lack of ethical standards of online social networking" quotes the head of the sports leadership institute at Adelphi University, who states: "I don't know when partying and behavior got connected to cameras. But kids are taking pictures of everything they are doing".¹⁰ Ethical concerns are not on the top of the list for teenagers who do not mind being publicly exposed on social networking platforms. Williams goes on to mention "ThreeSixty", an online journal supported by the University of St. Thomas, in which Bi reported in 2006 that "Eden Prairie High School suspended 13 students from extracurricular activities for posting photos of themselves consuming illegal substances on the popular social-networking site Facebook."¹¹.

6. Experience on Behavior on the Web

It is important that we should not forget that what we post can be seen by everybody and can be shared to even more users than we could ever imagine. Access to the classic media like the press and the audio-visual media depends on the will and the mood of the individual to buy a newspaper, to switch on the

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^{9 9}Woo, J. (2006). The Right Not to Be Identified: Privacy and Anonymity in the Interactive Media Environment, *New Media and Society*, 8, no. 6, 949–967.

¹⁰ O'Toole, T., Public Posting of Illicit Photos Revives Hazing Issue. In: <u>http://www.usatoday.com/sports/college/2006-05-18-hazing_x.htm</u> (retrieved on 8/9/2017)

¹¹ Bi, F., Many Teens Grow More Cautious About Facebook Postings. In: website: http://threesixtyjournalism. com/node/353(retrieved on 1/10/2017)

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television or the radio. What they read, watch or hear stays in the boundaries of his/her mind or can be orally transmitted to others via speech. However with the advent of the New Media, a completely new dynamic of dissemination of any kind of information has taken place as stated above: information can be distributed simultaneously to massive groups of network users and this can be done with extreme ease. As a result, the harm that can possibly be done to a user who either willingly, unwillingly or just without paying too much attention on the possible consequences, posts a comment that can be offensive, can be very serious; the user may suffer from being bullied to getting a notorious fame, to losing a job, to others taking legal action against him/her etc. We, as adults have already learned a lot through experience on how we should communicate using the web without causing any form of disturbance or harm. Adult experiential learning about ethics on the social media is taking place on a daily basis. We should therefore reflect on this type of experience and try to forward and apply media literacy and ethical guidance for social networkers, especially young users of the web and see what the results will be. David Kolb's (1984)¹² experiential learning cycle can be applied to this contemporary phenomenon in the sense that concrete experience gained by web using since the late nineties leads to reflective observation of the behavior of network users that in its turn creates new ideas or modifications of abstract concepts and finally leads to actual testing and experimentation to see the results of this practice.

7. Media Literacy and Ethical Guidance for Social Networkers

The following ethical concerns should apply for anyone who posts publicly on social media platforms. Like journalists, social networkers should be ensuring that the information they post is absolutely true, accurate, valid and objective. As noted above in this paper, revealing part of the truth is a false act, as serious as revealing false or distorted information. Social networkers are individuals free to express themselves orally or in writing and should not promote personal interests. Another argument is that excessive posting of unnecessary information or comments may at times mean that a social networker uses a site not because he/she wishes to express ideas or wishes to communicate with others, but because he/she needs attention and constantly reminds others of his/her presence. Such conduct is selfish and selfishness is not considered as an ethical behavioural characteristic. Another trait that should characterise networkers is their obligation to humanity not to harm. They should be sensitive and always aware of the impact of everything they post, either in words or images, on the lives of others. If they make mistakes or regret

¹² Kolb, D.A. (1984), *Experiential learning: experience as the source of learning and development*. Englewood Cliffs, NJ: Prentice Hall.

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about a post they should accept it and publicly apologise about it. All the above ethical concerns and traits can be promoted; the word 'ensured' is avoided in this case, since nothing can be ensured when you have millions of persons using the web. Ethics can be promoted through a carefully planned and effective media literacy policy that should be fairly distributed among young people through education. According to Kahne, Feezell and Lee (2012)¹³, 'if the provision of digital literacy education is inequitably distributed, it might reinforce existing inequalities'. The writers also point to the fact that one must examine whether those who engage in civic and political issues in various countries are the ones who had received more opportunities to get digital literacy education.

8. Language and Social Networking

The use of language in social networking is a major issue for discussion. Too much engagement with the social media affects the way we use language on a daily basis. We share more personal information, but also communicate with larger audiences. "Our communication styles consequently become more informal and more open, and this seeps into other areas of life and culture. When writing on social media, we are also more succinct, get to the point quicker, operate within the creative constraints of 140 characters on Twitter, or aspire to brevity with blogs".14 The impact of social networking on language is huge. Every day communication patterns have become quicker with the use of shorter or abbreviated terms; this is not always positive as grammar and syntax errors have occupied oral or written expressions in a threatening way particularly for the younger generations. If one had the opportunity to be taught his mother language and any other language properly and just uses social networking language on the web, the danger of distorting language is not so imminent. However, what experience from the web has taught us is that children, teenagers and young people who get used to such a language forget or refuse to speak and write properly. As a result, they are facing the danger of lacking the most important elements of education passed through generations through the correct use of one's language and particularly they face the danger of lacking communication skills. Crystal (2008)¹⁵ argues on this phenomenon: 'The popular belief is that texting has evolved as a twenty-first-century phenomenon as a highly distinctive graphic style, full of abbreviations and deviant uses of language, used by a young generation that doesn't care about standards'.

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¹³ Kahne J., Feezell, J.T. and Lee, N. (2012), Digital Media Literacy Education and Online Civic and Political Participation, *International Journal of Communication* 6, 1-24.

¹⁴ Oxford Dictionaries, *How social Media is Changing Language*.In: http://blog.oxforddictionaries. com/2014/06/social-media-changing-language/(retrieved on 15/9/2017)

¹⁵ Crystal, D. (2008) Txting: The Gr8 Db8. New York: Oxford University Press

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9. Conclusion

Active network users, i.e. people who act and react on the web on a regular basis and do not just read postings, have a moral obligation to society to disseminate valid and objective ideas and information in an honest way of expression. The New Media should not be simply considered as tools that allow careless and sloppy communication styles, unless their users belong to restricted groups where anyone may post anything he/she likes but only inside the boundaries of the group. As long as a site is open to the public, the responsibility on the part of an individual or a group that is posting on it is huge. Thus, the provision of digital literacy education at schools is mandatory if we aim at avoiding practices that produced social injustices, damages and maltreatment in the past. Society has to educate future adult social networkers to use the web wisely and ethically.

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Kotsalidou Doxa

Education in Greece of the 21st Century

Abstract

This paper presents a critical presentation and analysis of the history of education from the foundation of the new Greek state to the modern age. In particular, we will refer to the historical course of Didactic Methodology and the difficult experiments to find the most appropriate method of teaching, Eumethodos, which each teacher should apply to the educational process. The historical overview ends in the 21st century with the prevailing experience-based approach to knowledge, which has been a leading player in Greece's education for twenty years. However, the new social and economic developments in Greece require a critical view and adaptation of earlier theories to the contemporary way of life, and in particular: a. The integration and prevalence of New Technologies and the media, b. The economic crisis, c. Population movements and the phenomenon of refugee, and d. The outbreak of violence. The purpose of the paper is to question and raise key questions about pedagogical methods, but also to restore the leading role of the teacher in the implementation of any educational programs.

Keywords: Didactic methodology, selective teaching method, teacher

Citation: Kotsalidou, D. (2018), Education in Greece of the 21st Century, *Theory and Research in the Sciences of Education*, 01/2018, p.p. 33-36. At: http://periodiko.inpatra.gr

1. Introduction

Education, though it belongs to the spiritual goods, is directly and often mutually influenced by the social and economic conditions prevailing in each and every country and age. In the educational system, a number of factors are involved that are in constant communication and interaction with the environment, among which the human factor, the material factor, the curriculum and the teaching methods play a leading role. In the long course of educational quests, crucial questions ask for answers that give the profile and the en face image of the person that every society wants. Scientists of various specialties are trying to give the most probable answers in order to better educate young people. Apart from the "what", which refers to the subject and the content of the knowledge to be given to a specific age group, "how" is the next question, the answer of which has generated a wealth of proposals and analytical programs around the world. There is also why, but this question is answered by the policy of each society with its demands and templates¹. But as information and diversity grow, there is a danger that the teacher can transform into a tool of cold-running methodological proposals, desperately attempting to implement programs by any or all of these methods, suffering from anxiety and remorse -many times-in case of failing to complete a particular stage or phase of a method. There is the danger, in other words, that the teacher will be looking at the type and the proposals of the curricula and not the eyes of the children who only define invisible paths of creative course, and this will lead to the impasse instead of answering to the primary educational questions, to create one more: "Where am I going?". Loris Malaguzzi points out that teachers, in addition to stressing for organizing and realization of their teachings, also have to cope with the administrative, legal and cultural realities of modern times². They are the tragic people who have to find those ways to connect school with society, theory and practice, but also to grasp the new facts of the 21st century that have changed the daily routine and hence the interests of the children.

In the next chapters we will present a. The teaching methods considered to be the most probable and effective in the educational system of Greece, b. The critical analysis of these methods, c. The option of the selective method; d. The influential role of the teacher; and e. Observations and conclusions.

¹ Zografos, Th., Kotsalidou, D., Petriki, S., Chaginikolaou, V. (2008), Ζωγράφος, Θ., Κωτσαλίδου, Δ., Πετρίκη Σ., Χατζηνικολάου Β., Επιλεκτική Μέθοδος: Αναδρομή-προβληματισμοί-προτάσεις, στο: συνέδριο: Η προσχολική εκπαίδευση στον 21° αιώνα: Θεωρητικές προσεγγίσεις και διδακτικές εφαρμογές, σ.495-500. Athens: Epikedro.

² Edwards, C., Gandini, G., Forman, G., (2002). Reggio Emilia: Οι χίλιες γλώσσες των παιδιών προσχολικής ηλικίας. Επιμ: Ευγενία Κουτσουβάνου, Athens: Pataki.

2. Methods of Teaching in the Educational System of Greece

The education system refers to the way in which education is organized. It is a political product since the State, in order to meet the need for Education, creates institutions and foundations, programs, etc. to provide knowledge and, in general, to educate people at all ages³. Each education system is not created randomly and arbitrarily. It is a continuous route and mirror of the socio-cultural and political-economic conditions⁴. In this section we will briefly present the course of the educational system in Greece, which concerns primary education, from the foundation of the new Greek state to the modern age.

After the liberation of the Greek State (1824), a plan for the nation's education is submitted for approval to the parliamentary body, according to which the primary and main objective of education at that time is to teach children to write, read and account⁵.

Ten years later, in 1834, we have the decree on the organization of primary schools, which states that the lessons to be taught are: religious, Greek language, reading, writing, numeracy, tracing, music and only a few elements from geography, Greek history and natural sciences⁶. With the constitution of the Greek state, particular importance is given to education. Kapodistrias, influenced by Pestalotsi, attributes to the arithmetic, fundamental role in the context of the mutual school (according to the interdisciplinary method⁷, the best and the bigger students teach their classmates. The method of interdisciplinary teaching is of English origin, but in Greece it was introduced by France).

This is followed by the 1836 Decree, where according to the timetable of the Hellenic School, we have the main course Greek, followed by Sacred History, Geography, Arithmetic and Mathematics, Natural History, Physics, Chemistry, French and The Calligraphy.

In 1864, the Greek school acquires another year and attendance takes four years⁸, and in the 1894 decree, we have an analytical weekly program of primary school. It is worth mentioning that Greek language is the main body of education and the rest of the lessons come to complete the program as secondary. From 1834 until 1880, the schools of intercourse⁹ function Greece. After 1880, efforts to set up the co-teaching school began. The teaching method applied in

³ Pirgiotakis, J. (2000), Πυργιωτάκης, Ι., Εισαγωγή στην Παιδαγωγική Επιστήμη, Athens: Ellinika Grammata.

⁴ Hubert, R., (1959). Γενική Παιδαγωγική, τ.Α' & Β', μτφ. Κίτσου-Σκουλάκου. Athens: Kedavros.

⁵ Nikolinakos, M. (1976), Νικολινάκος, M., Μελέτες πάνω στον ελληνικό καπιταλισμό, Athens: Nikolinakos.

⁶ Bouzakis, S. (2003), Μπουζάκης, Σ., Νεοελληνική Εκπαίδευση, εκ.4^η, Athens: Gutenberg.

⁷ Kokonis, J. (1842), Κοκκώνης, Ι., Εγχειρίδιον ή οδηγός Αλληλοδιδακτικής μεθόδου, Νέος τελειοποιημένος και πληρέστερος του μέχρι τούδε εν χρήσει οδηγού του Σαραζίνου.

⁸ Polichronopoulos, P. (1980), Πολυχρονόπουλος, Π., Παιδεία και πολιτική στην Ελλάδα, Athens: Polichronopoulos.

⁹ Kokonis, J. (1842), Κοκκώνης, Ι., Ειχειρίδιον ή οδηγός Αλληλοδιδακτικής μεθόδου, Νέος τελειοποιημένος και πληρέστερος του μέχρι τούδε εν χρήσει οδηγού του Σαραζίνου.

Greek schools at this time is influenced by Ervarto, whose main perceptions are to strengthen and broaden the child's performances.

Continuing the historical course of education in Greece, we arrive at the end of the 19th and the beginning of the 20th century, when in 1895¹⁰, the first nursery schools in Greece were founded and children study there until the age of six. Also, girls are allowed to attend elementary girls' schools.

In 1899, G. Theotokis government proposed the establishment of a sixyear elementary school¹¹. School programs remain unchanged except for very small changes. A critique of the primary school objectives and of the quality of education provided in this period refers to the excerpt of a 1910 circular signed by A. Delmouzos, I. Dragoumis, F. Fotiadis. This excerpt said that since primary education is designed to prepare children to live up to life's responsibilities, it should provide useful insights into life, train the body and shape, the character and the ethos, while also developing critical thinking, as well as providing necessary knowledge such as: body hygiene and religious, numeracy and geometry elements, elements of natural sciences, patriotism and a few simple rules of the mother tongue. None of this succeeds. The criticism of the above-mentioned pedagogues leads to crucial questions about the causes of this phenomenon, concerning teaching methods, the quality of teaching books and the lack of teacher education.

In 1920, by Law 2243, the first Pedagogical Academy was established in Athens and contributed to the much-needed upgrading of the level of teachers and by extension of the education provided¹². In 1929 in Law No. 4397 in Article 3, the purpose of the elementary school (not at all different from 1910), which is the preparation of children for life and the provision of the necessary education for the creation of useful citizens, is mentioned. The philosophy of the school curriculum lies in the words 'good citizens'. Only in 1944 the aims of education are not related only to knowledge, religion and ethics, but cultural tools (arts) are also considered to be useful for the development of children all over the world. In the period after the Second World War and its devastating consequences, there were no substantial changes in the educational system of Greece.

With the 1962 program¹³, the Unified Concentration Teaching formally prevails. Formally, free space is given to the child and spontaneous activities. As Kitsaras mentions, it is a traditional program with methodological neutrality that leaves much room for freedom and improvisation to the teacher, but also throws nuggets about the interests and experiences of young children¹⁴. In 1964, the bill

¹⁰ Kitsaras, J. (1998), Κιτσαράς, Γ., Προγράμματα Προσχολικής Αγωγής, Athens: Kitsaras.

¹¹ Dimaras, A. (1973-4), Δημαράς, A., Η μεταρρύθμιση που δεν έγινε: τεκμήρια Ιστορίας, τ.Β'. Athens: Dimaras.

¹² Imvrioti, R. (1983), Ιμβριώτη, P. (1983). Παιδεία και κοινωνία, Athens: Imvrioti.

¹³ Vasiliko Diatagma, Βασιλικό Διάταγμα 494/1962, Φ.Ε.Κ. 124/6.8.1962

¹⁴ Kitsaras, J. (1998), Κιτσαράς, Γ., Προγράμματα Προσχολικής Αγωγής, Athens: Kitsaras.

"On the organization of General (Elementary and Secondary) Education" was adopted, but it would not be able to change the already poor education system in Greece. With the dictatorship of the colonels (1967-1974), all attempts to implement the innovative ideas contained in the bill were halted, and education would return to the old anachronistic frameworks¹⁵. After the post-conflict, a series of laws were introduced which constitute the 1976/77 reform for the organization and administration of general education (Law 309). The main feature of this reform is the establishment of the native language¹⁶ and the humanitarian education of the students.

The 1980 program¹⁷ complements the 1962 program and perpetuates the Unified Aggregate Teaching, which, based on a unity, focuses around it on all the activities of the day and many times throughout the week. Although until now the teacher is at the center of the educational process (teacher-centered method), however, through the program's suggestions, there is a shift towards the child and his interests, which was minimal in the 1962 program and returns heavier in this program. Now the game gains more value than teaching and the program of 1980 becomes the yeast for the next child-centered programs in Greece. The continuation of the previous is the 1989 program, it keeps the teacher knowledge center, but also gives space to the child and his interests. It proposes freedom and improvisation, sets goals but does not impose activities. These will emerge from children's interests. The program becomes more child-centered and the influence of psychology is quite apparent. By engaging all areas of development, Unified Aggregate Teaching continues to be a leader in education¹⁸.

In 2001, the Unified Framework of Study Programs (UFSP) was prepared, which provided for the maintenance of separate courses and promoted the holistic perception and association of knowledge on a vertical and horizontal axis, by processing concepts belonging to it or to different areas of science, which was later enriched with the concept of *Interfaith* and 2003 was re-released as a IUFSP. This period covers the years from the end of the 20th century to the beginning of the 21st century and has been the mainstay of these days. The main feature of this period is the shift of programs to the child as a whole, to the process of learning and not only to the outcome, to the assessment as most important in the educational process and, of course, to the emergence and establishment of interdependence. The Ministry of Education for the first time in Greece combines the three levels of education with a single curriculum starting from kindergarten

¹⁵ Evagelopoulos, S. (1984), Ευαγγελόπουλος, Σ., Ιστορία της νεοελληνικής εκπαίδευσης, τ.Α'-Β', Athens: Evagelopoulos..

¹⁶ Iliou, M. (1984), Ηλίου, Μ., Εκπαιδευτική και κοινωνική δυναμική, Athens: Iliou.

¹⁷ Proedrikon Diatagma, Προεδρικόν Διάταγμα 476/1980, Φ.Ε.Κ. 132/22.5.1980

¹⁸ Vivlio Drastiriotiton gia ti nipiagogo, Βιβλίο Δραστηριοτήτων για το Νηπιαγωγείο, Βιβλίο Νηπιαγωγού, (1990). ΥΠ.Ε.Π.Θ, Π.Ι., Athens: Ο.Ε.Δ.Β.

and finishing in high school. The programs of this period can characterize them more qualitatively in terms of the content and the teaching methods they propose. The whole effort is supported by the writing of new teaching manuals and the training of teachers for the new data and the new philosophy of the educational system of the 21st century.

With the latest curriculum (IUFSP), the data is completely changed and eliminated from the educational area by the words: teacher-centered, directed program, Unified Accentual Teaching etc. The child is now the protagonist and the teacher from the center is shifted to the edge, in the position of the animator, the subject is taken from the children's immediate interests and experiences, and modern pedagogical literature is overwhelmed by the words: Interdisciplinary and Experiential Approach to Knowledge. Teachers are invited through IUFSP to work with this method.

The experiential approach to knowledge has dominated the last twenty years in education and holds a prominent place in curricula in primary education. The term that is prevalent is the term project, ie the work plan, which is called upon by students under the guidance of teachers to organize and implement. It is a complex form of learning process that has as its starting point the interests and concerns of one or more members of the group (or class). It aims to achieve a project and places particular emphasis on the process and not on the outcome and in particular on active learning, which each student achieves on his own¹⁹. We find it in the early 20th century in America, following the influence of the pedagogical ideas of J. Dewey and H. Kilpatrick, who are confronted with the old pedagogy, and the formation of relevant models, with basic traits of "cultivating the ability of Capture problematic situations and lead to their systematic resolution"²⁰.

The project method becomes "fashionable", since it starts with the interests of the children, promotes active learning, emphasizes the process and is not interested in the outcome etc., while unlike the "dumodt" now the Unified Aggregate Teaching is concerned of the subject's interests, the subject is proposed and organized by the teacher and is equally interested in the process and the learning outcome²¹. Many educators contend that these two pedagogical methods, despite having some differences, nevertheless present many common features. Even in the modern age, many educators apply educational programs that are more like thematic approaches rather than a project. This "misunderstanding" also contributes to the Ministry of Education, which "obliges" teachers to state at the beginning of each school year the work plans they will organize

¹⁹ Chrisafidis, K. (2003), Χρυσαφίδης, Κ., Βιωματική-Επικοινωνιακή διδασκαλία: Η εισαγωγή της μεθόδου project στο σχολείο. Athens: Gutenberg.

²⁰ Kilpatrick, H., (1930), What do we mean by Progressive Education. In: Progressive Education, v. vii.

²¹ Chrisafidis, K. (2000), Χρυσαφίδης, Κ., Βιωματική -Επικοινωνιακή διδασκαλία., Athens: Gutenberg. σ.51.

and implement during the school year. By stating the subject of his class, he automatically excludes a project principle, which refers to the choice of subjects from the interests and concerns of the children and, of course, more like the Unified Accentual Teaching, simply by another "name".

Through the brief journey to Greece's educational activities, we realize that the evolution of the educational system, which has been shaken in difficult times and ended in the 21st century, is of particular interest and ranges from the most authoritarian to the most liberal methods, pedagogical to child-centered, and all, at any given time, are designed to find the "disposition" that will help the teacher to lead his students into knowledge and all - even theoretically - start with the interests of the children.

3. The Selective Method of Teaching

In modern times, many teaching methods have been tested, and although "modern" terms, such as the experiential approach to knowledge and transatlanticism, are used - albeit abusively - we can not deny the pedagogical reality, which is mutated with the conditions of the present era, which is being thwarted by the economic crisis, the outbreak of violence, prolonged adolescence, the violent movements of the population, and the prevalence of New Technologies. Teachers are called upon to "impersonate" roles defined by the Ministry of Education and by theoreticians of Pedagogical Science such as: Employers, Facilitators, Child-centered, etc. In theoretical pedagogy, everything is sound right and practicable. But we can not deny that, at the same time, an increasingly theory emerges from the practice (applied pedagogy), through the experience of teachers, who, using the theoretical propositions, make their own theory, their own way of working, which is purely personal and refers only to the particular teacher and the particular class.

In modern times, the educational data and demands have changed. The economic crisis and the outbreak of violence impose new ways of teaching that will be feasible and practicable in schools with inadequate logistical infrastructure, with students experiencing problems of survival, with students and teachers that are victims of economic crisis and criminality. In modern times, there are new questions that urgently ask for answers both from the ministry of education and from teachers, such as -how can you attract interest in learning to a battered child? To a child who is afraid to be released in his neighborhood by the refugees and the violent episodes that are being created? Who is afraid to stay alone at home due to the many attacks on homes? Which has become dependent on the use of new technologies and denies traditional ways of games, searching for knowledge, socializing? Is the PC the most modern and sedentary method of teaching? etc .; Also, important questions of morality worry all those who serve our country's

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education, such as globalization, intercultural education, acceptance of diversity, and the principles that advocate, for example, -the *others* we have to accept, are all harmless? Or should we learn and be protected from them? - do we teach children a social "utopia" which is very dangerous and in fact we contribute to their mass "victimization"? Questions that the answers to them depend directly on the individual ideology of each teacher and his experiences. Teachers facing the truth in their ranks are called upon to face the problems of the 21st century and the same teachers, in another school year, with another class, necessarily create different ways of working depending on the problems they face each time²².

Each teacher, having a good knowledge of the theories of education, can choose each time what suits him and his student material. And as a good seamstress, he applies every proposed costume to his own children. Teachers of all levels in their field of practice exercise as their main task the teaching and face the teaching reality on a daily basis. They experience the main areas of their work or teaching, or the components of a single process, which consist of planning or designing, implementing and evaluating teaching, which aims at feedback and improvement of the quality of the whole teaching process²³.

In the 21st century education (all of which have now been said and tested), each teacher is concerned and tries to give his own answers as they are educated and transformed into class as well as socio-economic problems. This choice of - each time - suitable methodologies and tools, highlights the need for flexibility and free choice of appropriate working methods, which can combine both democratic and authoritarian methods, or to restore the knowledge-based learning models, or else to allow for self-action, while others, impose rules that are inviolable and so on. In this case, the method followed by each teacher does not clearly belong to a typical model but is a collection of individual elements from a variety of methods and ends in an original and purely "personal" model, which can be called: Selective Method²⁴.

4. The Role of the Teacher in the 21st Century

Modern Pedagogy and the principles it has enforced in the 21st century, such as child-centered methods, the self-action of students, freedom and respect for the personality of the student, respect for his interests, changes in the role of the teacher etc., were misunderstood by many teachers, especially younger ones, and

²² Kotsalidou, D. (2011), Κωτσαλίδου, Δ., Διαθεματικές προτάσεις εργασίας για το νηπιαγωγείο και το δημοτικό σχολείο, Athens: Kastaniotis.

²³ Kitsaras, J. (1998), Κιτσαράς, Γ., Προγράμματα Προσχολικής Αγωγής, Athens: Kitsaras.

²⁴ Zografos, Th., Kotsalidou, D., Petriki, S., Chaginikolaou, V. (2008), Ζωγράφος, Θ., Κωτσαλίδου, Δ., Πετρίκη Σ., Χατζηνικολάου Β., Επιλεκτική Μέθοδος: Αναδρομή-προβληματισμοί-προτάσεις, στο: συνέδριο: Η προσχολική εκπαίδευση στον 21° αιώνα: Θεωρητικές προσεγγίσεις και διδακτικές εφαρμογές, σ.495-500. Athens: Epikedro.

harmful effects within classes were noticed (violence, incomplete knowledge, irresponsibility, non-compliance, chaotic situations, etc.). From the phenomenon of the absolute power of the teacher, we passed into the absolute power of the pupil, and the teacher, driven by the fear to be considered authoritarian and guiding, is sceptic whether to stand up to cope with new situations and challenges or not. A major example of misleading educational utopia is the shock faced by students and parents when they graduate from high school. It is observed that students assessed for 12 years as excellent have moderate to poor performance in entrance examinations in tertiary education. It is possible, that those who succeed are the ones who, from their family environment, apply older models of education (in the private sector), which are mainly gentle and not child-centered. Cooperative teaching is good and has undoubted positive effects on participants, but individual practice is not to be forgotten because this is the key to the success or not of the new person. The creative process (which is praised by the supporters of the projects) is important, but the future of the new person stands in the results of this process. And duty of all educators is to respect both the present, but also the future of young people.

The calls of Counts²⁵ (1955) to the teachers of the 60s, in the face of developments and circumstances of that time, that they should not see their mission merely to preserve pedagogical interests but to renew their philosophy, to play a a more active role in the life of the community and to transform the activities of the school according to the most important requirements of that time, are totally timeless in modern times as well. The role of the teacher is considered important for the effectiveness of each method. He has to work together with the children, try different ways, materials and activities, monitor the development of his students, learn from the children himself, collaborate with his colleagues, become a "conspirator" of knowledge, be a motivator and not authoritarian and instructive, respect the views and interests of children²⁶, etc. The 21st Century reflects the deep need for each teacher to explore and understand the reality around him, to identify his attitude towards it and to give his mark, to meet himself and others, to express individual and group identity. He has to develop the ability to think, feel and create, but also to share in various ways thoughts, emotions, experiences, ideas. They are expression, creation, search, deepening, comment, interpretation, revelation, communication, testimony²⁷.

The teacher must be ready to spread into an extensive and fluid range of individual roles and responsibilities with varying distances from the action. He

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²⁵ Counts, G. (1955), *Dare the School Build a New Social Order*? Mimeographed at Teachers College, Columbia University by Lawrence A. Cremin with the kind permission of the John Dewey Company.

²⁶ Giafranco, A.L. (1995). Activitis en Laboratoire de mathimatiques, Mathicole, 167, p. 19, Neuchßtel.

²⁷ Camp, J. (1982). *Disegniare*. Roma: Arnoldo Mondatori. & Dewey, J. (1934), *Education and the Social Order*. New York: S.

Citation: Kotsalidou, D. (2018), Education in Greece of the 21st Century, *Theory and Research in the Sciences of Education*, 01/2018, p.p. 33-36. At: http://periodiko.inpatra.gr

should be able tp direct teaching situations, which have a direct relationship and relevance to the reality that children experience each time. The role of a teacher is, not only to fill the learner with knowledge, but at the same time he should help his students develop critical thinking through their interactive relationships²⁸ rather than just talk and deliver a stylish, elegant and complete solution to the students.

The modern age requires educators with a critical spirit and deep knowledge of pedagogical theories. New social phenomena impose a new profile of a teacher who has to balance between traditional and modern, manual and electronic, freedom and observance of rules, playing and responsibility, pleasure and seriousness, well-being and hard work²⁹. Papanoutsos 'view remains timeless, that there should be no misunderstandings about both the role of the educator and the position of the pupils in the educational process, because there are dangers, the teacher to be drifting down and just follow the students' wishes³⁰.

5. Conclusions

The 21st Century is a time of crisis of ideas and intense liquidity. The economic crisis that affects almost the entire world reveals at the same time the moral crisis of values. The values and principles that for centuries have been characterized as self-evident are currently non-existent and belong to the distant past. We are living in the time of questing, the age of questioning everything, frustration, anger, fear, anxiety, apathy or hypersensitivity, and we are again discussing child-centered approaches, active participation of the child in the educational process, experiential teaching, teaching based on the needs, interests and concerns of children and generally improving the teaching process³¹.

The new way of life imposed by the new circumstances of modern times, implies changes in the educational system of the country. But any educational reform does not need to begin at any time from the very beginning, but be an indissoluble continuation of critical discussion between theory and practice, guaranteeing the coexistence of tradition and progress. This connection can be achieved through critical thinking, which examines the traditional in its power and vitality, and then develops it further, thus ensuring the smoothness of progress³². The educational system must have the power to critically incorporate tradition

²⁸ Freire, P. (1977). Η αγωγή του καταπιεζόμενου, Athens: Rapas.

²⁹ Kogoulis, J. (1998), Κογκούλης, Ι., Εισαγωγή στην Παιδαγωγική. Thessaloniki: Kiriakidis.

³⁰ Papanoutsos, E. (1976), Παπανούτσος, Ε., Η παιδεία, το μεγάλο μας πρόβλημα, Athens: Dodoni.

³¹ Anning, A. and Ring, K. (2004) *Making sense of children's drawings*, Maidenshead, Berkshire and New York: Open University Press. Arsac G. & Chapiron G. (1992). *Initiation au raisonnement diductif au collθge*, Presses Universitaires de Lyon, IREM. P.6.

³² Konstadinidis, Theo., (1989), Κωνσταντινίδης, Θ., Κουλτούρα-Καθημερινή πραγματικότητα και Εκπαίδευση. Athens: Sakoula..

from Plato, Rousseau, Pestalozzi, Frobel, Thorndike to James in a pedagogical effort that seeks the criterion of its success in practice³³.

In conclusion, the question of which of the models applied today could be described as the most appropriate, we would answer, that it would be the one which a. responds better to the needs of this particular group of children; b. is better understood by the teacher who is convinced that this is the model that is more helpful, and c. makes the most of that group. In education, therefore, there is no standardized course in learning. Each teacher has to find the most appropriate way each time, which will be directly related to the needs of his pupils, the characteristics of each time and his personal ideology and attitude. However, in order to be able to cope with this difficult task, the teacher needs the precious resources and knowledge of Education Sciences, which will support and highlight 21st century education.

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³³ Rohrs, H. (1990), Το κίνημα της προοδευτικής εκπαίδευσης. Μτφ. Κ. Δεληκωνσταντής – Σ. Μπουζάκης, Thessaloniki: Kiriakidis.

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The Organizational Framework of a School and its Impact on Teacher Autonomy and Responsibilities in the EU

Abstract

Effective leadership and management play an important role in the successful operation of schools. Under the spectrum of managerialism, schools are considered; as decentralized organizations in which teachers have workplace autonomy and discretion or as top-down administrative units in which teachers have little influence over school operations. It should be noted, though, that in most EU countries there is a simultaneous presence of these contradictory images. Taking the above categorization into consideration, the paper discusses the levels of teacher autonomy and their responsibilities within various school management patterns. More specifically, it discusses teacher autonomy as per their responsibilities and their contribution to decision making, curriculum design, teaching methodology, textbook choice and students' assessment and repeating the year within education settings of the European Union.

Keywords: School management, school leadership, teacher autonomy, curriculum design, decentralization in education, education policy, decision making.

Citation: Argyriou, A., Baliou, H., (2018), The Organizational Framework of a School and its Impact on Teacher Autonomy and Responsibilities in the EU, *Theory and Research in the Sciences of Education*, 01/2018, p.p. 47-62. At: http://periodiko.inpatra.gr

1. Introduction

Organizational control of schools and decision making process play an important role in teacher autonomy and responsibilities. Two features of the organizational control of schools that prevail in the field of educational policy are:

- that schools are extremely decentralized units where teachers are autonomous and
- that schools are top-down bureaucratic organizations where teachers have little influence over school operations.

Both of these opposing perspectives are simultaneously present and as Ingersoll (1994) argues they derive from differences in emphasis and from their assumptions about how to assess organizational control in schools¹.

School management patterns (SMP) vary as to who has the power to make decisions, and over what aspects of education they may exercise that authority. According to Barrera-Osorio et al. (1998) the four school management patterns that define who have the decision-making power in schools are: "a) *The administrative-control SMP, in which the authority is devolved to the school principal b)The professional-control SMP in which the main decision-making authority lies with the teachers c)The community-control SMP in which parents have the major decision-making authority d) The balanced-control SMP in which decision-making is shared between parents and teachers"².*

Even so, regardless of the fact that a school may be part of a decentralized or a top-down bureaucratic educational system, the levels of teacher autonomy and responsibilities may grow. For example, in the past three decades in the EU, the focus of educational policies and reforms was the development of quality of education interwoven with innovative teaching practices and upgrading of the professional profile of teachers. Accordingly, teachers worked in more demanding environments because the nature of their responsibilities and tasks changed. In their effort to adapt to these changes as Goodman (1995) underlines that: *"Teacher autonomy and intellectual involvement being 'eroded' by teacher development programmes in western societies. The programmes have mainly been 'top down' initiatives with teachers being required to implement ideas decided by policy makers"*.

Moreover, when schools operate as top-down governed organizations, teacher autonomy is reduced, through accountability, as the provided education

¹ Ingersoll, R. (1994). Organizational control in secondary schools. Harvard Educational Review, 64, 150-172.

² Barrera-Osorio, F., Tazeen, F., Patrinos, H.A., & Santibαpez, L. (2009). *Decentralized Decision-Making in Schools: The Theory and Evidence on School-Based Management*. Washington, D.C: The World Bank, (p. 98).

³ Goodman, J. (1995). Change without Difference: School Restructuring in Historical Perspective. Harvard Educational Review: April 1995, Vol. 65, (p.65).

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is controlled by managers or governments. A powerful justification for teacher autonomy had been given in 1947 by Sir Ernest Barker cited in M. Bassey in the popular book at that time entitled National *Character* by saying that: *"when government tries to control what 'teachers teach' and 'what they do', inevitably this constrains what they are"*⁴.

The hypothesis of those who are in favour of the argument that reducing autonomy often increases accountability is that outcomes for students will improve. Such an assumption has proven weak in the US, for example, as accountability has failed to produce improvements in test scores since teaching and learning practices have focused on teach-to-the-test approaches. Furthermore, the danger with teaching to the test is the negative consequence it has on the teaching profession as a whole⁵.

In bibliography some scholars are sceptic about absolute teacher autonomy. As Little (1995) supports "total independence is not autonomy but it shares characteristics with autism"⁶. Furthermore, Carey (2008) argues that "in public education too much autonomy leads to deterioration of teachers' role and status and only by relinquishing some autonomy will teachers be able to attain the true professional status they deserve"⁷. Finally, Glass (1997) following the same line of thought has found that the teachers' pursuit of autonomy leads them to ignore new educational policies and reforms selectively⁸.

As it can be concluded from the above arguments, the issues of teacher autonomy, responsibilities and status range between a wide spectrum of pedagogical frameworks, which are indicated by the general philosophy and by the educational policy adopted.

2. The Concept of Teacher Autonomy

The concept of teacher autonomy refers to the level of independence of teachers to make decisions about what they teach and how they teach it. Autonomy in bibliography is defined as a sense of freedom from interference. For teachers it is interpreted as exercise of control over the school matters. Nevertheless, Smith (2003) argues that the concept of autonomy is used inconsistently. Some scholars correlate it to students, others to teachers and others to both. Although it is

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⁴ Barker, E. (1947). Teacher autonomy in the mid-twentieth century. In M. Bassey, (Ed.), Teachers and government a history of intervention in education (p.11). London: ATL The education Union, (pp.229-230).
5 Stiggens, R. (1999). Assessment, student confidence and school success. Phi Delta Kappan, 81(3), 191-198.

⁶ Little, D. (1995). Learning as dialogue: The dependence of learner autonomy on teacher autonomy. System, 23, 175-181, (p.178).

⁷ Carey, K., (2008). The Teacher Autonomy Paradox, September 17, 2008. Available at: <u>http://prospect.org/</u> <u>article/teacher-autonomy-paradox</u>, (p.1).

⁸ Glass, S, R., (1997). Markets and Myths: Autonomy in Public and Private Schools. E.P.A.A. Available at: <u>http://dx.doi.org/10.14507/epaa.v5n1.1997</u>

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linked to theories including professional development, decision making, teacher efficiency and empowerment, this relationship still remains unclear (Short, 1994; Short and Rinehart, 1992). According to Barfield et al. (2002) teacher autonomy is defined as *"an on-going process of inquiry into how teaching can best promote autonomous learning"*⁹.

Other scholars define autonomy as a multitasking skill associated with decision making based on students' needs and interests, and teachers' professional effectiveness, and freedom from externally imposed regulatory protocols (Castle and Aichele, 1994 & Benson, 2001, citing McGrath, 2000)¹⁰. Teacher autonomy is also based on ideas of professional freedom and self-directed continuous professional development whereas Smyth (1989) refers to it in the sense of "critical reflection" and "transformation through dialogue" (Shor and Freire, 1987).

All the above interpretations of the notion of autonomy have been included by Huang (2005) in a comprehensive definition where "*teacher autonomy is identified with their willingness, capacity and freedom to take control of their own teaching and learning*" ¹¹.

Little (1995) describes autonomy as a dynamic and developing process. For him successful teachers have always been autonomous and are characterized by a strong sense of personal responsibility for their teaching, functioning as reflective practitioners of their own teaching practice.

3. Factors Influencing Teacher Autonomy

Teacher autonomy entails responsibilities and rights. In literature, there are currently two trends about teacher autonomy. The first one lies within the framework of decentralized educational systems, whereas the second one is influenced by the principles of management theory. Teacher autonomy is influenced accordingly, depending on the trend followed which defines the nature of educational policy and practice and the identity of school as an organization. At international level, among the countries where the popular approach is that of management are England and the U.S. In the rival camp of educational policy, there are countries like Finland, Singapore and Canada, where the teaching

⁹ Barfield, A., Ashwell, T., Carroll, M., Collins, K., Cowie, N., Critchley, M., et al. (2002). Exploring and defining teacher autonomy: A collaborative discussion. In: A.S. Mackenzie & E. McCafferty (Eds.). *Developing Autonomy*. Proceedings of the JALT CUE Conference 2001 (pp. 217-222). Tokyo: The Japan Association for Language Teaching College and University Educators Special Interest Group (p.1).

¹⁰ Castle, K. & Aichele, D. B. (1994). Professional development and teacher autonomy. In D. B. Aichele & A. F. Coxford (Eds.), Professional development for teachers of mathematics. Reston, VA: National Council of Teachers of Mathematics; Benson, P. (2001). *Teaching and researching autonomy in language learning*. London: Pearson Education.

¹¹ Huang, J. (2005). Teacher autonomy in language learning: A review of the research. In K.R. Katyal, H.C. Lam & X.J. Ding (Eds.), *Research studies in education* (Volume 3) (pp. 203-218). Faculty of Education, University of Hong Kong, (p.1).

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profession is highly respected and education is considered to be a public good. In the latter case, Hyslop-Margison and Sears (2010) support that teacher autonomy is within the scope of an educational policy, the implementation of which reflects the success of students and that professional autonomy enhances rather than undermines teacher responsibility. Thus teachers are influenced positively and are encouraged to become more interested for student academic achievement.

Another factor influencing teacher autonomy is their involvement in extracurricular decision making procedures (Webb and Vulliamy, 1996). For instance, they may contribute to the planning of the content and methodology of teaching, or to influencing reforms about their status. Often they involve in dialogue with particular reference to the levels of their autonomy, status and rights. In contrast, when convinced that participation in decision making is needless, they are often frustrated and leave the profession (Cooney & Shealy, 1997). Additionally, their position in school hierarchy and their seniority and need to maintain administrative control, may also influence their degree of autonomy.

Compared to other professionals teachers have less autonomy, by the very nature of their position when they operate within rigid organizational school environments. For instance, they must follow prescribed curricula or administer specific assessments of students on behalf of other education stakeholders. Teacher autonomy in the EU presents variations in degree (Sherman, 2009). The sought educational policy is the main factor of defining how much control the educational authorities want to exercise on the educational process. Glass (1997) thinks that quite often teachers may exclude educational policies from their teaching practice selectively, in their struggle to become more autonomous. Like all other working people they can develop autonomous action, but to a certain degree and within a framework pre-defined by the employer-employee relation. Research by Baliou (2005) supports that parents or local authorities are external limits that influence teacher autonomy. This is because they intervene in order to "regulate" the pedagogic or the administrative operation of teachers or schools. If teachers are increasingly directed, over time they lose their skills and eventually, develop burnout, which stigmatizes their personal and professional image.

4. Degree of Teacher Autonomy and Areas of Responsibility

This part of the paper discusses teacher autonomy, with reference to their responsibilities such as; contribution to curricula, selecting teaching methods, selecting school textbooks, student assessment and repeating the year. Teacher autonomy concerning the aforementioned responsibilities is almost an "internal affair" of each school, whether it is subject to external accountability or not. Nevertheless, research reveals that teacher autonomy in those areas varies and is to a great extent determined by their professional competence and the

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presence or absence of centralized educational policies (Wilches, 2007).

5. Contribution to Curricula

As regards curricula, they can either be drafted by central education authorities or can be co-designed by various patterns of teachers' participation. In a study published by the European Commission, Europa (2008) it is mentioned that teachers have rather minor contribution in the content of the compulsory minimum curriculum, even in fully autonomous schools. In around two-thirds of the European countries, the content of the compulsory minimum curriculum is not determined at school level, so teachers are not directly involved in devising it (Eurydice, 2008)¹².

Teacher involvement in drafting curricula in the EU can be achieved as follows:

- (a) The content of the curriculum may be centrally determined and teachers may not be involved at all (Ireland). In Luxembourg Hungary and Latvia, a centralized approach is followed according to which schools submit their decisions for approval by the higher educational authorities.
- (b) The content of the curriculum is centrally determined but with allocation of a degree of autonomy for teacher involvement in subject choice (UK), content of instruction (Norway, Hungary, Estonia, Sweden and Scotland), teaching methodology (U.K., Italy, Norway, Estonia, Sweden and Scotland). A variation of this pattern is the example of Italy where the government decides which subjects are compulsory, leaving the choice of optional subjects and teaching aims and objectives to teachers who collectively design their progammes. Finally, in the case of France, the national curriculum is centrally designed and does not allow for teacher autonomy except for foreign language, cultural and sports activities that depend on local budgets and vary.
- (c) Teachers may be involved through representation in working groups like trade unions or teachers' associations and expert groups (France, Slovenia). Their representatives are consulted during the discussion stages (Malta, Greece). Teachers also assist in drafting the 'national curriculum guidelines' (Iceland, Belgium, Cyprus, Latvia, Lithuania Romania and Liechtenstein).
- (d) Teachers may be involved by adopting innovative teaching practices. In Greece, for example, most aspects of the curriculum are centrally determined but teachers may adopt the cross-curricular approach and thus exercise greater influence over curricular content. In Hungary, the school council has the option to use 10 % of all official lesson time, to concentrate more on particular subjects.

¹² Eurydice, (2008). Levels of Autonomy and Responsibilities of Teachers in Europe. Eurydice.

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(e) The content of the curriculum may be subject to community-control.

This pattern appears in decentralized educational systems where teacher autonomy is granted locally. Schools and school heads are relatively more autonomous to determine the content of curricula (Ireland and Lithuania) with reference to choices predetermined by higher educational authorities. In Denmark it is the municipal council that approves curricula while the main guidelines are decided centrally. (Eurydice, 2008)¹³.

(f) In goal-oriented education systems teachers use national core curricula as a reference source for organizing their teaching (Sweden, Scotland) or they build their own local curricula at municipal or regional level. (Scotland, Finland). Accordingly, school heads and teachers prepare the curriculum which must then be approved by the education provider (VItikka, Krokoff's and Hurmerinta, 2012). A closer analysis of the study of the European Commission reveals that schools and teachers have greater freedom to determine the content of optional curricula as opposed to compulsory ones, with the exception of Denmark and Romania, where teachers select further optional subjects entirely on their own. Decisions of this kind are always taken jointly with school heads either on a fully independent basis (Estonia, the Netherlands, the United Kingdom (Scotland) and Norway) or subject to certain limitations (Bulgaria, Germany, Latvia, Hungary, Slovenia and Finland). Additional subjects may also be offered by schools which should not exceed a certain percentage of compulsory provision (Hungary, Slovenia, and Greece). These subjects have to be drafted by the teachers' assembly, the school head alone or the school management body. Teachers may also be responsible for determining optional curricula submitted for approval to the regional educational authorities and inspectorates (Bulgaria and Romania).

As can be concluded so far, what mainly impacts teacher autonomy concerning their curricular options is the school management pattern adopted. Admittedly, teachers' involvement in curriculum design is an area influenced by the educational policy and culture adopted.

6. Teaching Methodology

"In almost all of the European countries teachers are free to choose their own teaching methods despite the existence of evaluation mechanisms like for example, inspections (Eurydice, 2008, p.25)¹⁴. Depending on the school management pattern, teachers may decide individually, jointly with the school head, or collectively the teaching methods, without having to consult the education provider. For example, it is the teachers' assembly that decides on the teaching

¹³ Eurydice, (2008). Levels of Autonomy and Responsibilities of Teachers in Europe. Eurydice.

¹⁴ Eurydice, (2008). Levels of Autonomy and Responsibilities of Teachers in Europe. Eurydice.

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strategies to be adopted within each school (Spain). In Italy, the teachers' freedom to choose teaching methods is an integral aspect of teacher autonomy and is set by the Constitution. Similarly, in the U.K., restrictions on methods do not exist. However, the effectiveness of teaching and learning is ensured by school inspections after lesson observations and assessing their performance (France, the UK), (Eurydice, 2008)¹⁵. In Greece teachers are free to choose their own methodology, unless it is indicated in the curriculum or in the teacher's guide and teachers are under the guidance of School Advisors.

All in all, as far as the learning outcomes and objectives are satisfactory teachers are not assessed for the "how" they teach.

7. Textbook Choice

Textbook choice is another issue, related to teacher autonomy. Teachers may be entirely free to choose their textbooks, or may do so from a predetermined list. In most European countries, schools choose their own textbooks, with the exception of Greece, Cyprus, Malta Liechtenstein, Estonia, Latvia, Lithuania, Luxembourg, Poland, Slovenia, Romania and Iceland) where textbook choice is part of a top-down process imposed on teachers (Eurydice, 2008,). Books may also be jointly chosen by teachers and school heads (Belgium, Bulgaria, Ireland, the Netherlands) by school heads separately (Czech Republic) jointly by school heads and school management councils (Austria and Slovakia), teachers' council (Italy) or other authorities (Slovenia).

On the other hand, there is free textbook choice (Denmark, Germany, Spain, France, Italy, Hungary, the U. K. (Scotland) and Italy. In spite of opportunities to do so, teachers do not usually deviate from the content of the textbooks they have selected, because they correspond to the compulsory minimum curriculum drawn up centrally. Textbooks, though, can influence the content and methodology of teaching (Fan & Kealey, 2000). It is remarkable that, in a fully decentralized system like that of Finland, while teachers may choose their own books, the situation varies from one school to the next depending on whether the education provider has delegated its decision-making responsibilities in this area (Eurydice, 2008).

As it can be concluded from the data above, in most educational systems, the issue of book choice is linked with bureaucracy while teachers cooperate with superior authorities, i.e. school heads, local educational authorities and education providers, even in fully decentralized educational settings. Even in cases where they have full responsibility to choose a book, still, they cannot teach it as they wish probably because they are accountable to parents or school heads. In short, the freedom of textbook choice is linked to teachers' degree of autonomy and

¹⁵ Eurydice, (2008). Levels of Autonomy and Responsibilities of Teachers in Europe. Eurydice.

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does not depend on de-centralized school management patterns.

8. Pupil Assessment

Education systems reflect the emphasis placed on teachers' involvement in pupil assessment. Darling-Hammond and Wentworth (2010) reviewed the practices of high performing education systems around the world (Australia, Finland, Singapore, Sweden, and the U.K.). They found that student assessment helps teachers improve both their professional practice and their capacity to support student learning and achievement.

A critical analysis of the report of the European Commission (2008) reveals that pupil assessment follows various patterns¹⁶. Teachers may determine the basis on which pupils should be assessed, acting jointly with their school head (Belgium, Bulgaria, Germany, Estonia, Ireland, Malta, Poland, Slovakia, Sweden, Scotland, Iceland and Norway). They may also act independently especially in countries with decentralized educational systems (Denmark, Italy, Lithuania, Hungary, Austria, Romania, Slovenia and Finland). In other cases, they have to comply with guidelines laid down by ministries of education concerning principles, methods and assessment criteria and marking scales (Lithuania, Greece, Estonia, Spain, Latvia, Luxembourg, Liechtenstein and Slovenia). They follow the national core curriculum that sets the criteria of student performance (Finland) or they may subject to the approval of a higher authority on the basis of a predetermined list of criteria (France). Finally, it may be the teachers' council that draws up the general criteria of students' assessment (Italy and Romania).

9. Repeating the Year

The degree of teachers' responsibility to decide whether a pupil should redo a year varies among educational systems. It ranges from absolute participation to exclusion.

Eurydice (2011) reports that "five countries (Estonia, Lithuania, Hungary, Poland and Romania) share some similarities with respect to the parties from school involved in the decision-making process and their respective roles. In these countries, it is class teachers who make the recommendation on a pupil's progression or retention based on their own assessment. The final decision is made at a different level usually within a council comprising all the teachers of the school, including class teachers, and chaired by the school head"¹⁷.

¹⁶ Eurydice, (2008). Levels of Autonomy and Responsibilities of Teachers in Europe: European Commission.

¹⁷ Eurydice, (2011). Grade Retention during Compulsory Education in Europe: Regulations and Statistics. European Commission, (p.60).

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In Spain, the class teacher is ultimately responsible for deciding while in Estonia, the school teachers' council is responsible for authorizing pupils to progress to the next level, or not. Pupils may be asked to attend additional lessons in subjects for which their marks during the year have been poor. In Slovenia, pupils may redo their year, after written explanations provided by the class teacher.

On the other hand, measures imposed by educational authorities may deprive teachers of the right to decide. In some countries, (Ireland, Luxembourg, Denmark and Liechtenstein) it is the parents' responsibility to decide. In France, schools consult parents, while rectors and inspectors may intervene and shape decisions as to which pupils should repeat the year.

In Hungary they only redo their year if they lack appropriate knowledge and skills as a result of absences or if their parents request that they should. The decision in primary education is taken by the school head whereas at secondary level, it is taken by the teaching staff. In France, at secondary level, it is the class council that decides which pupils should repeat their year.

The situation also varies as regards the involvement of schools and teachers in devising the content of written examinations for certified qualifications. Few European countries hold examinations of this kind which are rarely devised at school level with the exception of Greece, Cyprus and Italy.

Pisa (2011) concluded that "in general, school systems that seek to cater to different students' needs by having struggling students repeat grades or by transferring them to other schools do not succeed in producing superior overall results and, in some cases, reinforce socio-economic inequities. Teachers in these systems may have fewer incentives to work with struggling students if they know there is an option of transferring those students to other schools" ¹⁸.

As a general remark, it can be said that research up to now, has not provided conclusive findings as to where the teachers have autonomy to assess students by themselves. When schools are externally governed, it is external agents, like the class council, the school council, inspectors, local authorities or ministries of education that are eligible to decide, putting thus limits on teachers' responsibilities and consequently, on their autonomy.

Eurydice (2011) came up with another interpretation on teacher autonomy to decide if students must repeat the year. They concluded that "even though grade retention is possible in most countries, actual practice varies widely. The existence of a culture of grade retention is the reason why the practice is used more often in certain countries. In these countries, the idea that repeating a year is beneficial for pupils' learning remains prevalent. This view is supported by the teaching profession, the school community and parents themselves"¹⁹, (p.60), no

¹⁸ PISA in Focus 2011/6 (July) - © OECD 2011, (p. 4).

¹⁹ Eurydice, (2011). Grade Retention during Compulsory Education in Europe: Regulations and Statistics.

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matter if the school is a top-down governed organization or a decentralized unit.

10. Conclusion

It is observed that although there are centrally developed co-operation and policy frameworks jointly drafted at EU level, in practice their implementation varies within member-states. This differentiation influences teacher autonomy and responsibilities (European Commission 2009).

How much decision-making authority is devolved to teachers? In the four areas examined, levels of teacher autonomy vary, due both to internal and external factors. Teachers can be involved in decision-making, only under configured conditions which are dictated by educational policies, the degree of their centralized design, and their compulsory implementation. From the discussion above, it is obvious that teacher autonomy has its own limits, featuring a degree of relativity. Within these systemic limits then, teachers may experience higher degrees of autonomy but over a restricted range of choices (Glass, 1997). The British Columbia Public School Employers' Association (BCPSEA) (2011) claimed that interference in teacher autonomy, in an effort of employers to control all aspects of the profession in the light of the close administrative control, can be detrimental to teacher autonomy and to learning outcomes.

To sum up, the increase in responsibilities entrusted to teachers for some twenty years may in the majority of European countries be seen as one outcome of greater school autonomy. At the same time, there is a weakness of convergence of educational systems and educational policies. Schools are either top-down governed bureaucratic organizations or decentralized ones. Fragmentation of views on the same pedagogical educational issues is reflected in education systems. Among other issues, this is the case with teacher autonomy and responsibilities.

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Citation: Argyriou, A., Baliou, H., (2018), The Organizational Framework of a School and its Impact on Teacher Autonomy and Responsibilities in the EU, *Theory and Research in the Sciences of Education*, 01/2018, p.p. 47-62. At: <u>http://periodiko.inpatra.gr</u> Local Government (EKDDA). She is a frequent presenter in conferences and has published books and articles in Pedagogics and English Language Teaching. Helen has contributed to national curricula for the Greek Ministry of Education and her academic interests are focused on intercultural education, teachers' wellbeing, and lexicography. Email: hbaliou@gmail.com

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Melitzani Eirini Spanou Catherine Kotofoli Konstantina

"Adventures in the Labyrinth": An educational board game for the consolidation of Greek mythology. Play testing results

Abstract

Board games in modern times are a widespread form of entertainment and knowledge acquisition for all ages. There is a great variety in types and content, covering almost all tastes and financial capacities of the persons concerned. The first part of this paper focuses on the pedagogical and learning aspect of board games combined with their entertainment aspect, while the second part presents an trivia board game, which can be used as an aid for the consolidation of the 3rd Grade Greek mythology curriculum.

Keywords: Greek mythology, curriculum, board game, theories on games

1. Introduction

Nowadays, educational board games contribute significantly to the establishment of activities involving one or more players on issues related to the achievement of specific objectives, restrictions or even consequences. Thanks to the added value they offer, most games are widespread and their properties can be summarized as follows:

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- they constitute a means of entertainment, joy, and expression of pure feelings
- they motivate children by teaching them rules and urging them to set goals and achieve them
- they are interactive and often customizable, allowing player engagement
- they satisfy and promote the children's ego, since they aim to highlight a winner
- they increase children's creativity with the aid of confrontation, healthy competition and the implementation of problem-solving strategies ¹.

A major challenge for designers of educational games constitutes the presentation of educational content within the game, in order to engage students in real-world problems, through participation in scientific, mathematical or engineering practices, while strengthening the creative thoughts and expression of their ideas at the same time. Most of the current educational games are quiz games, puzzles, and problem-solving games. Unlike quizzes, board games involve the movement of pawns on a surface (board) using counters or dice. They can even be played by individual users or against an artificial medium that acts as a real opponent, however, their use by many players is more common and contributes to the exchange of interactive learning experience, as players learn in a fun way from one another².

This paper examines board games as to their educational and learning value. After clarifying key concepts and reviewing theories regarding games and their application in board games, a trivia board game in Greek mythology is presented, which was created in collaboration with fifth and sixth grade students and tested, to a limited extent, by both adults and by students.

2. Theoretical background

2.1. Key concepts clarification

2.1.1. Game

Lexically, the concept of "game" takes various interpretations. Firstly, it is defined as an "article intended for entertainment or fun and not for immediate practical use." In this sense, we may distinguish the games as educational, scientific, mechanical, mental, etc., such as riddles, puzzles, board games etc.³

¹ Bontchev, B., Vassileva, D. (2015), *Modeling educational quizzes as board games*. In: http://www.researchgate.net/publication/265184535_MODELING_EDUCATIONAL_QUIZZES_AS_BOARD_GAMES p. 1 (accessed on 8/7/2015).

² Bontchev, B., Vassileva, D. (2015), Modeling educational quizzes as board games. In: http://www.researchgate.net/publication/265184535_MODELING_EDUCATIONAL_QUIZZES_AS_BOARD_GAMES p. 1 (accessed on 8/7/2015).

³ Λεξικό της κοινής νεοελληνικής (Τριανταφυλλίδη), Λήμμα «παιχνίδι». In: http://www.greek-language.

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Moreover, the concept of game defines the "organized or usually spontaneous adult or children's activity that aims at entertainment and fun" as well, such as hide and seek, tag etc.⁴

Finally, the game is defined as a "form of competitive recreational activity, individual or collective, which is conducted according to certain rules or agreed procedure, that aims at moral victory or profit, and the outcome depends on intelligence, craftsmanship, the physical strength or the players' luck. These types of games can be divided into games of chance such as poker, in which luck plays a major role, in technical or strategy games such as chess, checkers, etc., but also in sports games such as football, basketball, etc., where the emphasis is on the existence and development of physical abilities⁵.

2.1.2. Board Game

Every game played on a board, which for the purposes of the game is placed on a flat surface such as a table, floor, etc. is called a board game. They are, mostly, group games, that require at least two or more players. Their main objective is entertainment and, in many cases, obtaining knowledge, mental exercise, acquiring skills or a combination of all the above. Important elements of board games are confrontation and competition, as in the evolution of the game, players are often called to outdo each other with the aim of winning each for oneself⁶.

2.2. Historical evolution and types of board games

2.2.1. Historical evolution

The existence of board games, according to the prevailing theory, is attested from the 4th millennium BC in Egypt. On frescoes that were discovered Senet is depicted, a board game that resembles the modern day chess, while another board game, Mehen, dates back to around 3000 BC. An ancient backgammon which was discovered in Burnt City in Iran dates back to the same period, while the "Royal Game of Ur" or "Game of 20 squares" dates back before 2600 BC and was discovered in excavations in Iraq⁷.

gr/greekLang/modern_greek/tools/lexica/triantafyllides/search.html?lq=%CE%A0%CE%B1%CE%B9%CF% 87%CE%BD*&dq= (accessed on 26/06/2015).

⁴ Λεξικό της κοινής νεοελληνικής (Τριανταφυλλίδη), *Λήμμα «παιχνίδι»*. In: <u>http://www.greek-language.</u> gr/greekLang/modern_greek/tools/lexica/triantafyllides/search.html?lq=%CE%A0%CE%B1%CE%B9%CF% <u>87%CE%BD*&dq</u>= (accessed on 26/06/2015).

⁵ Λεξικό της κοινής νεοελληνικής (Τριανταφυλλίδη), *Λήμμα «παιχνίδι»*. In: http://www.greek-language.gr/ greekLang/modern_greek/tools/lexica/triantafyllides/search.html?lq=%CE%A0%CE%B1%CE%B9%CF%87 %CE%BD*&dq= (accessed on 26/06/2015).

⁶ Το επιτραπέζιο παιχνίδι. In: http://epitrapaizoume.gr/to-epitrapezio-paixnidi/ (accessed on 25/06/2015).

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Picture 1: The ancient Egyptian board game "Senet"

Apart from Egypt and Mesopotamia, board games are also evidenced in China, India and Ancient Greece and Rome. Regarding Ancient Greece, especially, board games were called "petteia". They played with pawns, the pessaries, and for that reason were called *pesseftika*. There were two types of games: route games and position games, where pieces encircle, trap or remove the opponent. Furthermore, there were games with dice/cubes or knucklebones that were named *kyveftika*⁸.

Picture 3: Achilles and Ajax play "Pentagrammon" during the Trojan War



During the restoration of the Parthenon in 2009 at least 50 games carved on marble steps of the temple were identified. Based on the "Nominal" of the Greek orator and lexicographer Pollux, the games were identified as 47 skill games and 3 of pessaries (Enneada and Diagrammer)⁹.

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^{25/06/2015).}

⁸ Τα επιτραπέζια παιχνίδια. In: <u>http://dimossas.blogspot.gr/2013/03/blog-post_2.html</u> (accessed on 25/06/2015).

⁹ Κοντραρου-Ρασσια, Ν. (2009), Επιτραπέζιον ο Παρθενώνας. Εφημερίδα «Ελευθεροτυπία». In: http://www.

Picture 4: Diagrammer on the Parthenon Picture 5: The Great Zatrikion of Knossos

Finally, in the 19th century, during the excavations at Knossos by Sir Arthur Evans, "The Great Zatrikion" was discovered, a royal game similar to modern chess, which dates from around 1600 BC. Its dimensions were 104x61 cm. and was accompanied by five pieces of ivory¹⁰. It is worth noting that during the Byzantine years, zatrikion was particularly popular in the royal court¹¹.

From ancient Greece, table games spread to Rome and then to the rest of Europe. In Britain, they were spread from Gaul in the 1st BC, while board games played with board and counters were found in Scotland¹².

The existence of board games is evidenced from ancient times on the other side of the Atlantic as well, as there is evidence that the North American natives played board games by designing the board on the ground and using as pawns objects such as stones. Afterwards, the first settlers imported board games like chess and checkers for commercial or recreational purposes from Europe. In 1822, the first board game in the US was manufactured. During the American Civil War, board games were very popular due to the creation of a collection of nine board games in an easily transportable package, which could fit in the soldiers' backpack¹³. In the late 19th and early 20th century, board games lost their original character, which aimed mainly to education and teaching of religious and moral values and focused more on success and entertainment. Typical are the cases

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enet.gr/?i=news.el.article&id=98294 (accessed on 25/06/2015).

Τα επιτραπέζια παιχνίδια. In: http://dimossas.blogspot.gr/2013/03/blog-post_2.html (accessed on 10 25/06/2015).

¹¹ Σκακιστικός Σύλλογος Καστοριάς (2013), Το σκάκι στο Βυζάντιο. In: http://www.sskastorias.gr/index. php?option=com_content&view=article&id=295:chess-in-byzantine-empire&catid=40:sskastoriasnews&Itemid=53 (accessed on 25/06/2015).

Τα επιτραπέζια παιχνίδια. In: http://dimossas.blogspot.gr/2013/03/blog-post 2.html (accessed on 12 25/06/2015).

¹³ Gobet, F. (2008). Board games. In G. Cross, R. Maddox, and W. Pencak (Eds.) Dictionary of American History, Dynamic Reference. New York, NY: Scribner. In: http://people.brunel.ac.uk/~hsstffg/chapters/History-Board-Games-US-6.pdf (accessed on 25/06/2015).

of Monopoly (1935), Scrabble (1948) and Trivial Pursuit (1985), which became huge commercial successes and remain so to this day¹⁴.

It is characteristic, however, that board games in ancient times and until the early 20th century were the privilege of the upper classes or financially well off because of their high construction cost. Nowadays, with the development of computers and the ability of affordable printing, board games are mass produced and are now available to all socioeconomic classes. Moreover, with the spread of the internet, many games are available online for downloading and printing on home computers. At the same time, technological development affected board games, as many are now available in software format for use on personal computers or even for online interactive gaming.

2.2.2. Categories and types of board games

Based on their historical evolution, board games can be classified into two broad categories: the classic board games, such as chess, checkers, backgammon, snakes and ladders, ludo and tic tac toe, and the modern board games, such as Monopoly, Scrabble, Trivial Pursuit, Pictionary, Taboo etc¹⁵.

Another classification of board games has to do with the content of each game. Today, there is a wide variety of board games for a wide range of preferences. Based, therefore, on their contents, board games can be classified, without this being absolute, as follows¹⁶:

- Party Games
- Family Games
- Card Games
- Trivial Games
- Dexterity Games
- Strategy & War Games
- Historical Games
- Kids Games
- 2 Player Games
- Memory Games
- Negotiation & Trading Games etc

¹⁴ Gobet, F. (2008). Board games. In G. Cross, R. Maddox, and W. Pencak (Eds.) *Dictionary of American History, Dynamic Reference*. New York, NY: Scribner. In: <u>http://people.brunel.ac.uk/~hsstffg/chapters/History-Board-Games-US-6.pdf</u> (accessed on 25/06/2015).

¹⁵ Τα επιτραπέζια παιχνίδια. In: <u>http://dimossas.blogspot.gr/2013/03/blog-post_2.html</u> (accessed on 25/06/2015).

¹⁶ Το επιτραπέζιο παιχνίδι. In: http://epitrapaizoume.gr/to-epitrapezio-paixnidi/ (accessed on 25/06/2015).

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2.3. The pedagogical value of board games

The game holds a significant and important role in the everyday life of children, and not solely theirs, which is evident by the significant number of theories that have been put forward. In summary, theories about games can be classified as follows:

- 1. Traditional or classic, representatives of which are Schiller, Spencer, Lazarus, Groos and Hall.
- 2. Psychoanalytic, represented by Freud, Erikson, and Winikott.
- 3. Behavioural, the main representative of which is Bloom,
- 4. Cognitive, represented mainly by Kohler, Lewin, Buhler, Mead, Piaget, Vygotsky and Bruner.
- 5. Pedagogical, represented by Dewey, Froebel, Montessori and Papert.

The review of the above-mentioned theories indicates that each is directed to a particular aspect of the role of playing in the development of children, and that there is no universal theory applicable to every possible case.

It is worth mentioning the views of Montessori, the famous Italian pedagogue, according to which all toys should attract children's attention, be colorful and comprise of harmonic shapes, and allow children to develop initiatives and exercise critical thought, that is, to provide the opportunity to act independently. The game, as well as any other teaching material, aims at developing the physical capacities of children, cultivating all the senses, exercising kinetic and manual processes, the linguistic education, the teaching of reading, writing and mathematics. The contact and engagement of children with the teaching materials contribute to the formation of muscle action with the parallel development of all physical exercises. In other words, it guides the subtle motions of the limbs by varying the sense of movement and touch. These exercises that help to develop the senses and muscles of the body are consistent with the principle of the isolation of perception, whereas the stereometric sense, that is the children's understanding of the outward appearance of an object, depends on the touch and movement of the limbs which results in refining visual knowledge¹⁷.

As far as board games are concerned, the theory of multiple intelligences of Howard Gardner is applicable. The theory was originally formulated in 1986 and has been supplemented several times since then, reflecting and reinforcing, to a degree, Montessori's views.

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¹⁷ Ντάρας, Β., Τασιούλα, Β., Ντζέμος, Ε., Φράγκου, Μ. (2012), Φρίντριχ Φρέμπελ και Μαρία Μοντεσσόρι: Θεωρία και εφαρμογή του εκπαιδευτικού τους έργου σε Ελλάδα και Γερμανία. Πτυχιακή εργασία (επιβλ. Καινούργιου Ελένη). In: http://apothetirio.teiep.gr/xmlui/bitstream/handle/123456789/963/psa_2014003, pdf?sequence=1 (accessed on 05/06/2015), σ.σ. 56, 59 και 62

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Gardner distinguishes nine types of intelligence¹⁸,¹⁹,²⁰:

- 1. verbal linguistic, concerning the ability of well-developed verbal skills and individual sensitivity to sounds, concepts, and rhythms of words
- 2. logical/mathematical, which is a person's ability to think conceptually and abstractly, and to distinguish the logical and numerical patterns
- 3. spatial, which relates to the person's ability to think in images and pictures to portray accurately and in the abstract
- 4. intrapersonal, which is the ability of the individual to be self-aware and in harmony with his/her deepest feelings, values, beliefs and thought processes
- 5. interpersonal, relating to the individual's ability to detect and respond appropriately to the moods, motivations, and desires of others and the ability to cooperate and communicate with them,
- 6. musical, which relates to an individual's ability to produce and appreciate rhythm, timbre, and tone of the sounds
- 7. bodily kinesthetic, which relates to an individual's ability to control the movements of his body and handle objects skillfully
- 8. naturalist, relating to the ability of recognition and classification of plants, animals, and objects in nature
- 9. existential, regarding the sensitivity and the ability of the individual to confront profound questions about the human existence, such as, what is the meaning of life? Why do we die? How did we get here? (This was recently added to the types of multiple intelligences).

By examining the theory of multiple intelligence skills, it becomes clear that during the progress of a board game, children can develop a mix of different skills, as the content of a board game almost never fits solely in one category. By playing a board game and depending on its content, the children are given the opportunity to develop (individually or in combination) motor skills through the use of structural elements of the game (dice, pawns, etc.), language or mathematical skills by using cards with questions or mathematical operations, interpersonal skills since cooperation with the teammates is required etc.

The board of a game is a visual metaphor of its theme, contributing thus to connecting information. The structural elements of the game, the discussions

¹⁸ Καζταρίδου, Α. (2012), Παιδαγωγική αξιοποίηση της θεωρίας της πολλαπλής νοημοσύνης στα προγράμματα Περιβαλλοντικής Εκπαίδευσης – Το παράδειγμα του νερού. Πρακτικά 6ου Πανελλήνιου Συνεδρίου Π. Ε.ΕΚ.Π.Ε. «Περιβαλλοντική Εκπαίδευση - Εκπαίδευση για το Περιβάλλον και την Αειφορία στη Σημερινή πραγματικότητα. "Η Εμπειρία του Ελληνικού Εκπαιδευτικού Συστήματος"». Θεσσαλονίκη, 30 Νοεμβρίου - 2 Δεκεμβρίου 2012. In: <u>http://www.kpe.gr/proceedings/7_Didactic_Methodology_&_Proposals/28_Kaztaridou.</u> pdf (accessed on 08/07/2015)

¹⁹ The Components of MI. In: http://multipleintelligencesoasis.org/about/the-components-of-mi/ (accessed on 08/07/2015)

²⁰ Northern Illinois University, Faculty Development and Instructional Design Center, *Howard Gardner's Theory of Multiple Intelligences*. In: http://www.niu.edu/facdev/resources/guide/learning/howard_gardner_theory_multiple_intelligences.pdf (accessed on 08/07/2015)

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and the resolution of problems with team members are channels for learning, therefore, the design must incorporate a discreet redundancy of information, which will ensure the enhancement of learning and the retention of the additional information. Properly formulated questions, solving problems and situations that promote and mobilize critical thinking, enable players to apply their knowledge²¹.

Additionally, properly designed board games encourage communication, collaboration, and risk-taking, empowering players and contributing to the development of self-confidence. The various elements involved in the designing of board games cover a wide range of player skills, resulting occasionally to the shaping of behavior through learning²².

In conclusion, board games can be an important tool for teaching skills and for gaining knowledge, as they create a fascinating and competitive atmosphere, providing both entertainment and the possibility of amplifying and applying knowledge even through the exploitation of mistakes.

3. Methodology – Construction steps of the game

3.1. Brainstorming

The idea of creating a board game occurred when students of the fifth and sixth grade, during a birthday party, opted to be entertained by playing a wellknown mystery board game rather than a computer game. In this context, two of the children who attended the party were approached. They were asked to express their opinion on creating such a game, and whether they were interested in participating in the process of the construction, an idea that fascinated them. Following discussions, the prevailing idea was that the questions for the game should be from the Greek mythology. During this phase, we also investigated various board games already on the market. As a result, this led to include in the construction of our game elements that exist in some of them and in particular to the well-known games, Monopoly and Trivial Pursuit.

3.2. Selection of bibliographic resources

Having already decided upon the theme of the game's questions, we sought the proper bibliographic sources on which to base the questions. Given the fact that Greek mythology is taught in third grade, we chose to use as our main bibliographic

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²¹ Treher, E.N., *Tools for Learning and Retention*. In: <u>http://www.thelearningkey.com/pdf/Board_Games_TLKWhitePaper_May16_2011.pdf</u>, p. 3 (accessed on 07/07/2015).

²² Treher, E.N., *Tools for Learning and Retention*. In: <u>http://www.thelearningkey.com/pdf/Board_Games_</u> <u>TLKWhitePaper_May16_2011.pdf</u>, p. 3 (accessed on 07/07/2015).

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source the third-grade textbook. Additionally, and in order to mine additional information, we sought out more bibliographic sources on Greek mythology, such as encyclopedias and Greek mythology dictionaries.

3.3. Rules formulation and components construction

The next stage was the drafting of the early rules of the game. The process involved both adults and children. The children's views were a great contribution to the formulation of the rules, as their ideas were more functional in nature, with the result that the rules were not inapplicable or difficult to understand by young players.

This was followed by the construction of the structural elements of the game, namely the board, cards, pawns, etc., using a computer design program, with which the first draft of the board was designed. With the help of the children and using the "trial and error" method, the board began to slowly take shape. Then, based on the shape of the board both sides of cards were designed as well as the pawns. For the illustration of all elements, royalty-free clip-art was used.

3.4. Composing the questions

The construction of the components' draft form was followed by the compilation of the cards' questions.

The questions were divided into six categories, the majority of which was drawn from the third grade history book. They are structured in such a way, that the player can infer, from the context, the correct answer, as well as enrich his knowledge on Greek mythology.

Alongside these cards, three special categories of cards were created, with the aim to give an element of adventure to the game process.

3.5. Playtesting

The completion of drafting the questions and the design of all the components was followed by their printing and adding additional components (heroes' figures, bases, dice). Thus a working prototype was created, which was the subject of playtesting by the children, their friends, and adults, mostly parents of the children.

During the playtesting, both adults and children realized that some rules were obscure or non-operational, while some questions required better formulation in order to be as clear as possible. The necessary changes were made, and after finalizing its title, the game was tested again.

For further playtesting, the game participated in the annual board game

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competition "Epitrapezio 2016". Before the finals, four pre-shows were held, during which the game was the subject of extensive playtesting by adult board game players, who provided valuable feedback on the rules and the game mechanics.

Based on the observations and comments received, corrections and additions to the rules and components of the game were made, giving the game the format presented below.

4. Description of the Game

4.1. Overview of the game

"Adventures in the Labyrinth" is a board game with questions from the Greek mythology, which is addressed to individuals aged 9 or older. It is a "route" game, in which players start at point A, the entrance of the labyrinth, in order to reach point B, the center of the labyrinth, where the Minotaur reigns. For their moving in the labyrinth, the players use dice and pawns, choosing the direction they will follow, as wandering in the labyrinth is possible in more ways than one.

The aim of the game is the players to reach the center of the labyrinth and to answer correctly to the question of the Minotaur. The player who will arrive in the center of the labyrinth and answer first correctly to the question of the Minotaur is the winner.

The "Adventures in the Labyrinth" are intended both for individual and for team play. The number of players ranges from 2 to 8 for the individual game and, from 2 to 4 teams for team play. The number of members of a team range from 2 to 5 people.

4.2. Game Components

The game consists of the following components:

- 240 question cards, covering six categories of Greek mythology as follows: Gods, Heroes, Creatures, Places, Divine Symbols, Battles (40 for each category)
- 30 cards "Divine Command" (rewards cards)
- 30 cards "Prophecy of Pythia" (penalties cards)
- 20 cards "Riddle of the Minotaur" (riddle cards)
- 45 tiles of Divine Powers (additional rewards)
- 15 gods cards (to be used with the divine powers tiles)
- 1 pouch (for placing the divine powers tiles)
- 18 pawns with heroes' figures and corresponding plastic bases
- Game board

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- 1 spinner (for deciding steps and category questions)
- 1 normal die and 1 die with color spots (optional instead of the spinner)

4.2.1. The board

The game board's dimensions are $59,4 \times 42$ cm, the background of which consists of a faint photo of Mount Olympus. The center of the game board shows a labyrinth, at the center of which reigns the Minotaur. In scattered locations of the labyrinth are illustrations of the gods and representations of ancient braziers from which spring flames, while at the bottom left is the "Nest of Cerberus" with the corresponding imagery, to which a player that will draw the corresponding prophecy of Pythia ends.

Image 1: Gameboard



On the left and right sides of the labyrinth, are the locations where the question cards are placed. These are indicated by the respective illustration of each category, just as on the front side of the cards.

Positioned, in the upper left side of the gameboard, is the "Oracle of Delphi", where the cards "Prophecy of Pythia" are placed. In the upper right side "Olympus" is positioned, where the "Divine Command" cards are placed, while in the center and between these two, the "Riddle of Minotaur" is positioned, where the respective cards are placed.

It must be noted that following suggestions made during the playtesting, the gameboard was redesigned. The labyrinth was made smaller in extent,

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although it covers precisely the same area as the old. Thus, the squares of the labyrinth are slightly larger and the path to the center of the labyrinth shorter, which serves to reduce the game time. At the same time, artistic interventions were made on the game board corners to make it easier to place the cards in their respective positions.

Finally, in the lower left side of the gameboard "Tartarus" is placed, while the bottom right position is the "Elysian Fields". If a card is answered correctly it goes to "Elysian Fields" and leaves the game. If there is no correct answered, it goes to "Tartarus" without the correct answer being revealed. Thus, if all the cards of a category are used, then the cards in that specific position are reused. The correct answers are revealed once the game is completed.

4.2.2. Pawns

The game contains 16 pawns with figures of heroes from the Greek mythology, of which 8 are men and the remaining 8, women.

Image 2: Pawns of the Game



The pawns are made from plain cardboard and are placed in plastic bases in order to move around on the board with ease and stability.

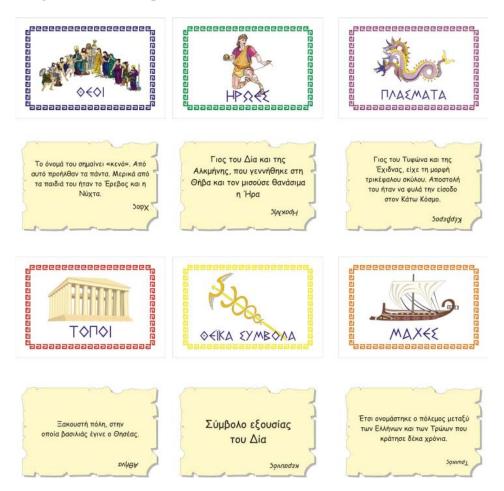
4.2.3. Cards with questions

The game consists of 240 cards with questions, which are divided into six categories. The front of each card shows a representation corresponding to the category question, enclosed by a meander of a different color for each category. On the reverse side, a sketch parchment is depicted, on which the question is stated; while at the bottom of the card is the answer to the question when rotated by 180 degrees.

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Image 3: Cards with questions



More specifically, the categories of questions and their content are as follows:

- **Gods**: This category includes questions relating to Cosmogony, Titanomachy, the Giants, the Twelve Olympian and lesser deities of Greek mythology.
- **Heroes**: This category consists of questions concerning known and lesser known heroes and demigods of Greek mythology.
- **Places**: These are questions on various sites of Greece, which play an important role in the mythological wanderings of gods and heroes.
- **Creatures**: The questions in this category relate to various known and unknown creatures and monsters of Greek mythology.
- Divine symbols: This category includes questions on the symbols of the gods

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of Greek mythology, their sacred animals and trees, and plants.

• Battles: The questions of this category are drawn from the Argonauts, the Iliad, and the Odyssey.

4.2.4. Special Cards

Apart from the question cards, the game also includes special cards, which are divided into three categories as follows:

- Divine Command: These are reward cards. The player who will stop at a square with a god draws a "Divine Command" card and enjoys his or her favor...
- Prophecy of Pythia: These are penalties cards. They are used when a player stops at a square with a brazier.
- **Riddle of the Minotaur**: These cards consist of riddles. When a player reaches the center of the labyrinth draws a "Riddle of the Minotaur" card and has to give the correct answer.

Image 4: Special cards



4.2.5. Divine power tiles and god cards

The divine power tiles offer to the player who answered correctly the opportunity to move 4, 5 or 6 additional steps in the labyrinth, increasing thus his or her distance from the other players.

The god cards are used by the players in order to gather, if they wish to, all the divine power tiles of a certain god. Having gathered all the tiles, they can use them in a future moment so as to move 15 additional steps at once, provided

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they have answered correctly to a question.

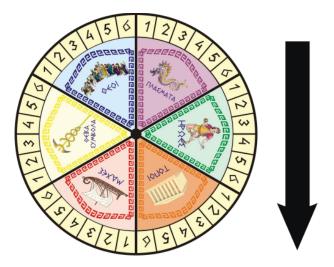


Image 5: Divine powers tiles and god card

4.2.6. The spinner

The movement of the players in the labyrinth is caused either by the two dice or by rotating the spinner. The spinner is a disk with 6 different areas, each of which represents a category of questions and includes the numbers from 1 to 6. The player rotates the pointer, advances as many steps as the pointer indicates, and answers to a question of the category where the pointer stopped.

Image 6: The spinner





4.3. Game rules

Preparation:

- The cards are placed on their respective positions on the game board.
- The divine powers tiles are placed inside the pouch.

A. Individual gameplay

- 1. The players choose a pawn and a protector-god card. The youngest player begins and the rest follow from right to left.
- 2. The player spins the pointer and moves as many squares as the pointer indicates.
- 3. The player on his/her left draws a card question of the category where the pointer stopped and reads the question.
 - If the player answers correctly, he/she draws a divine power tile from the pouch.
 - If the tile does not belong to his/her protector-god, the player proceeds as many squares as the tile indicates and returns the tile to the pouch.
- 4. If the tile belongs to his/her protector-god, then the player may do one of the following:
 - ➤ USE the tile immediately just like any other divine power tile and proceed as many squares as the tile indicates.
 - DO NOT USE the tile immediately but save it for later by placing it on the card of the protector-god. By placing the card on the three different divine power tiles the player may proceed as many squares as the sum of the tiles.
- 5. If the player answers incorrectly, he/she remains at his/her place and waits for his/her turn.
- 6. If a player stops at a square with the illustration of a god, he/she draws a "Divine Command" card and does what the card says. Then the player answers to a question. Depending on the card, the player may keep the card until the command is fulfilled.
- 7. If the player stops at a square with a brazier, he/she draws a "Prophecy of Pythia" card and does what the prophecy says. Then if the prophecy allows the player answers to a question.
- 8. If a question is answered correctly, the card is placed at the "Elysian Fields" position and leaves the game.
- 9. If a question is answered incorrectly, the card is placed at the "Tartarus" position on the game board.
- 10.Before the start of the game, the players agree if they want an incorrect answer

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to a question to be revealed at once, or at the end of the game. If the latter is agreed, then the cards are placed at the "Tartarus" position and may be used again during the game, if the cards of a category have been used.

- 11. The player who reaches the center of the labyrinth has to answer to the riddle of the Minotaur.
 - ➤ If the player answers correctly then he/she is the winner.
 - > If the player gives a wrong answer, then the player leaves the game.
- 12. The game is continued with the rest of the players, until only one player remains.

B. Team gameplay

- The players may form teams of 2- 5 members, who will confer before answering a question.
- Every team assigns a leader, who will decide upon the answer to be given, in the case where the answers of the team members differ.

For everything else, the same game rules apply as in the individual gameplay.

Alternative gameplay

- Instead of the player on the left reading the question, one of the players assumes the role of "dealer" and his/her mission is to read the questions to the other players, while not participating in that round of the game.
- Instead of using the spinner, the players may use the dice. The numerical die is used for advancing in the labyrinth and the colored die indicates the question category.

5. Presentation of test results

During the finals of the "Epitrapezio 2016" competition, the organizers distributed to each contestant standardized questionnaires, which were required to be filled by the play testers, after playing a contesting game.

The questionnaire consisted of three questions with answers on a fourgraded scale. The questions included in the questionnaire were:

- 1. What did you think of the theme of the game?
- 2. What did your think of the game mechanics?
- 3. Did you have fun playing the game?

Of the people who played "Adventures in the Labyrinth", a total of 44 questionnaires were collected. The results of the statistical analysis of these questionnaires are presented below. As the questionnaire did not provide demographic data, descriptive statistics were used to present the results, namely frequency analysis.

5.1. Theme of the game

As shown in table 1, in the question "What did you think of the theme of the game?", 52,3% answered very good, 40,9% good enough, 2,3% indifferent while 4,5% stated that they didn't like it.

	Frequency (N)	%	2,30%4,50%
Very good	23	52,3%	-52,30%
Good enough	18	40,9%	
Indifferent	1	2,3%	 Very good Good enou
Didn't like it	2	4,5%	= Indifferent = Didn't like i
Total	44	100,0	

Table 1: Opinions of players on the theme of the game

5.2. Game mechanics

Table 2 shows the answers of the players to the question "What did you think of the game mechanics?". As shown in the table, 47,7% answered very good, 36,4% good enough, 6,8% indifferent while 9,1% stated that they didn't like them. It must be noted that by saying "game mechanics" we refer to how "all components included in the box of the game function in relation to the rules, so that every player can claim victory"²³.

Table 2: Opinions of	the players on	the game mechanics
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	Frequency (N)	%	9,10%
Very good	21	47,7	6,80%
Good enough	16	36,4	
Indifferent	3	6,8	Very good Good enough
Didn't like it	4	9,1	= Indifferent
Total	44	100,0	36,40% Didn't like it

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5.3. Entertainment aspect of the game

The opinions of the players concerning the entertainment aspect of the game are shown in table 3, where 54,5% states that enjoyed themselves very much, 36,4% enough, while 4,5% stated that it was indifferent to them and 4,5% that didn't have fun at all.

	Frequency (N)	%	4,50% 4,50%
Very much	24	54,5	
Enough	16	36,4	_54,50%
Indifferent	2	4,5	Very good
Didn't have fun	2	4,5	= Indifferent
Total	44	100,0	36,40% Didn't like

Table 3: Opinions of the players on the entertainment aspect of the game

6. Possibilities of application and expansion of the game

Taking into account the theory of Howard Gardner on multiple intelligences along with the structure and content of the board game presented, we believe that playing the game can be an important growth factor of the following skills on children:

- 1. verbal/linguistic, by reading, understanding and reading aloud the content of the question cards,
- 2. logical/mathematical, as with the use of the dice they are asked to move in the labyrinth by counting fields,
- 3. spatial/visual, as they are required to move in different directions of the gameboard, thus developing their orientation, but also with the use of the colored dice that helps identify the colors
- 4. intrapersonal, since the children have the opportunity to understand their existence, the deepest feelings, fears and motivations that push to implement a practice, processes that equip them properly for their entry into the adult world,
- 5. interpersonal, through their interaction with other players, and compliance with the rules, and
- 6. bodily/kinesthetic, by developing fine motor skills during their wanderings in the corridors of the labyrinth.

"Adventures in the Labyrinth" is a board game for all family members.

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Apart from its entertainment aspect, the game can be used both by parents and by teachers as a means of consolidation of the Greek mythology syllabus taught in the third grade. This can be done during the school year either by using the categories of questions relating to the already covered curriculum, or at the end by completing the syllabus with all categories of questions. Moreover, given the extent of Greek mythology, the game may be further enriched, by creating expansion packs for each category of questions.

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International eJournal Sciences of Education Patras, February 2018 / Issue 01, ISSN: 2585-3821 Publisher: Pantelis Georgogiannis http://e-journal.inpatra.gr

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