

Initial Teachers' Education and Training: An Amazing Challenge

Rosanna Tammaro, University of Salerno, Italy
Anna D'Alessio, University of Salerno, Italy

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Abstract

The article is focused on initial teacher training and illustrates the historical features and the institutional and political background that should be considered in order to understand how initial teacher education and training has developed. To design policies which allow to educate and train teachers is an incredible challenge. In today's context, with the undergoing economic and social changes, high-quality schooling is more important than ever. Teacher education is essential since teacher quality is more and more being identified as decisive to student outcomes. It is now acknowledged that teachers are the school variable that influences the most student achievement (OECD, 2005). To teach is a complex and intellectual work, one that cannot be accomplished without the adequate preparation. Teacher education not only ensures that teachers are – and remain competent, but it also allows to assure that they stay motivated (Eurydice, 2004). Research shows that the effective way to increase educational quality is to modify initial teacher education and recruitment, and to develop the means to train teachers that are already in-service; indeed, teacher education has a significant impact on teachers' behaviors and teaching skills, and on the student outcomes. A complete teacher education combines strong subject-matter and pedagogical knowledge, the ability to collaborate with different actors (students/colleagues/administrators), and the capability to continue developing these skills and to understand the indepth context of the schools in which they teach.

Keywords: Teacher education; Initial teacher training; Teaching practice; University; School.

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Introduction

The social and economic variations the world is experiencing make high-quality schooling more significant than ever and countries have to think on how they can achieve better school systems. Since teachers are the most important source in schools, it is necessary to focus on them in order to reach a higher quality education. Education policies that do not take into account teachers are condemned to ineffectiveness. (OECD 2005) The demands on teachers are more and more complex and this represents true challenges to the profession: multicultural classrooms, integration of students with special needs, use of information and communication technologies, demands for more accountability and evaluation, interactions with the community and the parents, etc (Eurydice, 2004).

This means that the education and training teachers get has to change, too. This is real for initial education, but also for ongoing training: no matter how good pre-service training for teachers is, it cannot be predictable to prepare teachers for all the challenges they will face during the course of their careers.

Education systems therefore try to provide teachers with opportunities for in-service professional development in order to maintain a high standard of teaching and to retain a high quality teacher workforce . It is essential that reforms focus on teacher education since it plays a double role: not only does it ensure that teachers are – and remain competent, but it also allows to ensure that they stay motivated through time. (Eurydice, 2004)

Countries when organizing their teacher's education program face different options.

There are several models to which they can turn when planning an effective and efficient teacher education system, in which initial education and professional progress are coordinated. The purpose is to comprehend how different countries design their education and training models. It will extract some conclusions of the different types of models existing across countries. This work is essential to understand which organizational combination of initial teacher education and continuing training countries have chosen in order to fit best their educational system's needs and challenges. In which ways do teachers in different countries develop their knowledge and teaching skills all along their career? What are the different ways to articulate the different phases in which teachers learn? What are the dynamics that allow to explain the different teacher education models?

The main role of teacher education for improving teacher quality

Since teacher quality is more and more being considered as fundamental to student outcomes, the discussion on teacher education has got importance. It is now known that quality teaching is vital to achieve higher student learning, as it is the single most important school variable influencing student achievement (p. 26) (OECD, 2005), more suggestively than other factors.

It is fundamental to assess what is the empirical evidence of the impact that teacher education has on teachers. Research shows that teacher education has an influence on

teachers' behaviors and teaching skills: continuing training has got an important role in changing teachers' methods, and that these changes have a positive impact on students' learning. (Borko et Putnam 1995) Concerning the impact of teacher education on student outcomes, it is possible to consider that teacher education does have a fundamental impact on both teacher effectiveness and student outcomes and on a positive connection between teachers preparation in terms of subject-matter and the performances of their students.

This is why the most direct and effective way of rising educational quality is to revise teacher education and recruitment, combined with the development of means to improve the knowledge and the pedagogical skills of the teachers that are already in-service. (Darling-Hammond, 2005)

Once clarified why teacher education is essential, as it is directly related to teacher quality and to student outcomes, we will develop the framework used to study the main components of teacher education. A teacher education program can be divided in three parts: initial teacher education, training programs, and professional development. In order to be as effective as possible, these three elements have to be thought conjointly as the professional development of teachers is a lifelong process which begins with the initial preparation that teachers receive and continues until retirement (p. 8) (Villegas-Reimers, 2003). Teacher education has to be thought of, and teacher education policy structured as, a continuum of teacher learning, that goes from the beginning of teachers' own schooling and throughout their entire teaching career. This continuum is not only composed by the formal preparation that teachers receive, but also by the informal influences on how and what learn to teach.

These different elements have to be taken into account, and articulated in an integrated approach to meet the needs of the educational system. Nevertheless, traditionally, teacher education has always been more focused on initial teacher education, defined as —a phase of specialized institutions with an expectation of full-time engagement by the learning teachers, while continuing training was – and still is in most cases – considered as a —marginal add-on to the practice of teaching (p. 33). (Schwille et Dembélé, 2007)

One of the main risks is that teacher education is not perceived, by policy designers and teacher education providers, but even by the teachers themselves, as being a continuum, and the relations that should be interlaced between initial education and continuing training are often missing, which means that the different parts of teacher education are not articulated to each other.

As explained by Schwille and Dembélé, this system exists in the way continuing training programs are planned: they are most of the time created and carried off with little coherence with the initial education received by teachers, and with little to do with what is actually happening in the classrooms. Another problem is that feed-back is rarely provided for these teacher education programs, providers realize no follow-up upon teachers.

To be really effective, continuing training has to be designed to be a part of a larger curriculum that should extend over the all career of the teacher. This curriculum of teacher learning has to be centered on what is needed to keep the overall knowledge, skills and dispositions of practicing teachers stably founded, up-to-date and effective (pag 33). (Schwille & Dembélé, 2007).

Teaching can be seen by two different views, that are not competitors, but that can be articulated between themselves: the role of teachers as knowledge transmitters, that provide correct answer to his students , the role of teachers as facilitator of active learning by the students, that are asked to develop individual problem-solving skills (OECD, 2009). These two visions have in common a similar definition of what is initial teacher education: “all professional preparation before individuals take full responsibility for teaching one or more classes of pupils” (Schwille & Dembélé, 2007).

Initial teacher education is the first entry point to the teacher professional career, it plays a fundamental role : the way it is organized determines both the quality and the quantity of teachers. Its content allows to give to all teachers in a particular context (the national one for the majority of the OECD countries) a set of characteristics and skills, that they will need in order to perform their work correctly. To give the same initial education to all teachers is the way in a country to achieve uniform level of qualification between all school teachers, and to control the overall provision of education in this country. Even in countries in which the educational system is decentralized, and great autonomy is given to schools in the hiring of teachers for example, educational authorities sometimes establish lists of specific skills that teachers have to master at the end of their initial education. It is for example the case in the United Kingdom, where authorities have established a list of competencies that have to be mastered by futures teachers (Guidelines on Initial Teacher Education Courses!) since 1998.

Purpose of initial education

What should be included in the “luggage” of all beginner school teacher through initial teacher education? It is possible to state some general guidelines on what is needed for initial teacher education : a strong subject-matter knowledge, pedagogical skills, the capacity to be able to work with a wide range of students/colleagues/administrators, a capacity for continuing developing this knowledge and those skills. The most common combination among the OECD countries is a mixture of courses in subject-matter, of teaching techniques (pedagogical knowledge), and of practical school experience. It is interesting to note that some countries choose to include in initial teacher education curriculum the development of research skills (Australia, Denmark, Finland, Ireland, Israel, Norway, and Sweden), as well as conceptual foundations in the cognitive, behavioral and social sciences, research-based knowledge of child development.

What is certain is that a complete teacher education contributes to a better teaching performance, as it gives the teachers more sophisticated tools, too, so that they could understand with greater depth the context of the schools in which they teach.

Teachers have to receive a preparation that allows them to deal with changing settings, in which students build their knowledge from different perspectives and sources, like small pieces forming in the end a general puzzle. It is fundamental for teachers to have the ability to create learning experiences that connect with what students already know, using techniques and experiences that will adapt properly to what these students already know, taking into account the diversity of their prior conceptions. (Schneider & Stern, 2009)

Nevertheless, there is no agreement among researchers on the optimum content to give to initial teacher education: some say that a good teacher's education should be toward content knowledge, and others say that it should be on teaching and learning-related knowledge (pedagogical). Research evidence seems to show that pedagogical knowledge has more effect on student success than content knowledge (Cuadra & Moreno, 2005). It is also remarkable to observe the appearance of a new trend in the OECD countries : the surfacing of a third category of knowledge, as relevant as the others, specific and specialized knowledge about teaching and learning process in a particular discipline, it is "the teacher's understanding of how to help students understand specific subject matter (pag 108)". (Cuadra & Moreno, 2005) There seems to be a great potential for teacher education in this field.

In the majority of the OECD countries, initial teacher education contains a part of practical modules or internships in front of students in schools. The goal of these practical field experiences is to familiarize students to classrooms, and to avoid them having a "reality-shock" at the beginning of their teaching career. The modalities that can adopt these school-based experience vary cross nationally, in respect to their total duration, the number and duration of the segments of field experience (can be numerous or just one), where, how and by whom they are assessed. The precise activities that are included in them can also vary considerably, especially concerning the responsibility that is given to the student teacher. It can include activities such as: sole observation, tutoring and assistance, other support task, or being in charge of the class. In some countries, the initial education that is given to teachers is the same for all the level of schooling, and for all the subjects taught, and even the same for different types of school. It is the case in Sweden for example. Thus in some countries, the content of the initial education can be quite different according to the position the aspiring teacher is expected to have. In Germany, according to the school, subjects, level of schooling that a teacher is preparing to teach, the content of the education he receives can be quite different.

Typology of teacher initial education

As regard the different models of teacher education, it is possible to elaborate a typology of them, focused on the one created by Buchberger, Campos, Kallos and Stephenson (2000) to illustrate the different European models. They divide the current models in two main groups considering their several common features: the "traditional models of teacher initial education" and the more modern ones.

The "normal school tradition" is typically associated to the education of primary school teachers. Its curriculum is based on "practical training" (that is: periods of training of the student teachers in schools) through supervised teaching practice, methodology courses, and subject-matter pedagogy.

On the other hand, this kind of program has not got content in educational theory, in academic and scientific knowledge and in research-based knowledge on teaching. Little importance is given to the acquisition by aspirant teachers of problem-solving capacities, required to be able to meet quickly changing tasks of teaching.

This model of teacher education is based on the achievement of elementary skills, through practice. Its advantage lies in the fact that it provides a number of procedures to the teachers, which allows them to master specific aspects of the teaching practices, granting them with solutions to certain well-defined problems they may face in the classrooms.

The second traditional model, the “academic tradition”, is traditionally related to lower and higher secondary school teachers. In terms of curriculum, stress is put on knowledge of scientific content of particular academic disciplines, the acquisition of skills like general problem-solving capacity, and the learning skills for knowledge acquisition. Teachers also in general have to pass a probation period in schools. On the other hand, little importance is given to educational theory and methodology and teaching practice. Rather than being specialized in specific pedagogical skills, in this tradition, teachers are subject specialists in a small number of academic disciplines. The strength of the teachers educated through this model is their problem-solving capacity, which allows them to be reactive in every classroom situation.

Together with these two traditional teacher education models there are two new models : the “professionalization” of teaching, and the minimum-competency model. The main difference between both types of model is the way in which is perceived teaching: the traditional conception of teaching as an ability is substituted by a dynamic idea which emphasizes more on professional autonomy. Teachers are perceived as positive agents of transformation. They define the first one as a movement for the “professionalization” of teaching. The birth of this new alternative to teacher education was produced in the late 1960‘ by the perception of shortcomings inherent to both traditional model of teacher education with regard to effectiveness and efficiency. The appearance of teacher professionalization also should be considered in a context of changing nature of teachers‘ work, and the importance of new information and communication technologies.

In the curriculum of this model, a lot of importance is given to comprehensive research-based knowledge on teaching and the transmission to beginner teachers of a large collection of empirically validated teaching practices. The elements of this teacher education are studies in sciences of the teaching profession, awareness to educational research, professional problem-solving capacity, a professional code of ethics, with the aim of forming teachers that are autonomous, with a strong critical sense, and professional problem-solving abilities. They have the ability to promote “complex learning” (Feiman-Nemser, 2001): teachers must be “practical intellectuals, curriculum developers and generators of knowledge in practice (p 105)”. The main element that defines this model is the place that is given to teachers in the process of education quality improvement: teachers are treated as professionals, experts in their specific field, and that have a tool-kit with particular skills that are the base of their expertise. They are perceives as decision-makers, able to identify problems and school’s specific needs, within a particular context. They are able to propose potential solutions and to assess their operability, for which a critical eye over their own action

is important. They are also considered as leaders, capable of being in charge of the improvement of their skills.

Finally, it is possible to observe the emergence of another recent model in teacher education, called minimum-competency model of teacher education. This model is in sharp contrast, with both traditional models and with the professionalization of teaching. It has been developed mainly in the United Kingdom (school-based teacher training) and in the United States (alternative-routes into teaching) and it is based on the multiplication of alternative entry ways into the teaching profession.

What is principally remarkable in this model is that the attention is not put in the education teachers receive, but rather on the means that can be put into place to certify the competences of those who could be interested in teaching. Whereas in other models, certification is based on course-work, here, it is based on the possession of certain skills that do not come from a teacher education program, but from the personal experience of each aspirant.

In this model, teachers are considered as knowledge-providers that are fit to operate in a particular context. In this framework, the teacher's work consist in providing and transmitting this content in the most effective way to his students. We can see that both types of models (professionalization and minimum-competency) rest on both completely different conception of the teachers' work, and that they demand very different qualities from teachers. It is logical that in that perspective, initial education and continuing training are detained differently.

Continuing training programs

Even if teachers receive a quality initial education, they need to be trained their whole life. Continuing training is even more important in countries where teachers do not have all the academic preparation they should have. Continuing training is a great tool to develop the skills needed to reach higher student outcomes. The promotion of continuing training is also very much linked to the idea that schools are valuable places for teacher learning.

These activities can be very different: dissemination conferences, workshops (preparation to new subject-matter content), school-based activities (study groups, courses), personal teacher development (individual activities outside of schools). The most commonly-used approach is the one-time workshop, but research shows that this form of continuing training is ineffective and inefficient.

In despite of the great potential of continuing training, there seems to be a general discontent among teachers: it is said to be too fragmented, lacking in intensity, and unrelated to teaching practices. In more than half of the OECD countries, teachers have no obligation to engage in continuing training. The most common minimum requirement for the rest of the countries is of about 5 days per year.

See teacher education as a continuum is necessary. The coherence of initial teacher education and professional development has to be developed. In order to be as effective as possible, teacher education has be to thought of, and teacher education policy structured as, a continuum of teacher learning.

Teacher education is a life-long experience that goes from their initial education to their giving up work. The several stages that compose teacher education have to be intrinsically connected. The initial education that teachers receive constitutes a solid base of the knowledge and the skills that they will need for their task, and continuing training allows them to update this patrimony and to adapt it to the changes of the teaching environment. The articulation of these different elements is fundamental, since undoubtedly there are synergies between them, that influence what and how to teach.

Continuing training has to be perceived as an integral element of teachers' professional responsibilities. The continuing training programs are effective when they have a certain length, are based on school's needs and allow interaction among teachers. Adequate continuing teaching programs are the ones that allow more interaction among teachers, and that provide them with the opportunity to evaluate their own work, through for example peer-review, mentoring, lesson studies, extended workshops. Since continuing training should form a part of teacher responsibilities, incentives mechanisms have to be used, and it has to be considered in teachers' work load.

Continuing training represents a tool that is fundamental in the case of low quality initial teacher education: research shows that continuing training has a positive impact on teacher knowledge and skills, and on student performance.

The emergence and consolidation of comprehensive systems of continuing training began in the 1960' (Buchberger, Campos, Kallos, & Stephenson, 2000). Since then, a vast repertoire of continuing training for teachers has been developed. It is possible to outline main features of a typology of continuing training models. In the 1960', these models were oriented exclusively on traditional knowledge-transmission activities. The systemic needs of schools were not taken into account at all. Since the 1960', continuing training models have evolved and more importance have been given to teachers' professional autonomy. They have been given more freedom in the design of the programs and in the administration of the continuing training systems. But it is only much later – in the late 1980' - that more systemic approaches, focused on schools, have been introduced : in these models based on school needs, continuing training is designed as a instrument to improve the quality of entire school. This type of school-based approach, that have a integrated design is more efficient than traditional teacher-based approaches. They are schools for the development of novice teachers, where is also lead research in teaching practices (Price, 2004), and they —aim to provide new models of teacher education and development serving as exemplars of practice, builders of knowledge, and vehicles for communicating professional understandings among teacher educators, novices and veteran teachers|| (Darling-Hammond 1994 in Price 2004).

However, some forms of continuing training coexist. The most commonly used approach is the one-time workshop, or seminar, in which experts from outside from the school give lectures, or proceed to information dissemination (for example, the introduction of new techniques). This form of continuing training is generally chosen for diffusion activities, when a single purpose has to be served (Schwille et Dembélé 2007). There are limited opportunities for meaningful interaction and follow-up.

Teachers may go home with a new idea, but the design of these sessions makes it unlikely that teachers' practice will change in any significant way. A new common form of continuing training is the "cascade model": a select group of teachers are

trained and are then expected to transmit the ideas at the school level. This form of continuing training is usually used when the educational authorities' main concern is to reach as many participants as possible in a short time, and on a short budget.

It is possible to highlight three characteristics of a successful continuing training program: it focuses on specific content and not on basic methods of teaching, it is based on active learning chances for teachers, with meaningful analysis of teaching and learning, it has to be planned in a coherent way: there should be a fluent professional communication among the different actors, and teachers' feedback should be combined to the project of the program.

Conclusion

Teacher education has to be perceived as a life-long experience for teachers, a continuum that goes from their initial education to their retirement. The different phases of this continuum have to provide teachers not only strong subject-matter knowledge, but also pedagogical knowledge (general and subject-specific). They also have to develop critical thinking and problem-solving skills. These skills can be developed thanks to effective continuing training. Schools have to be at the center of continuing training, and it is their needs that have to be taken into account in the design of continuing training programs.

Teacher education has to be flexible: it is necessary that the teaching profession should be opened to a wide range of profiles, considering the specific needs of schools. Teachers for example should be given the opportunity to enter the profession after having completed studies in another discipline, or after having accumulated valuable experience working in another field. This can include structure such as on the job training and distance training.

Adequate continuing training programs are the ones which allow more interaction among teachers, and that provide them with the opportunity to evaluate their own work, through for example peer review, mentoring. This also helps to redefine or define a common spirit of enthusiasm and devotion to their profession. In the same way, systematic feedback mechanisms allow to control and to improve teaching quality.

Initial teacher education is increasingly being transferred to schools. Research shows the positive impacts of reinforcing complementarity between field experience and academic studies. This is why it should not take over completely on the theoretical part of teacher education, fundamental to obtain high-quality teachers. Countries should establish shared responsibility between teacher education institutes and schools in the training of teachers, in order to fill the theory-practice gap.

It would allow to raise the status of the teaching profession, in order to assure quality education, but also to bring teacher education back to the classroom, that seems to be more relevant and efficient.

Research seems to show that alternative pathways are less costly and more – or as effective – than traditional initial teacher education. If the periods of initial teacher education are shortened and alternative pathways are developed and generalized, this might put in risk the academic status of the teaching profession. On the other hand, a way of dealing with this danger is through the teacher certification and accreditation system. Raising the requirements to enter the profession allows to improving teacher quality. Initial teacher education and continuing training seem to be complementary: initial teacher education could be shortened, and the resources economized could be used to strengthen continuing training, based in schools. (Cuadra et Moreno 2005)

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Contact email: rtammaro@unisa.it; dalessioanna1@libero.it.