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# Investigation of Teacher's Training Needs in Post-Secondary School- Apprenticeship Class: A Greek Case Study

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## Abstract

Apprenticeships in the Greek education system include the training of a new generation of professionals with parallel vocational training in the workplace and theoretical training in the school unit. Most of their training is done while working for an employer who helps trainees learn their profession, while successful completion of the program leads to the acquisition of qualifications. School-based education aims to enhance knowledge through business-based training and to ensure the acquisition of competences and skills. The aim is also to ensure that the school section of the program develops students' general competences and lays the foundations for lifelong learning. Educational systems should offer to apprenticeship's teachers the opportunities for a career development in order to maintain a high level of teaching and maintain a high-quality educational potential. Although the role of Greek teachers in apprenticeship is clearly defined, there is a lack of training opportunities in the methods and its contents, which drives to an unsuccessful implementation of an apprenticeship.

**Keywords:** Apprenticeship, Educational Needs of Teachers, Professional Development, Adults Education

## 1. Introduction

Formal educational structures have introduced apprenticeship programs that combine education and training in schools or other vocational education institutions with workplace-based education. Work-based learning refers to a series of educational, pedagogical, and assessment practices that focus on formal learning process synergy with workplace practices (Bruindiers, Wiek & Redman, 2010). An apprenticeship program contributes to skills acquisition, reduces youth unemployment, increases entrepreneurship and innovation, and finally has the potential to promote social inclusion. Whether apprentices have a positive attitude toward apprenticeships depends largely on the skills of the teaching staff. In apprenticeships, having qualified staff to supervise the trainee is usually one of the quality assurance requirements, while the effectiveness and efficiency of vocational training programs have been in place for decades in formal education policies (William T. Grant Foundation, 1988 · Womble, Jones, & Ruff, 1995). In the international literature, however, fragmentary information is presented on the roles of teachers engaged in apprenticeships, their work environment, their employment status, their qualifications and training, their entry into the profession (Broek, et al., 2017) and attitudes of professional educators towards improvement programs (Greenan, et al., 1998). The quality of teachers is difficult to determine because teachers' work contexts may vary as they work in both the education system and the world of work.

## 2. Apprenticeship

The gap between the worlds of education and work is still huge and more advanced economists are concerned about how young people can make the transition from school to work (Hanushek, Woessmann, & Zhang, 2011), since the 21st century requires individuals to be skilled professionals, trained and creative, think critically, effectively solve problems, respect different cultures and have opinions on many areas of human life. One attractive way to tackle this transitional problem - which has significant political support worldwide - is to orient students to vocational training jobs through apprenticeship programs (Ryan, 2001).

Apprenticeships are an attractive way of learning as they prepare for jobs and careers while leading to formal qualifications (Kuczera, 2017). Apprenticeship training provides learners with a number of benefits, such as gaining professional experience, developing skills such as teamwork or entrepreneurship, and offers them a real understanding of daily life and the reality of the working world (Cedefop, 2015). Apprenticeships have for many years been characterized as an important educational model for enabling a smooth transition from school to work and enabling young unemployed to improve their professional skills (Galvani, 2017). Throughout this process there have been numerous reports that apprenticeships provide a safe and uninterrupted transition to adulthood necessary to achieve adulthood status (Vickerstaff, 2007).

Teachers are at the heart of this issue, responsible for delivering high quality teaching and guidance in classrooms and businesses (Vassiliou & Andor, 2013). Clear roles and responsibilities ensure that participation, interaction and commitment are focused on achieving goals (Wilson & Pretorius, 2017).

## 3. The apprenticeship in Greece and teacher's role

Since the early 1950s, Greece has begun some form of apprenticeship programs that despite their limitations and omissions, have served as the foundation for the expansion of the program. In recent years, apprenticeships have been integrated into post-secondary education, where cooperation and coordination between all parties (schools, businesses, public bodies, chambers, social partners) and the provision of resources, tools and guidelines is proposed (Cedefop, 2018). Law 4336/2015 approved for the modernization and extension of vocational training the extension of apprenticeships and the increase of private participation. Since then, the apprenticeships have been carried out in: (a) EPAS apprenticeship schools, under OAED (Labor Force Employment Organization) supervision, for a period of 2020/21 b) EPAL (Vocational High School), within the optional year of apprenticeship class, and (c) IEK (Vocational Training Institutes), providing six months of compulsory traineeship or apprenticeship.

The apprenticeship will continue to be carried out in parallel in all three structures (EPAS, EPAL and IEK) until the school year 2020-21, so future actions will be decided on the basis of the program's evaluation. The fact that there are three separate structures that offer apprenticeships means that they operate complementary rather than competing with each other. It should not be forgotten that this whole process takes place at a time when the Greek market is suffering from the financial crisis which has resulted in the loss of over one million jobs. The economic downturn is expected to affect developments in the apprenticeship system, notably as regards the enrollment of new apprentices in small and medium-sized enterprises and the possibility of apprentices being absorbed after the end of the program.

Apprenticeship in Greece supports two roles. A professional who prepares EPAL graduates to enter the workplace successfully and is directly linked to the national effort for productive reconstruction, focusing on knowledge and work. And a social role linked to the smooth transition of alumni to extracurricular life. The dual apprenticeship system, in addition to on-the-job training for four (4) days per week, includes on-site teaching one (1) day per week for seven (7) teaching hours by school's teaching staff.

In addition to teaching, teachers 'duties include supervising apprenticeships' students in the workplace. The teacher must also handle the information system which is responsible for the apprenticeship program, supervise compliance with contract terms, write program monitoring reports, record absences and check the accuracy of

forms. In addition, the post-secondary school year apprenticeship teacher must contribute to the dissemination of practices such as project work, lifelong learning, digital skills improvement, effective communication, adoption of innovative practices, adherence to professional ethics etc. The multifaceted role of the teacher involved in apprenticeship programs is therefore clearly evident.

Because apprenticeship systems are characterized by important social aspects, such as the problem of cheap labor, prejudices about access to apprenticeships in terms of gender, ethnicity or ability issues or, finally, the worrying phenomenon of school dropout, it is important from teachers to help reduce such situations by better regulating and controlling apprenticeships. Finally, in order to improve the quality of their work, the teacher is also in charge of the need to exchange information and transfer good practice from other countries (European Union, 2012).

Differences are observed in the way “work and learning” is done between school laboratories and the workplace, so teachers need to make it easier for learners to fill this gap and during theoretical lessons at school to develop lifelong learning attitudes and skills, leading to the search for additional information that is not readily available from apprenticeships (Akkerman, & Bakker, 2011). The apprenticeship teacher will be called upon to take on the role of mentor for his apprentices. It also assumes the role of teacher, partner and person who motivates and facilitates the learner's learning path (Bass, 2017). On the other hand, it seems that the apprenticeship teacher himself needs to have a mentor to facilitate and guide his teaching work (Taylor, 2018).

It is an important issue to remove the barriers between the education world and the world of work. The shortage of qualified educators in modern technology and production processes and outdated equipment in vocational schools remains a problem. School leadership is vital to fostering teachers' professional development, identifying what teachers need, providing training and learning opportunities, recognizing skills, enhancing logistics, and promoting collaboration to support the project (Jemeljanova, 2018).

As far as Greece is concerned, our literature review has shown a lack of studies on educational needs and the role of educators in teaching the laboratory in the context of the 'Postgraduate year of apprenticeship.' In terms of training methods, it seems that short-lived in-service training seminars, laboratory courses / experiential training models and the exchange of good practice are first and foremost in teachers' preferences. They consider the mixed model as the most appropriate way of conducting training activities, namely the combination of live and distance training activities and supporting the creation of electronic study material. Among the difficulties they face; inappropriate programming, lack of software to facilitate bureaucracy, inappropriate school labs, problems with business interfaces, few apprenticeships, and low learning levels and interest of apprentices (IEP, 2018).

In their study, Anagnou and Fragoulis (2014) argue that a school unit can organize in-school professional development of teachers through non-formal learning paths, providing that it has an organized plan and taking into account factors such as context, educational needs, the people to whom it is addressed but also those who will undertake the process. Broek et al. (2017), stress that one area of further potential research is mentoring teachers involved in apprenticeship programs. This is because in most countries they are treated as general education teachers. However, this may overlook the need for specific requirements, given the specificity of the apprenticeship programs.

#### **4. Methodology**

The research method in the present work is qualitative, where the researcher tries to understand or interpret the phenomena in terms of the meanings that people bring to them (Denzin & Lincoln, 2005). We conducted a thematic analysis of the content using semi-structured interviews with a sample of fifteen (15) teachers teaching the laboratory apprenticeship course to EPAL graduates.

##### **4.1. Purpose**

The purpose of the project is to evaluate the educational identity of the teaching staff of the special laboratory of the Postgraduate Year-Class of Apprenticeships, in order to highlight the critical factors of their teaching quality.

More specifically, an attempt was made to investigate their training needs both as adult educators and as instructors of the instructional activities of the curriculum.

#### 4.2. Research limitations

The research findings are not generalizable due to the methodology chosen. However they are, in our view, of wider interest.

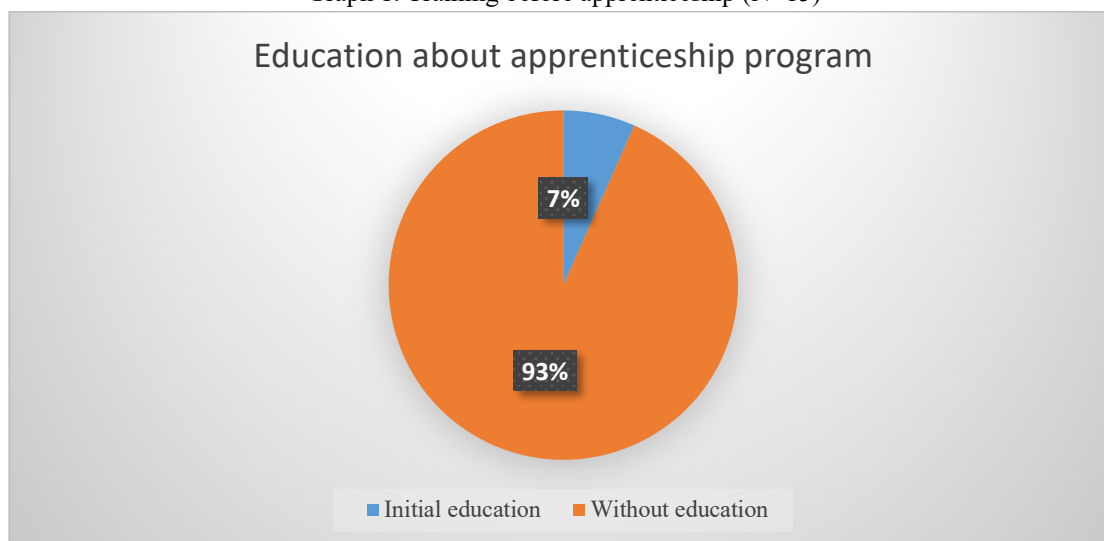
#### 4.3. The sample of the research

The research in the present work was based on semi-structured interviews given by fifteen (15) teachers of the two Kozani EPALs involved in the application of at least one of the three phases of Greece apprenticeship program. Six (6) are women and nine (9) are men. As the research teachers report, four (4) have less than nine (9) years of service in vocational education, while five (5) have been employed for ten (10) to nineteen (19) years. Of the remaining six (6), five (5) have been in vocational training from twenty (20) to twenty-nine (29) years and the latter over thirty (30).

#### 5. Presentation of results

Teachers were initially asked about any training available about the apprenticeship curriculum. Fourteen (14) out of fifteen (15) stated that there was no training before undertaking apprenticeships, while the 15th reported a training on apprenticeships that took place earlier - over a decade.

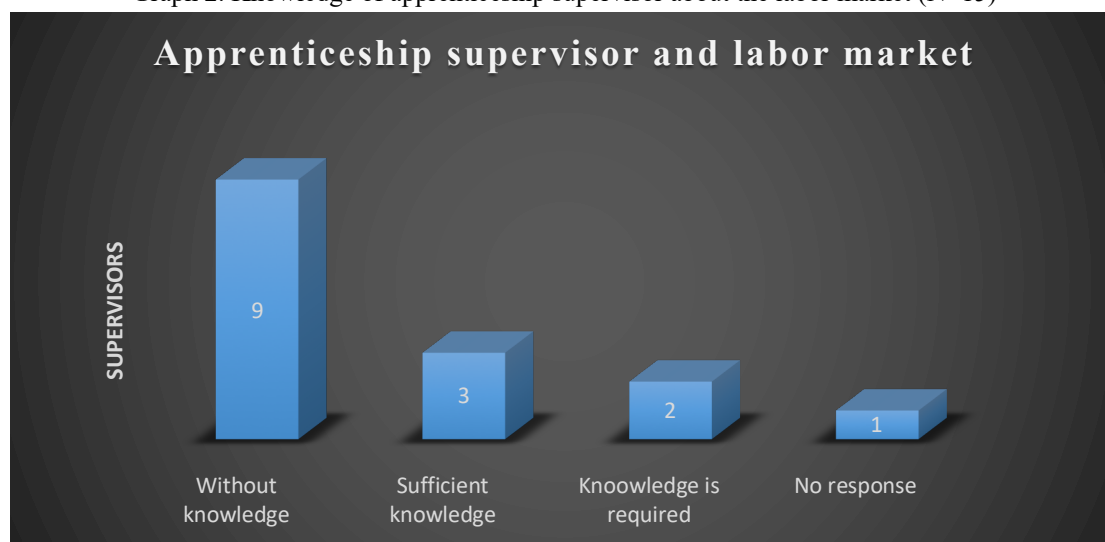
Graph 1. Training before apprenticeship (N=15)



Six (6) apprenticeship teachers said they attended the training organized by the Ministry department at the end of Phase B, but three (3) found that the training provided did not offer them anything useful. Going on, eight (8) teachers reported - although not required - that although they did not receive any training, their prior knowledge and experience was sufficient for the cognitive part of the apprenticeship. Another (1) teacher stated that it was based on the knowledge and experience of colleagues who had previously engaged in apprenticeships.

Apprenticeship supervisors were also asked about their knowledge of current developments in the labor market and in the business world. The answers given are summarized in the figure below.

Graph 2. Knowledge of apprenticeship supervisor about the labor market (N=15)



Continuing, the apprenticeship teachers were asked to indicate on what topics they needed training. We consider it worth mentioning the fact that three (3) respondents stated that they wish to be trained in everything that involves apprenticeship, such as curriculum development, teaching techniques, communication skills and counseling.

The qualitative analysis of the answers revealed six (6) subcategories:

- Training on new developments in the labor market - relationships with employers. Teachers focused on this category, in addition to technological developments in their fields, to become familiar with market functioning, to develop communication skills with employers and to be given the opportunity to use machines and to teach in the workplace of apprentices.
- Training on how to properly complete the forms. Several respondents categorically stated that this is the area they definitely need guidance.
- Curriculum training. Some apprenticeship supervisors found it useful to improve their knowledge of curriculum issues with a focus on those areas that are outside their specialty (sustainability, environmental protection, safety and hygiene, etc.). It is worth noting, however, that some moderators in the same question reported - without being asked - that they did not need to be trained on the curriculum.
- Training in teaching techniques. In their responses, teachers acknowledge that they are having a hard time in approaching the theoretical part of the students, since they are no longer high school students, they are adults and therefore need a different approach.
- Computer training. Few respondents stated that they would like to be trained in computer use, to assist in the bureaucratic part of apprenticeship and to be able to use supervisory tools more freely.
- Vocational guidance. Finally, one (1) teacher reported that he was particularly concerned each time his students asked for advice on their professional future.

In the question about the desired method of training, most said that it is not the method that matters but the efficiency and usefulness of the training. They also stated that they would prefer the training to be done during working hours so that they would not have problems managing their extracurricular activities and responsibilities. They also responded that they expect motives - such as prioritizing apprenticeships - and consider that distance learning methods are unprofitable and require specialized computer skills and appropriate technological tools. They responded that they would find it useful to exchange views and reflections on each other, while experiential seminars that included live demonstrations, even in the workplace, would achieve the goal of training.

The table below shows the categories of the training methods that emerged after the qualitative analysis of the interviews, as well as the frequency of occurrence.

Table 1. Desired training methods

<i>Method of training</i>	<i>Appearance (frequency)</i>
<i>Any method (purpose is the benefit of training)</i>	10
<i>Any method but within school hours</i>	8
<i>Experiential method</i>	3
<i>Exchange of views and best practices</i>	4
<i>Not distance learning</i>	3
<i>Workplace practice</i>	4

Note: Refers to the answers given in a total of fifteen (15) interviews

The follow-up interviews were intended to examine the sample's views on the mentor's role in apprenticeship. With the exception of one (1) teacher who stated that he or she had sufficient knowledge and experience, the remaining fourteen (14) supported the importance of mentoring in the proper functioning of apprenticeships. They argued that especially in the apprenticeship that "you are alone in the beginning!" (Interview 3), it is necessary to have the help of a more experienced colleague who can guide teachers in how the new institution works. It is noted that nine (9) respondents reported that their more experienced peers had already provided invaluable assistance to them in informal but successful and effective mentor's roles. However, three (3) apprenticeship supervisors, although supporting the role of mentor, stated that they were concerned about its appointment procedures and its actual role in the implementation of the institution.

Research participants were asked whether they would prefer their training to be organized by educational policy makers or if they could organize it themselves. Five (5) interviewers - after asking the researcher for further clarification - responded that they were positive in such a perspective, but expressed some doubts about the organization and success of the project. Two (2) supervisors stated that they were negative about such an opportunity, while another six (6) stated that they were already using this training as a tool to improve their skills and acquire new knowledge. Finally, four (4) respondents reported that they had already been proposed and in some cases implemented, apprenticeship group meetings where all problems, questions and practices were put to an open discussion-dialogue.

The next question concerned whether the sample teachers had been trained in adult education. Ten (10) respondents stated that they did not receive any training in adult education, but five (5) of them stated that they believe that they can successfully teach adults either because they have experience in adult education in the past and either believe that there is no difference from children's teaching. Of the remaining five (5) teachers in the sample, one (1) stated a certified adult trainer and the remaining four (4) stated that they attended adult education seminars or courses as part of their postgraduate studies.

Regarding the teaching techniques used during theoretical training in the school unit, their responses indicated that their first preference was to discuss - reflection and exchange of views on practical issues in the workplace followed by the use of the Internet and multimedia for either repeating knowledge or solving queries. When asked why they do not use adult education techniques, they stated that they fear that role-playing games are inappropriate for learners (Interview 9: "Methods such as role-playing games cannot be implemented because children are older ..."), that there is a lack of time (Interview 10: "They will not apply because of time ...") and that the climate in the classroom will be damaged (Interview 6: "We will not use role-playing games, etc. because they would probably bring a lot of laughter and nothing to offer ..."). They also reported that they were unaware of some techniques and would probably need to be trained on them (Interview 15: "I don't apply any techniques because I just don't know them ...") and that they might be unknowingly using some of them (Interview 14: "Of course I can use these techniques but I don't know what they say so ...").

## 6. Discussion

The transition from school reality to the world of work is a demanding process, so vocational education and training, and in particular apprenticeship training, offers learners a number of advantages. At the heart of this theme are teachers who need ongoing support to improve their knowledge and skills (Vassiliou & Andor, 2013), while educational policy should encourage flexibility and innovation in apprenticeships, contribute to promoting good practice, support employers' links with schools and finally select those teachers who are appropriately qualified (Richard, 2012).

The apprenticeship supervisors did not receive any prior training to the apprenticeship institution, thus often moving "into darkness." There were two phases of apprenticeships before they had the opportunity to participate in a training program, but again they argued that the planning of the program was not the right one, since it did not take into account their needs, capabilities and features. In addition, as the bibliographic review has shown, inadequate resources, malfunctioning school culture, inability to align policies to a common goal focused on teachers' identified needs deteriorate their qualitative professional development.

A training program covers the educational needs of teachers when it focuses on teaching strategies related to specific curriculum content, uses effective models of practice, provides expert guidance and support by focusing directly on the individual needs of the participants, providing feedback and allowing teachers to learn, practice, implement and think about new strategies that drive to changes in their practice (Avalos, 2011· Chu et al., 2016· Darling-Hammond, Hyler, & Gardner, 2017). It is therefore no coincidence that the sample of work place great emphasis on the effectiveness of modality training that respects their personal needs. Thus, they prefer experiential life-giving seminars, they pay particular attention to exchanging views and prefer any training that is convenient to their daily lives.

As in Broek et al. (2017) and IEP (2018), training on school interconnection with local labor market needs and the functioning of the business world comes first to responders' preferences. Therefore, there is a need to introduce systematic approaches and opportunities for early and continuing professional development of vocational education teachers both at school and in the workplace. This requires collaboration and dialogue, strong partnerships between various stakeholders, between the school and the local community (Broek et al., 2017). Collaboration is not an end in itself, but it is crucial for improving the quality of apprenticeships and responding to the labor market. Especially in a world where things are constantly changing in terms of jobs and skills, vocational training systems are needed as they allow trainees to manage complex ways of thinking and working. For these reasons, teachers need to constantly adapt and upgrade their knowledge and skills in a rapidly changing world.

What is more, the sample seems to be particularly concerned about proper adherence to the forms. Although they have reported difficulties in the pedagogical dimension of the theoretical seven-hour course at school, they are probably more familiar with the classroom learning process and they want immediate training in bureaucracy. Interviews also reveal that many teachers want to improve their computer skills, although in recent years there have been a number of training activities on the use of new technologies (Kalogiannakis & Papadakis, 2012).

The challenge is to design and implement teachers' professional development through non-formal learning pathways, such as engaging in professional learning communities, creating networks for exchanging good practice, peer-to-peer discussion and creating interdisciplinary teams to keep updated curricula such as apprenticeships. The sample's views coincide with the bibliography, since in their responses, although they declare ignorance and reservation about organizing informal learning, they support the usefulness of exchanging views and good practices among themselves. The same is true about the mentor's role; they express some reservations about the responsibilities of the person taking up this post but agree on encouraging and constructive feedback from the mentor in order to realize and improve their shortcomings (Anagnou & Fragoulis).

The transition from school to work is a period of volatility that has major consequences for adult life. The teachers in this work agreed that most learners change, mature and show obvious signs of adulthood during their nine



months of apprenticeship. They realize that their students need specialized teaching techniques and although they declare that they have not received any training in adult education, they believe that they can successfully teach them. Teaching techniques such as role playing are not used because they are considered ineffective and impractical, while others suggested by the curriculum such as brainstorming, concept maps, proportions and models and case studies are techniques unknown to them. We conclude that it is necessary to train teachers who know well the basic principles of adult education.

## 7. Conclusions

An apprenticeship is a real job, an educational system for a new generation of professionals that includes an educational component. It allows trainees to earn money as they learn, as well as gain a recognized national qualification. In recent years, several countries have been trying to reform their apprenticeship systems in response to a number of challenges, such as the changing nature of national economies, the growing demand for highly skilled and knowledgeable workforce, the reduced commitment of employers to meaningful training programs, the persistent problems of social exclusion and the need for lifelong learning strategies.

Apprenticeship is primarily a model of learning (Guile and Young, 1998). And in a model of learning - as a tool of government policy and institution within the vocational education system - teachers have a key role to play in trying out new policies. Teachers continue to be seen as important drivers of change and the guarantee of quality vocational education and training. But while they are vital to the quality of an apprenticeship, it seems that educational policy makers do not care enough about the qualifications or preparation of those who teach apprentices.

Although the conclusions we draw in this work are not generalizable, we recommend continued support for apprenticeship's teachers. This support can be administrative, educational and financial, peer support or more experienced. It also includes close collaboration and guidance from school principals, improving adult teaching skills, facilitating the development of school-labor market relationships and providing teachers with the opportunity to improve the use of information and communication technology (ICT) to provide access to content, professional development and learning communities. Reliable methods of obtaining this support should be the subject of future discussions.

In a rapidly changing global economy, skills building and utilization will greatly determine our ability to drive innovation, growth and maintain our social model. People need high quality skills to play an active role in the labor market today and tomorrow. Modernizing vocational education and training will enable them to develop the right skills throughout their lives, using flexible learning methods.

## References

- Akkerman, S.F., & Bakker, A. (2011). Crossing boundaries between school and work during apprenticeships. *Vocations and Learning, Volume 5, Issue 2*, pp 153–173. <https://doi.org/10.1007/s12186-011-9073-6>
- Anagnou, E. & Fragoulis, I. (2014). The Contribution of Mentoring and Action Research to Teachers' Professional Development in the Context of Informal Learning. *Review of European Studies* (ISSN 1918-7173 E-ISSN 1918-7181). *Canadian Center of Science and Education, Vol. 6, No. 1*, pp. 133-142. <http://dx.doi.org/10.5539/res.v6n1p133>
- Avalos, B. (2011). Teacher professional development in Teaching and Teacher Education over ten years. Retrieved 28 November 2018 from: <https://www.sciencedirect.com/science/article/pii/S0742051X10001435>
- Bass, S. (2017). Mentoring for apprenticeship. Retrieved 19 November 2018 from: [https://www.expandapprenticeship.org/system/files/mentoring\\_for\\_apprenticeship.pdf](https://www.expandapprenticeship.org/system/files/mentoring_for_apprenticeship.pdf)
- Borko, H. (2004). Professional Development and Teacher Learning: Mapping the Terrain. *Educational Researcher, 33*(8). Retrieved 25 November 2018 from: [https://stacks.stanford.edu/file/druid:vc541fv0664/Borko-PD\\_and\\_Teacher\\_Learning.pdf](https://stacks.stanford.edu/file/druid:vc541fv0664/Borko-PD_and_Teacher_Learning.pdf)

- Broek, S., Pagliarello, M., Noort, R., & Vroonhof, P. (2017). Teachers and trainers in work-based learning/apprenticeships. Doi: 10.2767/34652.
- Cedefop. (2015). Benefits of work-based learning: apprenticeships. Retrieved 7 November 2018 from: [http://www.cedefop.europa.eu/files/9501\\_en.pdf](http://www.cedefop.europa.eu/files/9501_en.pdf)
- Cedefop (2018c). Apprenticeship review: Greece. Modernising and expanding apprenticeships in Greece Luxembourg: Publications Office. Thematic country reviews. ISBN: 978-92-896-2517-3 doi: 10.2801/969982 TI-05-17-224-EN-N
- Chu, S., Reynolds, R., Notari, M., Taveres, N., & Lee, C. (2016). Teachers' professional development. *21st Century Skills Development Through Inquiry-Based Learning*. DOI: 10.1007/978-981-10-2481-8\_6. Retrieved 28 November 2018 from: [https://www.researchgate.net/publication/308497274\\_Teachers\\_Professional\\_Development?enrichId=rgreq-4b640a00609f94bb7b6cddab9816d1d7-XXX&enrichSource=Y292ZXJQYWdlOzMwODQ5NzI3NDtBUzo2NjQ2NTQzNDY5ODEzNzZAMTUzNTQ3NmM1MzIxNA%3D%3D&el=1\\_x\\_2&esc=publicationCoverPdf](https://www.researchgate.net/publication/308497274_Teachers_Professional_Development?enrichId=rgreq-4b640a00609f94bb7b6cddab9816d1d7-XXX&enrichSource=Y292ZXJQYWdlOzMwODQ5NzI3NDtBUzo2NjQ2NTQzNDY5ODEzNzZAMTUzNTQ3NmM1MzIxNA%3D%3D&el=1_x_2&esc=publicationCoverPdf)
- Darling-Hammond, L., Hyler, M., & Gardner, M. (2017). Effective teacher professional development. Retrieved 28 November 2018 from: [https://learningpolicyinstitute.org/sites/default/files/product-files/Effective\\_Teacher\\_Professional\\_Development\\_REPORT.pdf](https://learningpolicyinstitute.org/sites/default/files/product-files/Effective_Teacher_Professional_Development_REPORT.pdf)
- Denzin, N., & Lincoln, S. (2000). Handbook of qualitative research. London: Sage.
- European Commission (2012). Rethinking education: investing in skills for better socio-economic outcomes. Retrieved 16 November 2018 from: [http://www.cedefop.europa.eu/files/com669\\_en.pdf](http://www.cedefop.europa.eu/files/com669_en.pdf)
- Galvani, R. (2017). The Apprentice's Tale: entry to multiple communities of practice for working class boys. Retrieved 19 December 2018 from: <http://discovery.ucl.ac.uk/1566609/1/The%20Apprentice%27s%20Tale%20R.%20Galvani%20final%20version.pdf>
- Greenan, J., Mingchang, W., Ramlee, M., & Lisa, N. (1998). Attitudes and motivations of vocational teachers regarding program improvement. *Journal of Industrial Teacher Education*, 35(3), 6-23. Retrieved 13 November 2018 from: <https://scholar.lib.vt.edu/ejournals/JITE/v35n3/greenan.html>
- Guile, D., & Young, M. (1998). Apprenticeship as conceptual basis for a social theory of learning. *Journal of Vocational Education and Training* 50(2):173-193. DOI: 10.1080/13636829800200044.
- Hanushek, E., Woessmann, L., & Zhang, L. (2011). General education, vocational education, and labor-market outcomes over the life-cycle. Doi: 10.1-201111213047
- Jemeljanova, I. (2018). The role of teachers and trainers in ensuring quality apprenticeships. Retrieved 18 November 2018 from: <https://www.google.gr/url?sa=t&rct=j&q=&esrc=s&source=web&cd=1&ved=2ahUKFwiZgM-53N7eAhUTW8AKHYULAy4QFjAAegQICBAC&url=http%3A%2F%2Fec.europa.eu%2Fsocial%2FBlobServlet%3FdocId%3D19432%26langId%3Den&usq=AOvVaw3deUuHOamAY7zOujWPnBpY>
- Kuczera, M. (2017). Striking the right balance: Costs and benefits of apprenticeship. OECD Education Working Papers, No. 153, OECD Publishing, Paris. <http://dx.doi.org/10.1787/995fff01-en>
- Ryan, P. (2001). The school-to-work transition: problems and indicators. In: A.-N. Perret-Clermont, C. Pontecorvo, L. Resnick, T. Zittoun and B. Burge (eds), *Youth, Learning and Society*. Retrieved 6 November 2018 from: <http://citeseerx.ist.psu.edu/viewdoc/download?doi=10.1.1.194.7832&rep=rep1&type=pdf>
- Taylor, S. (2018). The UCL EdD: An apprenticeship for the future educational professional? *London Review of Education*, Volume 16, DOI: <https://doi.org/10.18546/LRE.16.1.10>
- Vassiliou, A., & Andor, L. (2013). Apprenticeships – a bridge from education to work. Retrieved 18 November 2018 from: [http://europa.eu/rapid/press-release\\_SPEECH-13-595\\_en.htm](http://europa.eu/rapid/press-release_SPEECH-13-595_en.htm)
- Vickerstaff, S. (2007). 'I was just the boy around the place': what made apprenticeships so successful? *Journal of Vocational Education and Training*, 59(3), pp. 331-347. Retrieved 19 December 2018 from: [https://www.researchgate.net/publication/249033127\\_I\\_was\\_just\\_the\\_boy\\_around\\_the\\_place%27\\_What\\_made\\_apprenticeships\\_successful](https://www.researchgate.net/publication/249033127_I_was_just_the_boy_around_the_place%27_What_made_apprenticeships_successful)
- William T. Grant Foundation Commission on Work, Family, and Citizenship. (1988). The forgotten half: Pathways to success for Americas youth and young families. Retrieved 13 November 2018 from: <http://www.aypf.org/wp-content/uploads/2014/11/The-Forgotten-Half-Revisited-Optimized1.pdf>
- Wilson, G., & Pretorius, R. (2017). Utilising work-integrated learning to enhance student participation and engagement in sustainability issues in open and distance learning. DOI: 10.1007/978-3-319-47889-0\_18. Retrieved 2 December 2018 from: [https://www.researchgate.net/publication/313838523\\_Utilising\\_Work-Integrated\\_Learning\\_to\\_Enhance\\_Student\\_Participation\\_and\\_Engagement\\_in\\_Sustainability\\_Issues\\_in\\_Open\\_and\\_Distance\\_Learning](https://www.researchgate.net/publication/313838523_Utilising_Work-Integrated_Learning_to_Enhance_Student_Participation_and_Engagement_in_Sustainability_Issues_in_Open_and_Distance_Learning)
- Womble, M. N., Jones, K. H., & Ruff, N. S. (1995). Employment readiness of urban youth: A study of perceptions of students enrolled in vocational courses. *Journal of Vocational Education Research*, 20(3), 51-83. Retrieved 13 November 2018 from: <https://ejournals.lib.vt.edu/JCTE/article/view/511/702>

**Greek bibliography**

IEP, (2018). Έκθεση αποτίμησης του Ινστιτούτου Εκπαιδευτικής Πολιτικής (ΙΕΠ) για την Α' φάση του Μεταλυκειακού έτους-τάξης μαθητείας. Retrieved 4 November 2018 from: <http://www.iep.edu.gr/el/tee-anakoinwseis/ekthesi-apotimisis-etos-mathiteias>

Kalogiannakis, M., & Papadakis, S. (2012). Αποτίμηση του έργου «Επιμόρφωση εκπαιδευτικών για την βέλτιστη αξιοποίηση των ΤΠΕ και των εκπαιδευτικών λογισμικών». Μια μελέτη περίπτωσης για την Περιφέρεια Κρήτης. Retrieved 18 April 2018 from: [https://www.academia.edu/12000546/%CE%91%CF%80%CE%BF%CF%84%CE%AF%CE%BC%CE%B7%CF%83%CE%B7\\_%CF%84%CE%BF%CF%85\\_%CE%AD%CF%81%CE%B3%CE%BF%CF%85\\_%CE%95%CF%80%CE%B9%CE%BC%CF%8C%CF%81%CF%86%CF%89%CF%83%CE%B7\\_%CF%84%CF%89%CE%BD\\_%CE%B5%CE%BA%CF%80%CE%B1%CE%B9%CE%B4%CE%B5%CF%85%CF%84%CE%B9%CE%BA%CF%8E%CE%BD\\_%CE%B3%CE%B9%CE%AC\\_%CF%84%CE%B7\\_%CE%B2%CE%AD%CE%BB%CF%84%CE%B9%CF%83%CF%84%CE%B7\\_%CE%B1%CE%BE%CE%B9%CE%BF%CF%80%CE%BF%CE%AF%CE%B7%CF%83%CE%B7\\_%CF%84%CF%89%CE%BD\\_%CE%A4%CE%A0%CE%95\\_%CE%BA%CE%B1%CE%B9\\_%CF%84%CF%89%CE%BD\\_%CE%B5%CE%BA%CF%80%CE%B1%CE%B9%CE%B4%CE%B5%CF%85%CF%84%CE%B9%CE%BA%CF%8E%CE%BD\\_%CE%BB%CE%BF%CE%B3%CE%B9%CF%83%CE%BC%CE%B9%CE%BA%CF%8E%CE%BD](https://www.academia.edu/12000546/%CE%91%CF%80%CE%BF%CF%84%CE%AF%CE%BC%CE%B7%CF%83%CE%B7_%CF%84%CE%BF%CF%85_%CE%AD%CF%81%CE%B3%CE%BF%CF%85_%CE%95%CF%80%CE%B9%CE%BC%CF%8C%CF%81%CF%86%CF%89%CF%83%CE%B7_%CF%84%CF%89%CE%BD_%CE%B5%CE%BA%CF%80%CE%B1%CE%B9%CE%B4%CE%B5%CF%85%CF%84%CE%B9%CE%BA%CF%8E%CE%BD_%CE%B3%CE%B9%CE%AC_%CF%84%CE%B7_%CE%B2%CE%AD%CE%BB%CF%84%CE%B9%CF%83%CF%84%CE%B7_%CE%B1%CE%BE%CE%B9%CE%BF%CF%80%CE%BF%CE%AF%CE%B7%CF%83%CE%B7_%CF%84%CF%89%CE%BD_%CE%A4%CE%A0%CE%95_%CE%BA%CE%B1%CE%B9_%CF%84%CF%89%CE%BD_%CE%B5%CE%BA%CF%80%CE%B1%CE%B9%CE%B4%CE%B5%CF%85%CF%84%CE%B9%CE%BA%CF%8E%CE%BD_%CE%BB%CE%BF%CE%B3%CE%B9%CF%83%CE%BC%CE%B9%CE%BA%CF%8E%CE%BD)