LIFEWIDE LEARNING
Transformations and New Connections in Post digital Societies
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Teachers' perceptions on the 4th Industrial Revolution and Digital Transformation

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Education 4.0

Digital technology that encourages new teaching and learning methodology, and are compatible with the demands of the 21st century.

Teachers may recommend authentic learning activities to students and lead them to meaningful learning experiences.

Skills change into the ability to search, evaluate, analyze and synthesize, organize and good use of information in order to solve problems and convey ideas.

Digital education demands creativity, imagination, analytical and synthetic skills.

The nature of teaching develops into individualized and student-centered.
(Tzimogiannis, 2019)

A new term, that of Teacher 4.0, comes to identify the current requirements that a teacher needs to manage in order to adopt new teaching methods, such as managing a multicultural audience or a traditional classroom that can use smart augmented reality devices (Razak, Alakrash & Sahboun, 2018).

Teacher 4.0, who teaches in a multicultural environment is called to use digital technology to adopt individualized teaching, which meets the individual needs and interests of learners, taking into account their unique characteristics, talents, weaknesses, skills, inclinations and desires.

Teachers Training

Teacher training is the means relevant to knowledge enrichment, skills improvement and the updates in the development of their field.

It aims at their self-improvement and their ability to successfully meet the ever-changing demands of the knowledge society, but also of society in general, which imposes adaptability to multicultural environments.

- Targeted training, which is focused on pedagogical use of Information and Communication Technologies (ICT), seems to be relevant to not only changing attitudes and adopting new methods, but also the use of ICT teaching and their career improvement.
(Mavrogiorgos, 2009; Fullan, 2014)

Challenges and opportunities in digital education

- Teachers are called to adopt the principle of shifting the center of gravity from teaching to learning, promoting critical ability, creative ability, communication of ideas, and focused learning.
- Teachers should keep a distance from their traditional role and focus on creating innovative teaching frameworks, emphasizing collaborative learning elements and student individuality.
- Digital technologies in teaching and learning and high levels of digital skills, have added complexity to the teaching profession but also offer unique opportunities.

(Tzimogiannis, 2019; Skutil, 2015; Petersson, 2017)

International studies reveal… ..

✔ Inconsistent tendencies in teachers' attitude, as far as digital reformation in education is concerned (Roumbanis-Viberg, et al., 2019).

✔ Teachers' slow adaptation to technology in schools, due to their slow training versus rapidly evolving technology, is the reason why their digital ability to integrate digital tools into the classroom is weakened. (Elstad & Christophersen, 2017).

✔ Difficulty in teachers' training, when they have already formed some successful teaching models, and have gained personal experiences based on standards, and in the process change is required to adapt to real conditions (Kapsalis & Rampidis, 2007).

✔ The digital generation does not automatically have digital skills, nor does it acquire them simply by growing up and using digital devices (International Computer and Information Literacy Study).

The case of Greece

- Greece, despite the attempts to upgrade digital equipment and facilities, is still significantly below the EU average, as the country's investments in education and training represent only 3.9% of GDP (8,052 million).

- The basic equipment in schools seems to be mainly desktop computers, while only one third of the students study in schools with adequate digital devices.

- Greece is in the last place with 101 students per interactive whiteboard, much lower than the EU average (56).

- The number of trained teachers in Level II in ICT until 2020 was about 33,000.

EU (2020)

Greek research results have shown ......

✔Contradictory behavior, as, despite their positive attitude, teachers are hesitant about how much digital ICT technologies lead to a student-centered method. At the same time, they feel insecure in the use of digital technologies during teaching practice (Sergis & Koutromanos, 2013; Zarkadas, 2018).

✔ Despite their positive attitude, teachers use digital technologies in the traditional teacher-centered way, and the teacher has not shaken off the role of "authority" (Tsouta and Kedraka 2013).

✔ There is concern about a greater load of work, the creation of unknown and demanding professions, the extension of social divide, and a feeling of insecurity as far as the loss of job positions is concerned, whereas training in new technology appears to have a major impact on the teachers' perspective. (Panagiotopoulos & Karanikola, 2020).

✔ A positive effect on training programs, as well as the desire of the teachers to continue the training (Manesi, 2016; Zarkadas, 2018).

Research part

Purpose of the research

- The attitude of teachers towards the major issue of the digital revolution and digital tools in education and their impact on the learning procedure.
- Teachers' views on the application and integration of digital tools in the daily learning procedure and their role.

Participants

- 15 active teachers of Primary Education in public schools in Attica and the region, all with participation in Level II Training in ICT.

Research tools

- Semi-structured questionnaire-based on individual interviews, consisting of 34 questions in total.
- Mobile & Landline Phone - Tape Recorder

Research timetable

- March (2021): Questionnaire Design-Pilot Test
- April (2021): Communication / Information of participants
- April-June (2021): Data collection - Data analysis

Research results

Teachers' attitudes in terms of digital reformation in education
(1st research question)

❑ *Digital reformation has a positive effect on education.*

❑ *Digital tools are considered to be important pedagogical tool, leading to a reformation of a more personalized learning.*

❑ *The systematic use of digital tools promotes teaching methodology, but it is quite difficult and time consuming.*

❑ *The integration of digital tools in educational practice is average level.*

❑ *The transition from traditional to digital education is extremely challenging.*

❑ *Lack of equipment and regular training, inappropriate facilities, the culture of teaching field and questionable digital skills of students are limiting factors for the transition to a digital era.*

Teachers' attitudes and opinions related to Level II training in ICT
(2nd research question)

❏ *It is effective in enriching knowledge, upgrading skills and utilizing digital tools.*

❏ *Enhances the pedagogical value of digital tools and expands the pedagogical capacity of teachers.*

❏ *It enhances digital readiness but also requires a lot of personal effort.*

❏ *It has positive elements, but also serious weaknesses.*

❏ *It must be part of compulsory education and a lifelong learning program.*

Teachers' views on their role of digital reformation (3rd research question)

❑ *The role of the teacher is crucial and regulatory in digital education.*

❑ *Yes, there is digital capacity, but they also need incentives, mainly from the state.*

❑ *The role has challenges and opportunities but it probably concerns the youngest.*

❑ *Equipment, culture, student level and educational policy are the greatest challenges that put the success of the role at risk.*

Conclusions

Heading to a new and unknown era, having experienced new threats from pandemic to climate change and being threatened by economical and social exhaustion, the challenges in education are considered to be huge.

Teachers who took part in the research are positive in changes, if these are planned and applied in the appropriate facilities and conditions.

Conclusions (continued)

- Teachers are not optimistic about the integration of digital technology so far.

- Digital reformation is happening at a very slow pace, as opposed to the rapid pace of technology evolution.

- Teachers are trained, optionally, not compulsorily, and say they are satisfied, but not always digitally ready to face the uncertainty that a revolution could bring.

Conclusions (continued)

- Revolutions require strategy and joint action, efforts focused on challenges, change of tendencies, perspectives and values.

- Education demands fundamental investments on facilities and skills, with the aim of creating an educational society capable of leading education to a digital era, incorporating the new methods of the future into the successful and tested ones from the past.

- This is definitely a big challenge and an opportunity for the teachers all over the world.

Suggestions

- ✔ The state will have to implement actions that no longer seem to require approvals, but political will and planning.

- ✔ Be aware of the programs and actions relevant to digital education and especially check their effectiveness and intervene with direct changes when they are not efficient.

- ✔ Reconsider training programs and add new models in teaching by using digital context.

- ✔ Include active teachers in the central planning of the training and in the co-shaping of the educational objectives.

- ✔ Support teaching in ICT, as it is being planned, and necessarily combine it with physical presence of a teacher in every school unit.

- ✔ Create new positions and roles in education, such as for example the Digital Education Coordinator, with corresponding skills, at regional or local level.

Thank you for your attention!