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Innovative Approaches and Practices in Increasing the Professional Competencies of Teachers

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Abstract

Education reveals the general level of development of a society. The managers of these values, which reveal social development in a concrete way, are also educators. The competencies of these teachers, who shape social values, and their studies on professional development are a matter of curiosity. Increasing the professional competencies of teachers is vital for improving the quality of education and supporting students' achievements. Technology integration plays an important role in education and improves students' learning experiences by enriching teachers' course content. In addition, professional learning communities (PLCs) are an important method that encourages teachers to collaborate and share their experiences and receive professional support. These communities support teachers to learn from each other and to improve continuously. Mentoring and coaching programs provide the transfer of knowledge and experience between experienced teachers and new teachers, and action research stands out as applied research carried out by teachers to solve the problems they encounter in their classrooms. Continuing professional development programs help teachers update their professional knowledge and skills. These innovative approaches and practices are effective in increasing teachers' professional competencies, and their integration into the education system allows teachers to become professionally

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empowered and provide more effective training. This article examines the innovative approaches and practices used to improve teachers' professional competencies.

INTRODUCTION

A quality education system is one of the basic requirements for societies to progress and reach the level of prosperity in developed countries. This should be organized in such a way that students gain not only basic knowledge and skills, but also skills such as critical thinking, problem solving, and collaboration. Several factors are important for improving the quality of education in schools. It is important that teachers are well-trained and constantly continue their professional development, that the curriculum is up-to-date and student-oriented, that class sizes are manageable, and that students are given individual attention.

Therefore, their training and competence can play a critical role in optimizing educational processes (Cochran-Smith & Zeichner 2005; Darling-Hammond & Bransford 2005; Kennedy et al. 2008; as cited in Baumert, Kunter, 2013). In addition, the effective use of technology in education can also increase student achievement. These efforts can improve the overall well-being of society by increasing younger generations' access to information, encouraging them to think, and ensuring their willingness to learn throughout their lives. Thus, improving the quality of education is a critical factor for the advancement and sustainable development of a society.

Teachers play a fundamental role in the education of students and significantly influence the achievement graph. Teachers who are well-trained, motivated, and able to provide individual attention to students are critical to improving students' academic success. Good teachers can positively influence the atmosphere in the classroom, increasing students' participation and motivation in the learning process. At the same time, teachers' knowledge and skills can increase their academic success by providing accurate and up-to-date information transfer to students. Especially in disadvantaged areas or underresourced schools, the presence of well-trained teachers becomes even more critical to elevating student achievement. In this context, it is important to invest in the training of teachers, to support their professional development and to provide them with the necessary resources to do their jobs more effectively. The presence of good teachers is indispensable to increase the success graph in schools and enable students to realize their potential. Therefore, it is important to focus on improving the qualifications and working conditions of teachers in order to raise the level of education of a society and be able to reach a level of welfare similar to that of developed countries.

Teacher training institutions, i.e. educational institutions that provide teaching degree programs or pedagogical formation, bear a great responsibility. These institutions are responsible for ensuring the professional preparation and activities of future teachers. Well-trained teachers increase students'

academic success while also contributing to their social and emotional development. Teacher training programs should provide pre-service teachers with a solid professional foundation in subjects such as pedagogical knowledge, classroom management skills, teaching techniques, and student assessment methods. Ensuring sustainability in skills is also important in this sense. According to Brundiers & Wiek (2017), professional sustainability practices require the simultaneous use of various skills, such as team building, communication, and effective project management.

In addition, candidates need to be trained on how to adapt to different learning styles and student diversity. It is also important to provide pre-service teachers with practical experience and to give them the opportunity to practice in a real classroom environment through field studies. In this way, teachers are better prepared for the various needs and challenges in their classrooms when they graduate. It is also important for teacher training institutions to constantly review and update their programs and to be able to respond to the changing needs of teachers. Following the innovations in the field of education and integrating these innovations into their programs enables graduate teachers to better respond to today's student needs. Teacher training institutions play a critical role in improving the quality of education in society. These institutions contribute to improving the quality of education in schools by producing well-trained and well-equipped teachers, and thus increase the overall welfare level of the society.

Teacher Competencies and Professional Development

Educational institutions, especially with today's technological, economic, and social changes (OpenMind BBVA, 2017; Cabero-Almenara et al., 2020) faces the challenge of renewing educational methods with the aim of educating and informing new generations towards an uncertain and worrying future.

Teachers must meet certain standards in order to be qualified. These standards consist of criteria for determining the professional skills and competencies of teachers. The competencies that a good teacher should possess can include a number of skills. In the field of pedagogical knowledge and skills: To have pedagogical knowledge and skills such as understanding teaching and learning processes, classroom management skills, competencies to cope with student diversity. In the field of domain knowledge: To have deep and up-to-date knowledge of the course or subject to be taught. In student assessment: The ability to evaluate students' learning progress and the ability to support these assessments with feedback appropriate to the student. Communication and Collaboration skills: Ability to communicate effectively with students, cooperate with parents and provide intra-school cooperation. In Continuous Learning and Development: Being a teacher who constantly follows their professional development, is open to innovations and constantly renews himself. In Professional

Ethics: Competence to behave in accordance with the ethical principles of the teaching profession and to be a model for students.

These competencies cover the knowledge, skills and experience that teachers have acquired in their educational processes. Teacher training institutions should tailor their programs accordingly to develop these competencies and ensure that pre-service teachers meet these standards. It is critical for teachers to acquire these competencies to increase student achievement and improve the quality of education. In addition, it is important that the competencies of teachers are constantly evaluated and improved. Supports such as professional development programs and mentoring can strengthen teachers' competencies and enable them to guide students more effectively. In this way, it may be possible to raise the general level of education of the society and reach a level of welfare similar to that of developed countries.

Teachers' professional development and competencies are extremely important to improve the quality of education and support students' success. In this regard, the task falls on the instructors themselves.

It has become increasingly important to create an educational culture that uses digital technology to enhance educational practices. Frameworks such as DigCompEdu help identify weak points and areas where further training is needed (Dias-Trindade & Albuquerque, 2022). DigCompEdu offers a comprehensive structure to help educators assess and develop their digital competencies. This framework helps educators identify their strengths and areas for improvement, while also enabling them to be more effective in the digital transformation process. DigCompEdu recommends 22 core competencies structured in 6 areas (url-1):

Area 1 focuses on the overall professional environment, i.e. teachers' use of digital technologies for their professional development and benefit of all in their interactions with collaborators, students, family and other interested persons.

Area 2 focuses on the skills necessary to use, produce, and share digital resources efficiently and responsibly for learning.

Area 3 examines the use of digital technologies for teaching and learning.

Area 4 refers to the use of digital strategies to improve assessment.

Area 5 addresses the potential of digital technologies for teaching and student-centered teaching strategies.

Area 6 details the specific pedagogical skills required to develop digital competence in students.

By identifying the six stages in which teachers typically develop their digital competencies, the DigCompEdu framework helps identify the stages they are in and decide on the steps to be taken to improve their competencies.

Teachers → Beginner (A1) and Explorer (A2) absorb new information and develop basic digital practices.

Teaching staff → Integrator (B1) and Expert (B2) implement, disseminate and configure digital applications.

Teachers → Leader (C1) and Predator (C2) share knowledge, question it, and develop new practices. In this context, various strategies and practices are available to support teachers' professional development.

Regular professional development programs should be organized for teachers. These programs should be aimed at strengthening the pedagogical knowledge and skills of teachers. For example, trainings on topics such as new teaching techniques, technology integration, classroom management can be offered. Support can be provided to new or less experienced teachers by organizing mentoring and coaching programs by experienced teachers or experts. Such programs can support teachers' personal and professional development and have a positive impact on teaching practice. It is important for teachers to be evaluated and receive feedback on a regular basis. These assessments can help teachers identify their strengths and identify areas for improvement. In addition, feedback can contribute to teachers improving their professional practice and increasing student achievement.

Teachers should be encouraged to conduct research and try innovative practices in their classrooms. Research on topics such as educational technologies, learning styles, and student motivation can help teachers make their lessons more effective.

Cooperation and information sharing among teachers should be encouraged. In addition, by creating professional networks, teachers can be in constant communication with each other and receive support. Teachers should be encouraged to use educational technologies effectively. The use of digital tools and platforms in education can help teachers provide students with a more diverse and effective learning experience. These strategies and practices can be considered as effective steps towards improving the quality of education and improving the achievement of students by continuously

supporting the professional development of teachers. The application of these methods can also help teachers pursue a more professionally fulfilling career path.

The concept of professional development has been recognized as an important factor in the development of education and the professional development of teachers in recent years. This concept refers to the continuous learning and development process of teachers in their knowledge, skills, abilities and professions. The education system is constantly changing and evolving. It is critical for teachers to have up-to-date knowledge and educational techniques so that they can teach in accordance with the changing needs of students. Professional development programs allow teachers to keep up with these updates. Professional development programs strengthen teachers' pedagogical knowledge and skills. This contributes to an increase in the quality of teaching and an increase in student achievement.

Teachers' professional development directly affects student achievement. Studies on topics such as new teaching methods, strategies to increase student motivation, and appropriate approaches to different learning styles enrich students' learning experiences. Professional development opportunities increase teachers' commitment to their profession and increase their professional satisfaction. This, in turn, allows teachers to work more effectively. Professional development activities play an important role in the formulation and direction of education policies at national and local levels. These studies contribute to the identification of strategies to improve the overall quality and effectiveness of the education system. The concept of professional development enables teachers to learn continuously, allowing for the innovative and effective development of education systems. For this reason, it is considered one of the most important factors in development studies in education.

The development of the teaching profession and the inclusion of teachers in continuous professional development processes is a critical factor for improving the quality of education. Research shows that qualified teachers provide more positive learning environments for students, thus contributing to the formation of better schools. Teachers are constantly exposed to groups of students of different age groups, levels, subject areas, and socio-economic backgrounds. This diversity requires teachers to develop appropriate approaches to each group of students and to flexibly implement instructional strategies. Teachers need ongoing professional development opportunities to manage this diversity and provide every student with a fair and effective education. However, an important point is that; Teachers are not machines that can produce instant and perfect solutions to many different problems. Every student and every teaching situation is unique, so common solutions may not always work. This requires teachers to be in a process of continuous learning and adaptation and to be flexible in their interactions with each student.

Professional development programs are an important tool for giving teachers this flexibility and equipping them with innovative teaching strategies. In addition to strengthening teachers' pedagogical knowledge and skills, these programs also provide support on issues such as technology integration, classroom management, and student evaluation. In addition, practices such as mentoring, coaching, and collaboration opportunities promote knowledge sharing among teachers, increasing professional solidarity and fostering a culture of collaboration. Support for teachers in terms of continuous professional development for qualified teachers and quality teaching is the basis for the sustainable success of education systems. While these processes increase teachers' professional satisfaction, they also effectively support student achievement.

The continuous development of teachers professionally and their learning in teaching practice directly affects the quality of the educational service they will provide. This shows that teachers need to be constantly equipped with up-to-date information and innovative teaching methods. Enabling teachers' professional development is an important strategy to improve the quality of education in schools.

An important reason that supports the necessity of providing professional development opportunities to teachers is that teacher candidates cannot be trained adequately or appropriately in the education process. Teacher education institutions are obliged to provide professional knowledge, skills and pedagogical formation to teacher candidates. However, in some cases, these institutions graduate teacher candidates without fully receiving the professional training they need. Teacher candidates may not have enough preparation to solve the practical problems they will encounter in the real classroom environment after learning theoretical knowledge. This can make it difficult for teachers to teach effectively in the classroom and provide instruction that is appropriate to student needs.

In-service professional development programs are critical for graduating teachers. These programs help teachers strengthen their professional skills and pedagogical approaches. In addition, it supports teachers' professional development by providing up-to-date information and strategies on issues such as technology integration, classroom management, and student evaluation. In this context, eliminating deficiencies in teacher education and providing continuous support to teachers' professional development play an important role in improving the quality of education. Teachers' access to in-service training and professional development opportunities contributes positively to their ability to create more effective learning environments for students and thus to the overall success of education systems. Teachers with successful experiences have more confidence in their own abilities and skills. This leads them to increase their efforts to improve themselves in order to be more effective and efficient.

It is known that the budget allocated for the personal and professional development of teachers is insufficient. However, there is no guarantee that more resources will be allocated for in-service training. At this point, it is important for trainers to be aware of the importance of these activities and to value them.

The role of teachers in the development of education is a generally accepted fact today. The first condition for the development of a society is to have qualified manpower, and the basic institutions that will train this manpower are schools. The success of a school depends largely on the quality of education provided by the teachers. Therefore, the professional competence of teachers is one of the determining factors of the quality of the education provided. In order for teachers to be good, they need to receive a good education before the service and to benefit from the opportunities where they can continuously improve themselves in the service. The pre-service training process enables pre-service teachers to learn pedagogical knowledge and practices. In addition, in-service development programs allow teachers to learn new pedagogical approaches, technology integration, and teaching strategies that are appropriate to student needs. It is important for teachers to be supported in every way so that they can improve themselves. This support can be in the form of professional development programs, mentoring and coaching opportunities, collaborative environments, and encouraging sharing between teachers, rather than providing financial resources. The fact that teachers can develop themselves both personally and professionally with these supports helps them to create a more effective and efficient learning environment in their classrooms. This directly reflects positively on the achievement levels of the students and increases the overall quality of education in the society.

Information Resources Teachers Can Refer To

The use of computer-based technologies and communication technologies is an important option in improving teacher qualifications. These technologies can enrich educational processes and make teachers' interaction with students more effective. Here are some potential benefits in this regard:

Accessibility and Availability: Computer-based technologies provide students with easy access to educational materials. Teachers can present course materials to students through online platforms and they will be accessible at all times.

Individualized Learning: Technology can be used to provide instruction in a way that is more appropriate to students' individual needs and learning styles. Students can progress at their own pace or receive customized support to cope with learning challenges.

Interactive Learning Tools: Computer-based technologies can increase students' engagement with tools such as interactive simulations, virtual labs, and educational games. Such tools can facilitate the understanding of abstract topics and allow students to learn actively.

Distance Education and Communication: Especially in distance education processes, communication technologies can help teachers and students maintain interaction. Video conferencing, instant messaging, and virtual classrooms can make it easier to connect and interact with students.

Data-Based Decision Support Systems: Computers can collect and analyze data related to student performance. This data can assist teachers in tracking student progress and optimizing their teaching strategies.

However, in order for these technologies to be used effectively, it is important that teachers have adequate training in integrating and using these technologies correctly. Therefore, teachers need to constantly learn and improve how to use technology.

In a rapidly changing and developing world, continuous learning and self-development is an important requirement not only for teachers, but also for every individual in society. Especially in an age where technology is advancing rapidly, electronic media and digital resources allow individuals to update their professional skills, increase their knowledge, and gain new competencies. This is especially critical for teachers because educational environments are constantly evolving with technology.

Teachers can explore new teaching methods and tools by using a variety of teaching materials presented in electronic media. For example, interactive educational apps, virtual reality experiences, and other technological tools that increase student interaction can make the teaching process more engaging. Electronic media provide teachers with learning opportunities in line with their interests and needs. For example, online training courses, webinars, and digital libraries can help teachers expand their areas of expertise and learn new topics. Electronic media can make it easier to collect and analyze data on student performance.

Using this data, teachers can monitor student progress, identify weak areas, and adjust their teaching strategies accordingly. These electronic media enable teachers to communicate and collaborate with colleagues and international communities. This can lead to the sharing of experiences and new perspectives with teachers from different cultures. In this context, electronic media and digital resources can make a great contribution to the professional development of teachers. However, for the effective use of these technologies, it is important to develop continuous learning and the ability to adapt to technology. In this way, both teachers and individuals in society at large can constantly update and improve themselves in a rapidly changing world.

The potential of technology in education is generally recognized and known by educators. In particular, there is a broad consensus that digital tools can enrich learning processes and increase student achievement. However, this potential of technology is underutilized in influencing teachers' daily professional and personal lives. For example, the effects of technology may be limited in teachers' daily work, such as classroom management, preparing teaching materials, or evaluating students. In order to increase the impact of technology in education, it is important for teachers to receive training on technology and to integrate these technologies effectively. However, this process can sometimes face obstacles such as a lack of technical infrastructure, time constraints, or digital skills shortages. In order to influence the daily lives of teachers, technology needs to be adopted and used more widely in education. In this process, it is important for education policies and institutions to encourage and support technology integration. In other words, in order to fully evaluate the potential of technology in education, teachers need to strengthen their knowledge and skills related to technology and reflect technology integration more effectively in their daily practices.

Educators' technology competencies directly impact the quality and effectiveness of the educational services they provide. The effective use of technology enriches students' learning experiences and provides a more effective learning environment. Teachers' ability to use technology effectively increases their ability to better respond to students' individual needs. Technology helps teachers better understand student development by improving the processes of tracking and evaluating student achievement. Online platforms and digital tools allow teachers to communicate and collaborate with students more effectively. Technology integration supports teachers' continuous professional development, helping them keep their professional skills up to date. Increasing the technology proficiency of educators is an important factor in efforts to improve educational activities and can contribute positively to students' learning processes. Efforts to make teachers technologically literate are of great importance because: Improves the Quality of Education, technology-literate teachers can use more effective teaching methods and materials. This enriches students' learning experiences and improves the quality of teaching. Teachers who use technology effectively can create interactive and innovative learning environments that can attract students' attention. This, in turn, can increase classroom participation. Technology allows teachers to teach in accordance with the different learning styles and needs of students. In this way, the individual learning needs of the students can be better addressed.

Results and Suggestions

This article discusses innovative approaches and practices used to increase teachers' professional competencies. From technology integration to professional learning communities, from mentoring programs to continuing professional development programs, various methods play an important role

in strengthening teachers' professional skills and knowledge. In addition, applied methods such as action research and the effective use of digital technologies help teachers improve educational processes and support student achievement.

Further encouragement and expansion of professional learning communities and mentoring programs can enable teachers to share experiences and learn from each other. It is important for educational institutions to provide the necessary infrastructure and resources for teachers to use digital technologies effectively. In this way, teachers can create learning environments more effectively with modern educational tools. Regularly updated training programs and workshops should be organized to support the continuous professional development of teachers. This will help teachers keep their knowledge and skills up to date. The promotion of innovative methods and research-oriented projects, such as action research, can enable teachers to continuously improve their classroom practice.

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References

- Baumert, J., Kunter, M. (2013). The COACTIV Model of Teachers' Professional Competence. In: Kunter, M., Baumert, J., Blum, W., Klusmann, U., Krauss, S., Neubrand, M. (eds) Cognitive Activation in the Mathematics Classroom and Professional Competence of Teachers. *Mathematics Teacher Education*, vol 8. Springer, Boston, MA. https://doi.org/10.1007/978-1-4614-5149-5_2
- Brundiers K, Wiek A. (2017). Beyond Interpersonal Competence: Teaching and Learning Professional Skills in Sustainability. *Education Sciences*, 7(1):39. <https://doi.org/10.3390/educsci7010039>
- Cabero-Almenara J, Gutiérrez-Castillo J-J, Palacios-Rodríguez A, Barroso-Osuna J. (2020). Development of the Teacher Digital Competence Validation of DigCompEdu Check-In Questionnaire in the University Context of Andalusia (Spain). *Sustainability*, 12(15):6094. <https://doi.org/10.3390/su12156094>
- Cochran-Smith M, Zeichner K (eds) (2005). *Studying teacher education: the report of the AERA panel on research and teacher education*. Erlbaum, Mahwah
- Darling-Hammond L, Bransford, J. (2005). *Preparing teachers for a changing world: what teachers should learn and be able to do*. Jossey-Bass, San Francisco
- Dias-Trindade, S., & Albuquerque, C.P. (2022). University Teachers' Digital Competence: A Case Study from Portugal. *Social Sciences*.

Kennedy, M.M., Ahn, S., Cho, J. (2008). The value added by teacher education. In: Cochran-Smith M, Feiman-Nemser S, McIntyre DJ, Demers KE (eds) Handbook of research on teacher education, 3rd edn. Routledge, New York, pp 1249–1273

OpenMind BBVA. (2017). The Era of Puzzlement. In Rethink the World We Knew; Taurus: Madrid, Spain

Internet Sources

<https://digigunea.euskadi.eus/es/digcompedu1> (accessed on 21.05.2024)