



TEACHER EDUCATION AT THE FOREFRONT: LONG-TERM STUDY THROUGH THE PRISM OF UNIVERSITY PEDAGOGY AND TRANSFORMATIVE LEARNING THEORY

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Abstract:

The present research attempts to study the education of teachers through the perspective of university pedagogy and transformative learning theory. The aim of the study is to investigate the possible long-term effects over a decade of an educational intervention on teacher students during their university studies by applying the 'Transformative Learning through Aesthetic Experience' method. Taking into consideration that they are going through the period of emerging adulthood, in which their identity is under development, the basic question is to explore reflective skills in the participants. We do so by updating their views on the educational issues analyzed in the above educational intervention. From the research findings it is clear that there are long-term effects of the above educational intervention on the development of the participants' critical reflection and on the way of their epistemological assumptions are configured throughout the emerging adulthood.

Keywords: teachers' education, university pedagogy, transformative learning, critical reflection

1. Introduction

The field of university education has continuously been developing on an international level throughout the last decades, and it has recently begun to grow in Greece too (Kedraka, 2017). In attempting to identify it, we would say that it is a particular educational framework, with specific targeting as well as specific characteristics of the participants, referring to both university students and teachers. Consequently, all the above conditions have an impact on the formation of university pedagogy, as a special area of research in the field of Educational Sciences.

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The role of the university is described as a workshop for the transmission of knowledge, the fostering of learning for the development of integrated personalities with critical thinking, academic ethos and awareness of social responsibility (Gougoulakis & Economou, 2014, p. 10). Focusing on teachers' education and in relation to pedagogical training, there is a need for a holistic approach, which is related to the awareness of the school as a factor of the social system, as well as the relationship between the teacher and the learner and the teaching process along with what it involves (planning, application, evaluation). At this point, Illeris' contribution to the way in which he approaches holistically the learning process (2007 & 2009), is substantive. In particular, in his attempt to analyze the learning process, he defines three dimensions that interact with each other and should be taken into account in tandem: a) the content of learning (curriculum, educational methods, objectives, etc.), b) the incentive of learning, which includes feelings, motivations and will, and (c) interaction, i.e. the learning context (educational organization, social context, class).

However, regarding the question of whether or not students aged 18-25 who are in early adulthood according to Brookfield (2015) or emerging adulthood as posited by Arnett (2000) can be considered as adult learners, the international literature states that adulthood is not solely determined by age, in that this criterion is not constant, both in time and across societies.

According to developmental psychology research on emerging adulthood, this age range is associated with developmental challenges, which in some cases may be difficult, and there is great heterogeneity, mainly due to socio-cultural differences (Arnett, 2007; Reifman, Arnett & Collwell, 2007; Leontopoulou, Mavridis, & Giotsa, 2016). The dimensions of emerging adulthood include a) identity exploration, b) instability, c) self-focus, d) feeling in-between, and (e) possibilities.

It is obvious that during the course of adult life it is necessary to process experience, become acquainted with oneself and acquire professional and social skills. All these processes, in order to be able to take place in a fertile and functional way for the young, presuppose the parallel existence of reflective processes and critical thinking (Raikou & Filippidi, 2019). The provision, therefore, of reflective opportunities from the new environment is particularly important. If we combine this rationale with the effect that, as mentioned above, is exercised by the socio-cultural context in the formation of emerging adulthood, we realize that the given context in which the young person exists, lives and acts, has a catalytic effect on their development.

The university is just such a social framework, which has an impact on the formation of the students' life (op. cit.). Especially in Greece, where the majority of young people are studying at university, this influence is important (Raikou & Karalis, 2010). The university framework could be seen as an intermediate stage between the family and the wider social context. It contributes to the transition from full family dependence of adolescence to the autonomy of adulthood, giving young people the possibility of semi-autonomy.

2. The role of critical reflection

Trainee teachers begin their studies having some beliefs about learning and teaching. During their studies there is a negotiation between the knowledge and perceptions with which they enter university and the academic knowledge taught during their studies, in combination with their educational experiences in the context of the practicum.

According to Argyris and Schön (1974), people use cognitive maps that guide them regarding the way they will act in each particular situation. We plan our actions based on these maps and control the effectiveness of our actions. These are mental models based on practical theories or the so-called "*theories in use*" (Stavrakopoulou, 2005, p. 49). The "*theory in use*" includes the worldviews and values that correspond to our behavior. They are usually absurd and implied and are directly related to our practices. On the other hand, there is the "*espoused theory*" that constitutes the "*official placement*" of a person. This theory refers to the worldviews and values that the person explicitly embraces and states that he believes in certain occasions. This is not about a difference between theory and practice; it is about two different theories of action.

Starting from the rationale that the theory in use regulates and determines the actions of the individual, when the former differs itself from the espoused theory, there is disagreement and incompatibility. This means that the person declares that he has other theories for specific circumstances, and his acts on the same circumstances correspond to different theories. This discrepancy needs to be further elaborated through the review of actions, according to Argyris, in order to perceive the theory in use and investigate the causes of the disagreement. In other words, the "*incompatibility between intention and outcome*" is attempted to be detected and corrected, through the critical reflection on the action of the individual (op. cit., p. 49).

If we transfer the learning model of Argyris and Schön to teacher education, we realize that it is a process in which the reflection of educational practices and the critical self-reflection of teachers' epistemological assumptions are carried out. The main objectives of this process include the realization of their theories in use by teachers themselves, the examination of the possible inconsistency that may exist between their espoused theories and their corresponding theories in use, and the design of action steps so that their two theories can be in accord to a greater degree. However, the difficulty in changing a person's personal theory is highlighted, even after a systematic effort is made (Dewey, 1938/1980).

3. The factors of critical thinking

Therefore, in order to learn from experience, teachers should have time to think about the experience. As Richert points out (1991), the experience undergone by a person does not automatically lead to learning. We learn when we have the opportunity to think on an experience we had. Consequently, the process of reflection on the practices experienced is an integral part of teacher education.

In order to increase the participation of trainee teachers in learning procedures that promote reflective processes, some factors that have an impact on reflective activation and progress should be taken into account. According to a survey by Kreber (2004, as cited by Taylor, 2007, p. 178), the most important factor in stimulating reflective frame of mind, is motivation. We should recall at this point the crucial role of motivation in Illeris' learning triangle (2007) mentioned above, as one of the three dimensions of learning. It is clear that, since it is a difficult and laborious process for the trainee, without the appropriate frame of mind and desire, no reflection can be achieved.

In this respect, Cranton (2006) places particular emphasis on the challenge of disorienting dilemmas in the educational context in order to trigger the process of critical reflection in learners. For over a decade there have been discussions at the Stanford University Center for Teaching and Learning on 'activating events', which may account for anything that triggers and causes students to consider their thoughts (McGonigal, 2005). With this in mind, they are advancing the design of teaching strategies that can be applied to all scientific fields, based on the theoretical framework of transformative learning, aiming at critically reviewing students' perceptions, starting with the challenge of dilemmas within the framework of university pedagogy. They note, however, the need for both the existence and balance between two key factors: support and challenge. The results of related research confirm the above findings, while the systematic use of art can play a catalytic role in providing dilemmas (Raikou, 2018).

Another factor emerging from Kreber's own research is teaching experience. The type and duration of the teaching experience can significantly affect the reflective process. Therefore, the significance of past experiences on the one hand, but above all, because of a lack of prior teaching experience, the learning opportunities of trainee teachers during their studies, are revealed within the framework of practicum.

Finally, it emerges from the findings that teachers should deal more *"with why they teach than with how or what to teach"* (Kreber, 2004, p.a. in Taylor, 2007, p. 178). This point is not particularly easy for trainee teachers during their studies, for two main reasons. First of all, because they are at an age phase (emerging adulthood) where developmental changes are very big, while their self-image and identity - and consequently their role as educators - is under construction. In addition, due to teaching inexperience, it is expected that they will concentrate mainly on the subject of teaching and the teaching method they will follow in order to meet the requirements of the educational framework, leaving the 'why' by the wayside. Therefore, the need for a meta-cognitive approach to educational experience arises as an indispensable part of the university education of teachers.

However, a significant constraint resulting from this research, as well as from other related ones, is *"the challenge of participants to both recall from memory and verbally articulate reflective moments during their teaching practice, particularly about a phenomenon (teaching) that often operates at a tacit level"* (op. cit., p. 179). At this point it is evident from the literature that it is particularly useful to use visual media such as photography and video (op. cit., p. 188) or works of art. These projects help trainees, especially in cases

where they lack the ability to recall and explicitly report experiences. But above all, they strengthen their reflective skills in order to be able to describe and sometimes become aware of their beliefs and feelings about the issues under consideration, because they often work subconsciously.

However, in order for this to be feasible and have benefits in the practical application and the trainees' actions, the educational context in which we seek critical thinking, plays a determining role. According to Garvett's research (2004, as cited by Taylor, 2007, p. 186), "*cognitive awareness of underlying epistemic assumptions and changing the form of meaning making*" is not enough to achieve change in practice. A prerequisite is the development of a supportive educational framework by the university institution, with guidance and clear guidelines. This is linked to Dewey's emphasis on the need for action to learn through experience (1938/1980, p. 18). This combination of communicative (support) and instrumental (clear instruction) knowledge are essential elements of transformation.

The ability to shape a transformative framework in teacher education is further reinforced by other surveys (Taylor, 2007, p. 182). The literature indicates that providing learners with learning experiences, which (a) are direct, (b) require the person's own involvement and (c) urge them to reflect on experience, is a powerful tool for promoting transformative learning.

4. Experience and education

So far, we have seen the necessity for developing critical thinking, starting from the personal perceptions of trainee teachers and making use of the processing of their educational practices. This is reinforced by the importance of practicum in the context of university education, as mentioned above. Teacher's previous knowledge and experiences are therefore linked to the learning context through the reflective process. As Cranton points out, the life experiences of the individual, even if they are not directly related to the subject, are very important in their education and influence the way they learn (2000, pp. 28-34). It has already been said that besides the past experiences of the trainee teachers, what they are undergoing in the learning process is equally important (Dirkx & Smith, 2009; Tisdell & Tolliver, 2009). According to Dewey, the creation of educational experiences contributes to the development of the students (Taylor, 2007).

In his work, Dewey unambiguously links experience with education. In particular, he develops the basic principles of experience and how through this, a person makes sense of things, while pointing out that it is a lifelong process totally connected to learning (Raikou & Karalis, 2019). He believes that education is a development within the bounds of experience, it comes from experience and is ultimately intended for experience, and, as already mentioned, there is a need for action methods to be followed (Dewey, 1938/1980, p. 18).

The first basic principle of experience in Dewey is the principle of continuity, according to which each experience takes one of the previous ones- at the same time -

and somehow changes the quality of the coming ones (op. cit., p. 24). The second is the principle of interaction, on the basis of which the two factors of the experience, the objective and the internal conditions, are attributed equally. Every smooth experience is a co-operation of these two whole situations (op. cit., p. 30). These two principles of continuity and interaction are not completely separate. They complement and interact with one another. They are "*the longitude and latitude of experience*".

In order to understand and manage the experience, we use Dewey's habits, by which we define a "*frame or establish a temporal context, a referential basis of interpretation and action*" (Alexander, 1987, p. 145). In other words, Dewey conceived the concept of habit, as a construction of the experience that allows us to give meaning to situations. It is an acquired predisposition, in the sense that its formation is influenced by man's previous activity.

The habits regulate ways of responding to external conditions and stimuli of the environment, define our thoughts and constitute the basic tool of will (Raikou & Karalis, 2019). The importance of habit is decisive in shaping behavior and includes both physical and moral habits, being characterized by a high degree of stability, while their change is a very difficult task (Dewey, 1922).

It is therefore clear the importance of experience in the way in which we understand the circumstances, as well as the concept of the custom and the catalytic role it plays in this process. If, however, due to the fact that we have a habit, we are unable to manage environmental conditions, then we are led to a problematic situation that 'requires' the activation of the reflective process.

5. Critical reflection and transformative learning

Dewey typically states that "*any theory and set of practices become doctrinal when they are not based on the critical examination of their own deeper principles*" (1938/1980 p.14). In defining reflection, he argues that it is the "*active, persistent, and careful consideration of any belief or supposed form of knowledge in the light of the grounds that support it and the further conclusions to which it tends*" (1933, p. 9).

Mezirow (1991, pp. 107-108) mentions in his work three kinds of reflection. Referring to the content reflection, he clarifies that it is about the actual thinking on the experience itself. It is related to the content or description of a problem. The process reflection refers to how the experience is dealt with, the control of the strategies used to solve the problem we have chosen. Premise reflection refers to the 'why' - to our thoughts on the deeper, socially constructed assumptions, beliefs and values associated with the interpretation of the experience. This latter kind, the reflection on basic hypotheses, enables the individual to transform into his mental habits, forcing him to see himself and the world in a different way (Cranton, 2006).

Mezirow (1998) also distinguishes critical reflection in critical reflection of assumptions and critical self-reflection. The first refers to the critical examination of the basic perceptions of others. Transformative learning is possible through objective reflection, which is associated with critical thinking over the assumptions of others, as

they appear in a narrative (e.g. critical analysis of a text, speech, artwork) or in a performance oriented, problem solving (e.g. learning in practice). This process aims at examining assumptions if they are true or justified, and it is mainly related to instrumental learning (op. cit., p. 192).

Accordingly, critical self-reflection focuses on the evaluation of our own basic assumptions and can be accomplished through subjective reframing. This process refers mainly to the criticism of a fundamental hypothesis, on the basis of which we pose and face a problem, and it is mainly about our psychological (why I feel the way I feel, how I have formed myself as a self - person - personality) and epistemological (why I think the way I think, how I learned what I know, why I believe what I believe) assumptions (op. cit.). According to Dewey (1934), the transformative process is characterized as a dynamic evolutionary process, which is irreversible.

6. Research methodology

In the present study, our interest focuses on the possible long-term effects of an educational intervention using the “Transformative Learning through Aesthetic Experience” (TLAE) method during the participants' studies, and whether six years after completing their studies, any elements of impact can be identified. The TLAE method is part of the theoretical framework of transformative learning, while it is based on the use of art in order to enhance and promote the development of critical thinking within the educational structures through the elaboration of the participants' assumptions (Raikou & Karalis, 2011; Raikou, 2012, 2014; Raikou, Karalis & Ravanis, 2017). The six stages of the TLAE method include exploring the need for critical reflection on student assumptions on a subject, and the selection of appropriate (and related) works of art for processing (Kokkos, 2011). Then, through the gradual observation and processing of the selected works of art, a reflective dialogue is sought in order to achieve a critical reflection on the subject.

The specific longitudinal research was carried out in the Department of Educational Sciences and Early Childhood Education of the University of Patras and consists of two phases: a) an initial research involving the systematic application of the TLAE method, within a series of workshops to students of the above department (Raikou, 2016); and (b) a second survey with the same group of trainees six years after their graduation, using semi-structured interviews, which was designed and implemented in the context of the researcher's postdoctoral thesis (Raikou, 2019).

In particular, the initial research focused on investigating possible changes in student assumptions related to the application of the above method, and in particular in studying the degree of duration and breadth of these changes (Raikou, 2016). In the second research we are interested in looking at the possible long-term effects on the participants of the previous educational intervention, which had been implemented in the same group during their undergraduate studies. A qualitative approach was used to conduct this research using a semi-structured interview. The axes of the interview questions included mainly open-ended questions, opinion questions and structural

questions. During the interviews, the participants were asked to elaborate on some of the educational concepts of the initial research; while they were given the works of art that were used in the earlier research so as to comment on and relate them to the above concepts. These works included painting, sculpture, film, poetry and literature.

In essence, by combining the original research with the current research, a ten-year follow-up of the possible effects of the application of the above method and the way with which the epistemic assumptions of the participants are shaped throughout their emerging adulthood, is attempted. The main objective is to update their views on the educational issues that have been analyzed in the above educational intervention, their perception of art and, more generally, how to construct meaning.

A basic difficulty that arose during the survey was to identify and communicate with all the participants in the survey. The expiry of a long time since the previous survey and the lack of updated communications data made it difficult to communicate and conduct interviews. For this reason, following systematic efforts by the researcher to identify the participants, she managed to interview eleven of the fifteen participants in the original survey.

It is worth noting, however, that all the participants with whom communication was made possible, were very willing to participate in the new research and devote time to it. As they themselves stated, their willingness was mainly due to the positive memory they had from the workshops during their studies.

7. Analysis of research findings

It is clear from the presentation of research findings that trainees' experiences from the workshops during their studies have influenced and continue to influence them positively as a good educational experience. If we look at their answers through the Illeris learning triangle (2007), we can see that they cover all three dimensions of learning; content, incentive, and context. We therefore refer to a holistic approach to learning, according to the theory of the Danish theorist. These positive memories were the reason they themselves acknowledged that they urged them to take part in this research with great eagerness and willingness to participate.

In particular, what they have to remember is the team process, the sense of security in a friendly climate, participatory learning with constant dialogue, in terms of equity and respect for all- elements that form a positive educational framework for learning, which is different from the standard teaching method used in university education (Rotidi & Karalis, 2014). As far as the content is concerned, this has also been a positive factor for their participation because the processing themes were, as they stated, of their immediate interest since they concerned issues of their role as teachers and practical applications in the team of trainees. Concerning motivation, the above reasons (supportive educational context and interesting content) were important factors of personal interest for participation in this group. However, the most important reason cited by the majority of the participants was the use of art. The works of art mobilized for participation, activating the feelings of the team members. Even after eight to nine

years of the workshops of the group, the participants remembered strongly specific works of art that caused them surprise, distress, warmth, emotion (Raikou, 2019).

Another element that is particularly evident from the answers is the influence of their experience in constructing meaning and understanding of both educational concepts and works of art. Those who have educational experience speak through their role as teachers, using constantly relevant examples. They refer repeatedly to the pupils and to the circumstances of the particular trainee group (i.e., age, subject, etc.). An example are the words of a participant:

“I started looking for dysfunctions they may have at this age: ‘Am I too exaggerated? What can a three-year-old child do?’ Of course, we had done it at University, but I did not remember them. For example, we had a kid who had Asperger syndrome. I was not trained to deal with it and I was seated and I was thinking of how I could help, what problems she has and how this child deals with them ... I was looking for seminars ...”
(P7)

Respectively, those who have no special or no teaching experience at all continue to perceive the educational concepts as trainees or through the theoretical knowledge they have acquired from their studies. However, many recognize the impact of experience, in the way meaning is constructed, as a continuation of the studies, and not an independent one. They believe that these experiences (theoretical knowledge and experience in studies, as well as after-school teaching experience) function interactively and complementarily, in accordance with the principles of experience in Dewey (1938/80). One participant specifically mentions that:

“I think it is a total experience ... I believe that since I am of an advanced age! It’s a total experience by putting yourself in all positions, since I had the opportunity both as a trainer and as an instructor. And although I do not have a child, and I will not have it soon, nor am I in the field, I do not cease to see it. So, I think it’s a whole experience and I’ve seen it on both sides which I think it definitely helps. This is because anyone who has not been involved in education and does not want to deepen, can only see it on the part of the trainee.” (P3)

However, we should not forget that the participants, even though they have completed their studies, are still in the period of emerging adulthood, just before the adult age threshold (Arnett, 2007). The age period investigated, both at the initial study during their studies and in the second survey, in the first few years after graduation and shortly before the age of 30, is -as stated in the theoretical part- a period of identity research, change, focus on oneself and exploration of the potential of the new. Throughout the survey, all the above dimensions of emerging adulthood emerged in the participants. The exploration of their professional role and its evolution over the years, through the effort to shape their identity as educators, is evident.

The sense of intermediary that had their first years of experience, slowly led them to take responsibility. Also, the construction of relationships with trainees and with the other people in their professional area (colleagues, supervisors and students' parents) is obvious. Finally, there is a clear orientation towards themselves through continuous reflection and self-evaluation in order to shape and reshape their own worldview and their personal perceptions of what kind of educator they tend to be.

The main aim of the research was to look at how critical the participants are, having spent a long time since the first intervention. It is obvious from their answers that there is evidence of reflection on the content and the process; however, there is no clear evidence of reflection on basic hypotheses (Mezirow, 1991), although there is a strong mood and the need for critical reflection on the part of the participants:

"We are missing this because we cannot easily discuss our experiences and our thoughts and analyze it. And that's what I liked at the workshop, the fact that we were with the same people for a while, and that we would discuss different issues, and this would give me food for thought, some practices ..." (P2)

It seems that the lack of a supportive framework and collaborative post-university learning that could provide reflective opportunities, prevents the further development of critical thinking. In any case, however, we can detect in the answers of the participants their *"theories in use"*, as well as the parallel attempt to process their *"espoused theory"* (Argyris & Schön, 1974). Through the development of their thinking it becomes visible that they critically analyze the difference between their views on certain educational issues and those that correspond to the practices they finally choose in the field of education. Moreover, in their answers there are elements of critical thinking and self-reflection:

"... The role of the teacher is very important and difficult. It's a tough role and I'm still looking for it ... six years and I'm still looking for it ... 'should I do this? May I change that?' ... the reflection here plays a role. And it changes what we believe in our role every time." (P11)

As far as the factors of critical thinking are concerned, as mentioned above, the motivation plays an important role when it comes to learning. The desire and willingness of the participants in this research is evident in all their responses. Another factor that emerged in the same research is the teaching experience. The type and duration of the teaching experience can significantly affect the thought process, which is clearly reflected in the participants' responses.

"Because each teacher can have so many things in their mind about their role, but the circumstances in which they sometimes work may change a little and how they will behave and the goals they will have according to education and everything. Also, something that you do not understand ... there are things in your subconscious that

sometimes come to you because sometimes teachers are expected - under pressure and at speed- to think, so a little comes out of what they have inside.” (P2)

However, we should not forget a significant constraint resulting from research into the difficulty of the participants verbally expressing their reflective moments of teaching. However, the use of art has been highlighted by the literature as an effective way of overcoming this difficulty, which is confirmed in this research. It is clear from the participants' answers that works of art have facilitated them in the reflective process, clarifying thoughts and associating them with their experiences.

“I have this film about how a teacher can influence such a large group of children, how important the role of the teacher is ...” (P11)

“This I think is a clear document of our own reality!” (P3)

The application, therefore, of the TLAE method has particularly enhanced the reflective process, using art. Not just for that reason. Particularly, what prompted critical reflection was the formation of a supportive educational framework, with guidance and clear tooling instructions, such as the implementation of the stages of this method. Participants have repeatedly mentioned the friendly and supportive framework that has been developed in the workshops, a feature that has emerged from research (Taylor, 2007) contributing decisively to the promotion of the reflective process. In any case, the combination of communicative (support) and instrumental (clear instruction) knowledge are essential elements of transformation, which are reinforced by the provision of learning experiences to the trainees that are direct, require the personal involvement of the learner and urge him to reflect on the experience (op. cit.).

8. Conclusions

In the present study, we were interested in examining the possible long-term effects on the participants of a previous educational intervention that had taken place in the same group during their studies. In fact, by combining the initial and current research, we have attempted to monitor the development of the participants' educational perceptions and practices for about ten years.

Through their responses we observe that their perceptions continue to show the image they had in the first survey. According to Dewey (1934), the transformation process is characterized as a dynamic evolutionary process, which is irreversible. In particular, the broad and social approach of education and learning is evident, but it is even more enriched through the teaching experience they have gained over the years following their studies. Moreover, we also see a shift towards self, towards the teacher himself and personal development, while both the reflection and the tendency to seek their identity are clear. In other words, their course of development and the internal

processes that take place throughout and in almost all dimensions of emerging adulthood are clear.

The opinions expressed are related to their experiences as teachers, a feature that reveals deeper understanding and process. In addition, it is noteworthy that their initial views, which did not show much change, in the present study, change is more profound and meaningful through experience. Another element that is particularly evident from the answers is the influence of their experience in the construction of meaning and the understanding of both educational concepts and works of art.

In particular, those with educational experience speak through their role as teachers, constantly using examples from their teaching space. They refer repeatedly to the pupils and to the circumstances of the particular trainee group (i.e., age, subject, etc.). Accordingly, those who have little or no teaching experience continue to perceive the above educational concepts as trainees or through the theoretical knowledge they have gained from their studies. However, many recognize the impact of experience, the way of building meaning, as a continuation of study, and not an independent one. They believe that these experiences (theoretical knowledge and experience in studies, as well as post-study teaching experience) work interactively and complementarily.

In each case, a great need emerges for the existence of a supportive framework such as that of the workshops of the initial research, a need expressed by almost all the participants, regardless of the degree of teaching experience. They underline the importance of having a group that offers reflective dialogue opportunities, similar to the application of the TLAE method, in order to analyze their experiences and critically evaluate their epistemological assumptions.

9. Final thoughts

If we want to improve university teacher education, the need for a holistic approach to the field is clear. Limiting to learning content only makes training and preparation of future teachers incomplete, while the need for reflective activation of all participants in the educational process is immediately and universally accepted.

In order to enhance the promotion of critical thinking, the basic prerequisite is to meet two key factors: support and challenge. On the one hand, it is necessary to develop the appropriate supportive environment in a university context, with cooperative techniques and experiential methods, enhancing dialogue, respect and acceptance. On the other hand, it is necessary to stimulate the participants through the motivation of their interest. We have seen that the induced dilemmas in the educational context trigger the process of critical reflection, and therefore the design of teaching strategies aimed at critically reviewing participants' perceptions and starting from the occurrence of dilemma situations may act catalytically in this direction.

The TLAE method has been proven to be able to serve both of these factors within a university context, while its effect on participants' reflective processes is now evident over time, as emerged from this research. Especially in an age of self-exploration and identity formation, in which the young people involved in research are,

the need for reflective opportunities during studies, as well as the acquisition of reflective skills as a resource for the development of their lives, seems even more necessary. Beyond that, each person's experience and way of constructing meaning leads to a reflective path unique to each individual.

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