Follow-Up: A Neglected Experiential Process within a Transformational Learning Community for Teachers as Adult Learners during the Pandemic[1]

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Abstract

This article refers to an effort to transform the views and attitudes of a group of teachers, who participated in a distance professional development program during the pandemic period, which was about the use of digital educational content in the teaching practice. The program adopted in its design and implementation elements from different models of professional development taking into account the educational needs of the participants as they had been expressed in relevant research that had preceded it. In terms of methodology, Mezirow's 10 steps of transformation were followed. The results showed a transformation of the perceptions and attitudes of the participants regarding the utilization of digital educational content in educational practice.

Key-words: transformation, teachers' professional development, digital education content

1.   Introduction

Constant developments in the field of education and pedagogical science make the initial university education of teachers constantly under negotiation and activate teachers, who want to be professionally aware, in search of professional development programs that satisfy their educational needs. However, often the teachers themselves, who seek to educate and follow developments in their science resist change and find it difficult to transform their perceptions, opinions, and attitudes. This difficulty of transformation has also been identified by Mezirow, who is also the theorist who proposed transformative learning in adult education.

Jack Mezirow (2000) defines Transformative learning as the process by which adults transform data into reference frames that prove to be dysfunctional for them. Transformation is seen as significant and relatively permanent changes that learning can impact on people, especially if those changes are not adequately encompassed by the usual descriptors: knowledge, skills, and attitudes (Hoggan, 2016). Critical reflection and rational discourse are considered the basic tools of transformation which lead individuals to awareness. Critical reflection contributes to the redefinition of distorted perceptions and rational discourse to the sharing of the individual's experience within the group (Belenky et al., 1986), a process that activates the critical approach to the assumptions of the individual and ultimately the transformation of mental habits and assumptions of life, without this being a certainty.

2.   Teachers as Adult Learners

Teachers, as a professional team, are distinguished by specific characteristics. They come to the training programs bringing with them their previous experience as pupils, students, and teachers and shaping their educational identity not only through their studies but also through the situations they experience in the society in which they live and grow up. Often these experiences are not appropriate

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or useful for new learning and can make it difficult to integrate new knowledge into pre-existing one. Specifically, because pre-existing knowledge is deeply ingrained and arranged in the teacher's mind, they have strong resistance to re-examining or reconstructing it, as any modification conflicts with the system, which he interprets the world in and therefore resists change. Therefore, the process of "ab-learning" must take place (Rogers, 1999) which requires a transformation, that is a critical consideration of pre-existing knowledge for teachers to reconsider their views and to become free of distorted assumptions to become "cooperative learners" (Mezirow, 2009). This process is rather reciprocal, evolutionary, and spiral (Taylor, 2017).

The central issue in transformational learning is to help learners re-examine the foundations of their misconceptions and challenge the validity of those who have become dysfunctional to form a more sustainable picture of the world and its place in it (Kokkos, 2011). The role of creating a positive participatory climate in the group of trainee teachers is catalytic in this process, as it allows them to be more open, to process their knowledge and experience by interacting and communicating with the team, and finally to facilitate the transformation process required of Adult Education (Mezirow, 2009). Thus, within the limits of a group, subgroups are formed with common goals, needs, and interests, and for this reason, educational programs should be designed based on these goals, needs, and interests of the teachers involved in the training. Therefore, it is not effective, to create centrally designed training programs, which address all teachers without exception as if it were a homogeneous group as far as professional needs, priorities, and interests. Nowadays the teachers' professional development is enhanced due to the constant changes in the educational environments. This situation creates a new role for the teacher, who is called to constantly update his knowledge (Cochran-Smyth & Lytle, 2001) with the goal of training, changing participants, and at the same time making them independent. Therefore, the need to have the professional competence to meet the new challenges makes the need for training actions urgent and makes the teacher responsible for the search for such.

Teachers' professional development is effective when linked to the needs and daily activities of teachers and students (Ganser, 2000) and interaction among all the stakeholders of a training action makes it more effective (Clement & Vanderberghe, 2000; Darling-Hammond & McLaughlin, 1995). They are the driving force of the transformation of the personal teaching style and then they can influence in this direction both other teachers also critically empower their students by involving them in transformative activities. Moreover, the professional development courses can help transform dysfunctional reference frameworks, as the exchange of experiences that takes place within these courses can activate critical reflection, lead them to realize their distorted assumptions and their impact on the adoption of specific teaching practices (Chant, 2009) and ultimately transform established teaching principles, practices and methods.

Several teacher professional development models note the transformation of their perceptions, views, and teaching practices. One such model of professional development was developed by Clarke and Peter (1993) and later developed by the Teacher Professional Growth Consortium (1994). This model is known as the Interconnected Model of Teacher Professional Growth and advocates that change occurs when the processes of reflection and action between 4 sectors, which concern the world of teachers, are mediated. The model is non-linear and recognizes professional development as a continuous learning process, where changes in one area can bring about change in others through the mediation of reflection and enactment.

Evans (2002, 2012) also developed an ontological model according to which it highlights the attitudinal development and functional development and indicates that through professional development teachers can modify their self-image, their stereotypes about their role and involvement in the educational process and adopt new attitudes and behaviors, both as individuals and as professional teachers.

In addition, Desimone (2009) developed a conceptual framework for the interactions between teachers' knowledge and skills, their teaching practices, and learning outcomes. This model

emphasizes that teacher transformation (change in knowledge, skills, and practices) and the transformation of directives (the effect of changing practices on learning achievement) can be combined to work effectively in a teacher professional development course (Wayne et al., 2008).

### 3.	The Role of Adult Educators in a Transformative Learning Course

However, the role of the educators in the professional development programs is crucial, as they are the person who will involve the participants in the program in critical reflection processes regarding their assumptions and will use their experience. In addition, it will shape the program based on the educational needs of the participants and will try to identify their stereotypes to structure the program towards the reconstruction of their stereotypes, respecting the principles of adult education, and utilizing experiential learning.

According to Transformative Learning, the adult educator must take a stand in favor of a change, promote dialogue and participation, avoid dogmatism, create protective learning environments in which to strengthen the necessary conditions of social democracy, enhance the autonomy of thought, support learners in achieving personal learning goals, to motivate them to realize their potential for them to become independent thinkers and to use their experience, which is the starting point of critical thinking. Critical thinking and communication based on rational dialogue are important in the process of Transformational Learning, as they play a catalytic role in transformation since through them the learners are pushed to seek the depth in the meaning of their views on the world and to communicate their ideas "as a coherent and critical discourse with the trainer and their co-learners" (Mezirow 1991, p.78)

The role of the adult educator according to Mezirow (2009) is to make every effort to transfer his power to the learners, so that they become "cooperative learners", to help each adult become better by challenging and changing, if necessary, elements of his or her personality structure, to develop a reciprocal relationship with learners aiming at personal transformation and social change beyond the acquisition of knowledge and skills. For the adult educator to fulfill his role, he must be in a dual process, that of self-knowledge and positive change (Mezirow, 2012; Tzovla & Kedraka, 2020). He considers educators as "cultural activists committed to upholding and expanding the rules,… social practices,… institutions and systems that enhance fuller and freer participation in dialogue,… Transformational Learning enhances contemplative action and greater activism of the participants" (Mezirow, 2000, p. 26-31).

### 4.	Follow up as the Last -but necessary- Snapshot of the Educational Film

Follow-up is a process that aims to investigate the extent to which the results of a program maintain in the long term. It is an element of the wider planning process of an educational program, aims at its improvement, and proves its quality and efficiency. However, it is a neglected stage of evaluation, which is often not utilized during the implementation of educational programs in general and teachers' professional development in particular, and as recorded there is a small number of research concerning teachers' professional development programs (Adams & Craig, 1981; Katz et al., 1981; Franke et al., 2001; Richardson, 1994) which have included the follow-up stage in their designing and implementation.

Follow-up is a feedback process for all those involved in an educational intervention (learners, trainers, and providers of educational programs), as it supplies them with important information about its impact and effectiveness. In this frame, the goal of teachers' professional development programs is the implementation of new and innovative elements in the educational process. The follow-up provides feedback if ultimately the participants continue to apply and experiment with what they learned in the program if they have transformed established concepts and teaching practices, and whether they ultimately maintain in the long term the effects the program had on their professional development. Furthermore, it provides feedback to the educators on the satisfaction of the trainees, on their adequacy and effectiveness, and provides information to the providers of such programs on the effectiveness of these programs over time, so that they decide whether to continue or stop them.

5.   A Case Study Regarding the Teaching of Biological Concepts in Primary Schools

Professional development programs that focus on the use of new technologies in the educational process, have the element of optionality, are flexible, and allow the autonomy of the participants it is noted that are preferred by teachers (Castaño-Muñoz et al., 2018). Taking into account the above, the Laboratory of Teaching and Professional Development of Bioscientists of the Department of Molecular Biology and Genetics, in the Democritus University of Thrace-Greece, designed and offered in October 2020 an online distance learning professional development course for elementary school teachers during the Covid-19 pandemic with the aim of attitudes transforming on utilization Open Educational Recourses (OER) in the teaching of biological concepts in Primary school.

The program was designed in the philosophy of MOOCs, as recently this specific model of professional development has also been applied to teachers with encouraging results both in terms of its effectiveness and in terms of their completion rates (Ngeze & Sridhar, 2019; Tzovla et al., 2021a; Tzovla & Kedraka, 2021). It emphasized the pedagogical framework of forming a positive attitude towards their use, gaining self-esteem and confidence in their abilities, and finally transforming teachers' views, teaching practices, and their role in the new conditions they formed due to the pandemic. This effort took place when the coronavirus pandemic increased the use of digital educational resources in the learning process, as emergency remote teaching was unprecedented for the educational community.

The course aimed to form "transformational teachers", who will be able to activate the process of transforming themselves in terms of their professional role and affect other teachers in this direction. The educators, also, contributed substantially to this effort, inspired by the ideas of transformative learning, and shaped the course by emphasizing a) the transformation of any distorted pedagogical perceptions about the use of digital educational resources in the learning process, b) in utilizing the experiences of the participants and c) in the interaction among the teachers and with the educators.

The program focused on a) transformational learning b) social learning, which were emerged through sharing experiences and the creation of new knowledge and encourages teachers to act as learners and designers, the self-regulation of the participants (Moreno-Marcos et al., 2020), c) the role of the educators as that of the individual who plays a critical role in shaping the interactions within the online training courses (Pavlis-Korres & Leftheriotou, 2016), encourages dialogue and participation, supports learners in achieving personal learning goals, motivates them to realize their potential, so that they become "self-sufficient learners" and utilizes their experience, which is the starting point of critical thinking (Mezirow, 2012) but also the role of the educator - facilitator, who with the appropriate choice of the content of the educational process - which is based on the real needs of the learners, as they express themselves - leads them to learning (Jarvis, 2010) and d) take into account the obstacles that adult learners may encounter in their lifelong learning.

The educational intervention focuses on some of the types of interactions mentioned by Anderson (2004) and can be utilized in online learning environments and in particular in the interactions among:

- Teachers and content

- Teachers and educators

- Teachers and Teachers

Interaction is an important element that reinforces the positive attitude towards distance education and when this is achieved the learners are satisfied (Pavlis-Korres & Leftheriotou, 2016). In this frame, the teachers through the discussion forum interacted asynchronously. They reflected on the educational material, the proposed activities, and, ultimately the deepened knowledge. They were asked to choose digital content, design activities for their classroom, took into account the proposals of other colleagues, and finally come up with those activities that matched their students' profiles and teaching styles.

The program was structured based on the principles of distance education and adult education, it took into account the results of the investigation of the educational needs of teachers, as they were investigated earlier (Tzovla & Kedraka, 2022), it was hosted on an easy-to-use and familiar distance learning platform to the participants, in order to facilitate those who do not have experience in such programs provided well-organized modules, dedicated discussion space for solving technical questions good practice guidelines for participating in MOOCs, graded difficulty and reflection activities and focused on curriculum (Tzovla et al., 2021b)

The educational methodology followed was based on the 10 steps of transformation, as described by Mezirow (Mezirow, 2009, 2012). Teachers were asked to respond unexpectedly to an unprecedented event (disorienting dilemma): the emergency remote teaching, frame different from the way they were trained and used to work. As the result they were confronted with feelings of fear, anger, shame, and guilt, realizing that their frame of reference was inconsistent with the reality they were faced with, which triggered the critical evaluation of assumptions (Brookfield, 2012; Mezirow, 1998). Critical discourse followed each step, and key points were written down in the form of notes by the researchers. At the end of the course, all participants evaluated the course via open-ended questions, which were drawn and adapted for the course, from Brookfield's Critical Incident Questionnaire (CIQ) (Keefer, 2009). The course focused on transforming teachers' dysfunctional assumptions and boosting their self-efficacy and self-confidence. In this frame, the educators promoted dialogue and participation, utilizing the experience of the participants, and motivating them to realize their abilities, so that they become independent learners (Mezirow, 2009). Specifically, the educators through the planning of active operations aimed to lead the team in a process of critical reflection on the structured frame of reference, offering the possibility of transformation (Kokkos, 2011). Thus, by highlighting the potential of the proposed digital educational resources and how to integrate them into their teaching they tried to activate the critical evaluation of their basic assumptions (Mezirow, 1991). Through critical dialogue, discussion, interaction, and cooperation among the participants provoked by the educators both in the asynchronous forum and in the synchronous discussions with the educators, a learning community was formed that reflected on practices that were no longer sufficient and were not able to serve the new educational challenges (Avalos, 2011; Harding, 2016).

The participants who are most experienced in the use of digital resources in teaching shared their personal experiences, which activated the open discussion and reflection on the participants' assumptions and the expression of their feelings (reaching out to others undergoing similar experiences). In this frame, the role of the educators was crucial, as they encouraged the participants in the course to share their experiences with the team and encouraged the team to work on the issues that arose (Tzovla & Kedraka, 2020). Thus, the teachers shared their initial concerns with the team and the educators and were pushed through a critical dialogue to explore the issue in all its dimensions, enhancing the understanding and re-examination of their assumptions, as well as the reference frameworks within which they have been formed.

The thoughtful dialogue that took place within the community regarding specific ways of evaluating the proposed digital resources in the teaching of biological concepts and their contribution to learning outcomes (the exploration of new relationships, roles, or courses of action) contributed to the gradual transformation of the attitudes of the participants towards the utilization of digital educational content and OER, a fact which made them better in terms of their professional capacity (planning a particular course of action).

6.   Discussion

The course through its educational material, the skills it cultivated, and the critical process in which it involved the participants (gaining the necessary knowledge, skills, or attitudes for implementing the chosen course of action) strengthened their self-confidence (Mezirow, 2009, 2012) and enhanced a positive attitude towards the integration of digital resources in the distance learning teaching (realizing confidence in the new role). As the educators' contact and support to the teachers continued after the training, most of the participants not only incorporated digital educational resources into the

emergency remote teaching but continued to integrate them into their daily teaching practice even when teaching resumed in live teaching (implementation of a new role on provisional bases). It advocates teachers learn through their experiences (Jarvis, 2010) and adopt new ways of approaching and interpreting the reality that surrounds them (reintegration into a life based on new conditions, informed especially by one's new perspectives).

The main goal of this course was the contribution of the learning community that was created to the cultivation of mutual support skills, peer support, and sharing of experiences, which contributed significantly to the transformation of participants' views and attitudes and the creation of a collective experience. The specific learning community strengthened the culture of cooperation, a characteristic that does not seem to characterize teachers, as pointed out by Achinstein (2002) and Burbank and Kauchak (2003). This element is also observed in the Greek educational reality, where cooperation and the sharing of ideas and materials are met with resistance and skepticism. The community has activated the critical reflection process (Mezirow, 2009) on both personal and peer experiences, led to a revision of stereotypes, and attitudes, and created the collective experience of a learning community. In addition, participants' reports that the above contributed to the successful monitoring of the weekly activities demonstrate the community's contribution to the completion of the course.

7.   Conclusion

Learning for adults is a difficult and time-consuming process, which requires a transformation. It is rather a focus on the transformative potential of learning, their ability as learners to reframe their assumptions, therefore changing in fundamental ways and not merely adding knowledge or skills (Hoggan, 2016). In our project, transformative learning occurred as learning that changed teachers' acquired frames of reference - assumptions and expectations - that determine, filter, and often distort the way they think, feel, decide, and act as educators, as Marsick and Mezirow argue (Teachers College Record, 2002). Indeed, their transformation probably derived from critical examination and fundamental change in their problematic frames of reference as teachers, which had been adopted by them through their stereotypical education. After participating in our training project, they seem more open, reflective, and emotionally able to change. Such an educational frame is likely to generate beliefs and opinions that will prove truer or justified to guide their practice and actions as teachers than other frames of reference (Teachers College Record, 2002). Participants in the program benefited from it by utilizing all the possibilities it offered with the ultimate goal of improving their self-efficacy, transforming entrenched perceptions and attitudes, and ultimately their professional development.

Finally, teacher professional development programs should be very well structured, to be implemented in terms of adult education, and facilitate the transformation process and educators should be sufficiently trained to create educational environments that will allow teachers to restructure their views (Magnusson et al., 1999).

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