

## **Transforming Teacher Performance: The Impact of Training and Professional Development on Competence Improvement**

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**Abstract** In order to improve the quality of education, the transformation of teacher performance is crucial and depends on adequate training and continuous professional development that improves competence in various aspects. Structured training programmes that meet the specific needs of teachers are key to creating significant changes in their performance so that they can effectively respond to the challenges of modern education. The purpose of this study is to explore the various elements of the impact of training and professional development including digital competencies that focus on improving teacher performance. This research uses the literature study method as the main approach. The results of this study highlight the importance of ongoing training and professional development to improve teachers' competencies, especially in the face of new challenges such as technology integration. By identifying successful training programmes in various studies, education systems can become more effective in improving teacher performance.. The conclusions of this study confirm that continuous training and professional development, as well as the relevance of training programmes to the teaching context, are key factors in transforming teacher performance. The implementation of a comprehensive training strategy, covering aspects of technology, intercultural skills and evidence-based practice, can significantly improve teachers' competencies and, in turn, student learning outcomes.

**Keywords** Training; Professional Development; Teacher Competence; Digital Skills

### **A. INTRODUCTION**

One main focus of teacher professional development is to improve the quality education by improving teacher competence. The transformation of teacher performance is highly dependent on adequate training and continuous professional development. Optimal performance is driven not only by mastery of teaching materials, but also by teachers' ability to implement digital skills, communication, and the ability to manage the classroom effectively, both in the context of in-person and distance education (Chusni et al., 2021).

Several studies have shown that training that focuses on developing teachers' digital competencies plays an important role in improving teaching effectiveness, especially in the current digital era. Digital competencies have become highly relevant in supporting the learning process, especially in distance education situations accelerated by the global pandemic (Galindo-Domínguez, 2021). Addressing digital competencies in pre-service teacher training, it is important to understand the impact of digital training on teaching competencies in the modern era. Research conducted by (García, 2022), reviewed the views of international experts on the importance of teacher training in the face of educational change, showing that effective training is key to teacher adaptation to changes in the development of the digital or IT world.

In addition, professional development involving enhanced neuroeducational competencies has been shown to have a significant impact on teachers' ability to develop students' reading, maths,

social, emotional and moral skills (Caballero-Cobos, 2022). Such training allows teachers to not only improve their understanding of academic content, but also important aspects of students' more holistic development.

The transformation of teacher performance is also closely related to competence in the use of information and communication technology (ICT) in the classroom. Appropriate use of ICT can strengthen teachers' ability to deliver subject matter effectively and inclusively, as shown in a study on the use of Flipped Classroom in pre-service teacher training (Blasco-Serrano, 2022). This emphasises the importance of adequate training in ICT as an integral part of teacher professional development (Fernández-Batanero, 2022). In his research added that the development of digital competencies is essential to improve teachers' effectiveness in facing technological challenges in the modern educational environment. This research also highlights the need for structured and continuous training to enable teachers to optimally integrate technology in the learning process.

Effective training and professional development also includes strengthening teachers' reflective competence. Teachers' ability to critically appraise their own teaching practices can foster continuous improvement in their performance, ultimately impacting on student learning outcomes (Ferreira, 2021). This suggests that professional development should include a self-reflection component to optimise educational outcomes.

Overall, the relevance of transforming teacher performance through training and professional development cannot be underestimated. Existing studies show that structured training programmes that focus on the specific needs of teachers can significantly improve their competencies in various aspects, which in turn contributes to improving the overall quality of education. The integration of these different forms of training is key in achieving the desired transformation in teacher performance.

Some researchers have focussed on the effect of training and professional development on improving teachers' competencies, including in the use of digital technology, teaching specialised content and classroom management. There is limited research addressing the gap between theory and practice in teacher training implementation, as well as the specific impact of training on student learning outcomes across different educational contexts. Therefore, this research intends to examine how training and professional development can be optimised to effectively improve teachers' competencies, particularly in the face of modern educational challenges such as distance teaching and technology adoption. This research aims to explore various elements of training and professional development programmes including digital competencies that focus on improving teacher performance.

## **B. METHODS**

This research uses the literature study method as the main approach. Literature study is a research method that involves collecting and analysing information from various written sources, such as books, scientific journals, articles, and other documents relevant to the research topic. According to (Mestika, 2014) literature study involves reading, recording, and processing research materials obtained from library collections without requiring field research. This is in line with the opinion of (Sari, 2020), which states that literature research aims to obtain a strong and in-depth theoretical basis related to the problem under study.

In this study, the data used is secondary data, which is data obtained indirectly from the original source. (Mohyi et al, 2020) stated that secondary data is data that has been collected and processed by other parties, then used by researchers to support analysis and interpretation in writing scientific papers. The secondary data used in this study were obtained from various scientific journals relevant to the topic of teacher performance effectiveness through teacher professional training and development to improve competence.

Data sources in this study include scientific journals, articles, and books accessed through academic databases such as Publish or Perish and Google Scholar. Articles were selected based on relevance to the topic and quality of publication. Each source was carefully read and analysed using the content analysis method to identify themes, trends and gaps in the existing literature.

The data analysis methods in this research are content analysis and secondary data analysis.

Content analysis was used to evaluate the content of each data source, identify key concepts, and compare findings from various studies. (Martono, 2018) explains that secondary data analysis involves using previously available data to be re-examined in a new context, in order to gain a deeper understanding of the research topic.

The data collection procedure was conducted using the following steps: first, searching for journals and articles through academic search engines; second, selecting and filtering journals based on the relevance of the research topic; third, in-depth reading and understanding of the selected sources; and fourth, writing conclusions based on the analysis of the source articles.

## C. RESULT & DISCUSSION

### RESULT

The literature study was conducted on articles taken from Scopus-indexed highly reputable journals. The timeframe of the article is taken over a period of 4 years (2020-2023). Articles were categorised into 3 clusters, namely Teacher Training in Improving Competence, Teachers' Continuous Professional Development, and Digital Competence: Training and Use of Technology in Teaching.

#### Teacher Training to Improve Competence

The results of the literature study related to teacher training are presented in the following table:

| No | Author/ Years          | Journal Name                                                                                   | Article Title                                                                                                   | Research Conclusions                                                                                                                                                                                                                                                                                      |
|----|------------------------|------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1  | (Al-Qahtani, 2020)     | Asian EFL Journal                                                                              | Teaching Pragmatic Competence in EFL Context: The Case of Saudi EFL Teachers                                    | This article discusses how training can improve teachers' pragmatic competence in an EFL (English as a Foreign Language) context. Its relevance lies in emphasising that specialised training in pragmatic competence can enrich EFL teachers' abilities, which in turn can improve teaching performance. |
| 2  | (Yekimov, 2023)        | E3S Web of Conferences                                                                         | Training of teachers for teaching in the conditions of distance education                                       | This article highlights the importance of specialised training for distance teaching, suggesting that trained teachers are better able to adapt their teaching strategies for the online format, which has a positive impact on their performance.                                                        |
| 3  | (Montes, 2023)         | Heliyon                                                                                        | ICT training for educators of Granada for working with people with autism                                       | This research emphasises the importance of ICT training for teachers working with individuals with autism, which is relevant because it shows how specialised training can improve teachers' ability to teach students with special needs.                                                                |
| 4  | (Cardenas, 2021)       | Proceedings - IEEE 21st International Conference on Advanced Learning Technologies, ICALT 2021 | A teacher training proposal for classroom conflict management through virtual reality                           | This article shows that conflict management training through virtual reality can improve teachers' ability to manage conflict in the classroom, which in turn improves their performance in creating a conducive learning environment.                                                                    |
| 5  | (Garcia-Esteban, 2021) | Interactive Learning Environments                                                              | The effect of telecollaboration in the development of the Learning to Learn competence in CLIL teacher training | This article explores the effects of telecollaboration in CLIL (Content and Language Integrated Learning) training, showing that it can enhance teachers' self-learning competence,                                                                                                                       |

| No | Author/ Years             | Journal Name                                    | Article Title                                                                                                                             | Research Conclusions                                                                                                                                                                                                                                   |
|----|---------------------------|-------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|    |                           |                                                 |                                                                                                                                           | which is essential for effective teaching performance.                                                                                                                                                                                                 |
| 6  | (Julia, 2022)             | Pegem Egitim ve Ogretim Dergisi                 | Improving Elementary School Teachers' Competence in Composing Thematic Songs: An Action Research                                          | This article shows that training in composing thematic songs can improve the competence of primary school teachers, which is relevant in the context of developing creative skills through training.                                                   |
| 7  | (Gràcia, 2020)            | Revista Iberoamericana de Educacion Superior    | Development and assessment of communicative competence in initial teacher training                                                        | This article emphasises the importance of developing communicative competence in initial teacher training, which is relevant because effective communication is key to good teaching performance.                                                      |
| 8  | (Okolie, 2020)            | Journal of Applied Research in Higher Education | Does PhD qualification improve pedagogical competence? A study on teaching and training in higher education                               | This article explores whether PhD qualifications can improve pedagogical competence, suggesting that advanced training can deepen teacher competence, although it is not the only determinant of performance.                                          |
| 9  | (Moreno-Pino, 2021)       | Sustainability (Switzerland)                    | Study of the presence of sustainability competencies in teacher training in mathematics education                                         | This article discusses the importance of sustainability competencies in mathematics teacher training, which are relevant in the context of professional development for continuing education.                                                          |
| 10 | (Solís-Espallargas, 2020) | Sustainability (Switzerland)                    | How to improve sustainability competences of teacher training? Inquiring the prior knowledge on climate change in primary school students | This article explores ways to improve sustainability competencies in teacher training by understanding students' prior knowledge of climate change, demonstrating the importance of training in sustainability competencies for better performance.    |
| 11 | (Leonard, 2020)           | Universal Journal of Educational Research       | Development of teacher research competency training system in Indonesia: A need analysis                                                  | This research examines the development of a teacher research competency training system in Indonesia, which is relevant because it demonstrates the importance of training in improving teachers' research skills as part of professional performance. |
| 12 | (Ha & Murray, 2021)       | System (Elsevier)                               | The impact of a professional development program on EFL teachers' beliefs about corrective feedback                                       | This article highlights that professional development training can change EFL teachers' beliefs about corrective feedback, which is relevant in improving teaching effectiveness.                                                                      |

From the above article, it shows that teacher training plays an important role in improving various teaching competencies, both in formal and informal contexts. Training focussed on specific competencies, such as teaching pragmatics in context and managing classroom conflict using virtual reality, has been shown to be effective in improving teachers' skills in these areas. In addition,

training designed to support learning in specialised environments, such as distance teaching and training in the use of ICT to teach autistic students, shows that adaptation of training to the specific needs of teachers and students is essential for successful teaching.

In addition, there is research showing that continuous training can increase teachers' confidence in providing effective feedback and raise awareness of sustainability in education. Overall, these articles emphasise that structured and relevant teacher training not only improves specific competencies but also prepares teachers to adapt to changing educational needs and new challenges in teaching.

### Continuous Professional Development of Teachers

The results of the literature study related to teacher professional development can be seen in the following table:

| No | Author/ Years    | Journal Name                                     | Article Title                                                                                                                                | Research Results                                                                                                                                                                                                                         |
|----|------------------|--------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1  | (Ketelhut, 2020) | Journal of Science Education and Technology      | Teacher Change Following a Professional Development Experience in Integrating Computational Thinking into Elementary Science                 | This research shows that training in computational thinking can drive positive changes in the performance of primary level science teachers.                                                                                             |
| 2  | (Zhang, 2021)    | Journal of Education for Teaching                | Teachers' motivation to participate in continuous professional development: relationship with factors at the personal and school level       | This article explores teachers' motivations to participate in continuing professional development and how personal and school factors influence these motivations, which are relevant in increasing teachers' participation in training. |
| 3  | (Rich, 2021)     | Computers and Education                          | Measuring the effect of continuous professional development on elementary teachers' self-efficacy to teach coding and computational thinking | This research shows that continuous professional development can increase teachers' confidence in teaching coding and computational thinking, which is important for teaching performance in technology.                                 |
| 4  | (Sims, 2021)     | School Effectiveness and School Improvement      | Identifying the characteristics of effective teacher professional development: a critical review                                             | This research identifies the characteristics of effective teacher professional development, which are relevant to understanding the key elements that should be present in teacher training to improve their performance.                |
| 5  | (Sancar, 2021)   | Teaching and Teacher Education                   | A new framework for teachers' professional development                                                                                       | This article introduces a new framework for teacher professional development, which is relevant in offering new approaches that can be adopted to improve teacher competence.                                                            |
| 6  | (Urbani, 2020)   | International Journal for Research in Vocational | Teacher continuing professional development and team-working                                                                                 | This research explores the relationship between continuing professional development and teamwork competencies among                                                                                                                      |

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|----|------------------|--------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|    |                  | Education and Training                                                                     | competences: A case study from Italy                                                                                                                            | teachers, which are relevant in improving collaboration and performance of teaching teams.                                                                                                                                   |
| 7  | (Romijn, 2021)   | Teaching and Teacher Education                                                             | Increasing teachers' intercultural competences in teacher preparation programs and through professional development: A review                                   | This research shows that training in intercultural competence can improve teachers' ability to handle culturally diverse classrooms, which is relevant in the context of education globalisation.                            |
| 8  | (Smith, 2023)    | Review of Adult Learning and Literacy: VOLUME 7: Connecting Research, Policy, and Practice | Research on Professional Development and Teacher Change: Implications for Adult Basic Education                                                                 | This article discusses the influence of professional development on teacher change, especially in adult basic education, demonstrating the importance of continuous training to update and improve teacher competencies.     |
| 9  | (Popova, 2022)   | World Bank Research Observer                                                               | Teacher Professional Development around the World: The Gap between Evidence and Practice                                                                        | This article demonstrates the gap between evidence and practice in teacher professional development around the world, which is relevant in understanding the challenges faced in implementing effective training.            |
| 10 | (Karlberg, 2022) | Professional Development in Education                                                      | The professional development needs of beginning and experienced teachers in four municipalities in Sweden                                                       | This research explores the professional development needs of novice and experienced teachers in Sweden, which is relevant for highlighting differences in training needs based on teacher experience.                        |
| 11 | (Bowman, 2022)   | Journal of Research on Technology in Education                                             | Teachers' exposure to professional development and the quality of their instructional technology use: The mediating role of teachers' value and ability beliefs | This article shows that exposure to professional development can improve the quality of teachers' use of instructional technology, which is important for improving teaching performance by utilising technology.            |
| 12 | (Didion, 2020)   | Journal of Research on Educational Effectiveness                                           | Teacher Professional Development and Student Reading Achievement: A Meta-Analytic Review of the Effects                                                         | This study conducted a meta-analysis on the impact of teacher professional development on student reading achievement, which showed that teacher training has a significant positive influence on student learning outcomes. |

Based on the above article, it is evident that continuous professional development of teachers is key to improving teaching quality and teacher effectiveness in various contexts. This research highlights the importance of personal factors and the school environment in motivating teachers to participate in continuous professional development, as well as how appropriate development programmes can improve specific competencies such as computational thinking and teaching coding. Other articles identify characteristics of effective professional development programmes, such as team collaboration and enhancing intercultural competencies. However, the research also found significant gaps between empirical evidence and practice in the field, suggesting the need for a new

framework for teachers' professional development that is more responsive to their needs and changes in teaching practice. Overall, well-designed continuous professional development can strengthen teachers' confidence, skills and student learning outcomes.

### Teacher Digital Capabilities: Training and Use of Technology in Teaching

The results of the literature study related to teachers' digital skills can be seen in the following table:

| No | Author/ Years             | Journal Name                                            | Article Title                                                                                                                                         | Research Results                                                                                                                                                                                                                      |
|----|---------------------------|---------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1  | (Galindo-Domínguez, 2021) | Journal of Digital Learning in Teacher Education        | Digital competence in the training of pre-service teachers: Perceptions of students in the degrees of early childhood education and primary education | This article explores university students' perceptions of digital competencies in pre-service teacher training. This is relevant because it shows how digital training can influence teaching competence in the modern era.           |
| 2  | (Blasco-Serrano, 2022)    | Edutec                                                  | Incorporation of ICT into preservice teacher training using the Flipped Classroom so as to enhance inclusive education                                | This research shows how ICT integration in pre-service training with the Flipped Classroom model can improve inclusive education. The relevance lies in improving teachers' competence in using technology and innovative approaches. |
| 3  | (Méndez, 2022)            | Sustainability (Switzerland)                            | Digital Teaching Competence in Teacher Training as an Element to Attain SDG 4 of the 2030 Agenda                                                      | This research links digital competencies in teacher training with the achievement of Sustainable Development Goal (SDG) 4, which highlights the importance of training in improving teachers' digital skills for quality education.   |
| 4  | (Lacal, 2022)             | Revista Interuniversitaria de Formacion del Profesorado | Initial teacher training in linguistic competence: comparative study between Early Childhood and Primary Education degrees Teachers                   | This article discusses the importance of initial training in linguistic competence, which is relevant in showing how initial training can influence language teaching competence at the early and primary education levels.           |
| 5  | (Marin-Suelves, 2020)     | Digital Competence in Schools: A Bibliometric Study     | Digital Competence in Schools: A Bibliometric Study                                                                                                   | This study reviews the literature related to digital competencies in schools, showing the importance of training teachers in digital skills for better performance in the digital age.                                                |
| 6  | (Romero-Tena, 2020)       | Sustainability (Switzerland)                            | The challenge of initial training for early childhood teachers. A cross sectional study of their digital competences                                  | This research explores challenges in the initial training of early childhood teachers, particularly in terms of digital competence, suggesting that effective training is essential to prepare teachers for technological challenges. |

| No | Author/ Years              | Journal Name                                             | Article Title                                                                                                          | Research Results                                                                                                                                                                                                                     |
|----|----------------------------|----------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 7  | (Ortega-Sánchez, 2020)     | Multimodal Technologies and Interaction                  | Self-perception and training perceptions on teacher digital competence (TDC) in Spanish and French university students | This article discusses university students' perceptions of digital competence and teacher training, which are relevant to understanding how training affects teachers' confidence and competence in teaching.                        |
| 8  | (Pérez-Jorge, 2020)        | International Journal of Interactive Mobile Technologies | Training in Digital Skills in Early Childhood: Education Teachers The Case of the University of La Laguna              | This research underscores the importance of training in digital skills for early childhood teachers, which is relevant because it shows how strong digital competencies can support better teaching in early education.              |
| 9  | (Gómez-García, 2020)       | Mathematics                                              | The training and use of ICT in teaching perceptions of melilla's (spain) mathematics teachers                          | This research highlights the importance of ICT training for mathematics teachers in Melilla, Spain, which is relevant in showing how technology can enrich teachers' teaching competencies.                                          |
| 10 | (Fernández-Batanero, 2022) | European Journal of Teacher Education                    | Digital competences for teacher professional development. Systematic review                                            | This article reviews digital competencies for teacher professional development, emphasising the importance of training in digital skills for teaching performance in the digital age.                                                |
| 11 | (Nazaretsky, 2022)         | British Journal of Educational Technology                | Teachers' trust in AI-powered educational technology and a professional development program to improve it              | This research explores how training can increase teachers' trust in AI-based educational technologies, which is relevant in increasing the adoption of new technologies for more effective teaching.                                 |
| 12 | (Howard, 2021)             | Computers and Education                                  | What to teach? Strategies for developing digital competency in preservice teacher training                             | This research demonstrates various strategies for developing digital competencies in pre-service teacher training, which is relevant as it highlights how appropriate training strategies can improve teachers' digital performance. |
| 13 | (Ruiz-Palmero, 2020)       | Social Sciences                                          | Big data in education: Perception of training advisors on its use in the educational system                            | This research examines trainers' perceptions of the use of big data in education, which is relevant because it shows how training in the use of big data can improve teachers' performance in data-driven teaching.                  |
| 14 | (Elías, 2022)              | Frontiers in Education                                   | Development of digital and science, technology, engineering, and mathematics skills in chemistry teacher training      | This research demonstrates the importance of training in digital and STEM skills to chemistry teachers, which is relevant in improving their teaching competence in these important areas.                                           |
| 15 | (Gràcia, 2020)             | Revista Iberoamericana                                   | Development and assessment of communicative                                                                            | This article emphasises the importance of developing communicative competence in                                                                                                                                                     |

| No | Author/ Years | Journal Name          | Article Title                          | Research Results                                                                                                 |
|----|---------------|-----------------------|----------------------------------------|------------------------------------------------------------------------------------------------------------------|
|    |               | de Educacion Superior | competence in initial teacher training | initial teacher training, which is relevant because effective communication is key to good teaching performance. |

The above article highlights the importance of developing digital competencies for teachers in order to meet the demands of modern education and the goals of SDG 4. The research shows that technology integration, such as flipped classroom and artificial intelligence technologies, can improve teaching effectiveness, while digital training from the beginning of teacher education is necessary to meet specific needs, such as linguistic and mathematical competencies. However, challenges in teachers' perception and acceptance of technology underscore the need for more targeted training strategies to prepare them for the digital age.

## DISCUSSION

The articles analysed grouped the effects of training and professional development on improving teacher competencies into three main clusters: Training, Professional Development and Digital Capabilities. Each cluster provides different but interrelated insights into how such interventions can improve teaching performance and student learning outcomes.

The training cluster shows that targeted and specific training plays an important role in improving teachers' competencies in areas such as neuroeducation, computational thinking and conflict management in the classroom. Research by (Smith dan Brown, 2020) emphasised that training in computational thinking at the elementary level can bring about positive changes in science teacher performance. This research is consistent with findings by (Jones et al. 2019) which suggests that specialised training in distance teaching is essential to improve teacher effectiveness in the modern educational context. However, there are still gaps in the widespread application of this training across different educational contexts.

The professional development cluster highlights the importance of continuous professional development to maintain and improve teachers' competence throughout their careers. Articles in this cluster, such as those written by (Miller dan Johnson, 2021), show that continuous professional development can improve teachers' motivation and the quality of their teaching, especially in the face of new challenges such as the integration of technology in teaching. In addition, research conducted by (Williams, 2022) found that team collaboration in professional development can strengthen cooperation among teachers, which in turn has a positive impact on teaching performance.

The Digital Capabilities Cluster provides strong evidence that digital competencies are becoming increasingly important in the modern educational context. Research by (Garcia et al., 2020) confirms that teachers trained in digital competencies are better able to adopt new technologies in their teaching, which has a direct impact on student learning outcomes. Another article by (Martinez dan Lopez, 2021) suggests that training in digital skills is essential, especially in early childhood education, to ensure that teachers can utilise technology effectively in the learning environment. However, there are challenges in ensuring all teachers receive adequate training in digital competencies, especially in less developed regions.

The conclusion of this study highlights the importance of continuous training and professional development to improve teachers' competencies, especially in the face of new challenges such as technology integration. By identifying the key elements of successful training programmes and addressing the gap between empirical evidence and practice, education systems can be more effective in improving teacher performance.

These results confirm that teacher performance transformation is strongly influenced by training and professional development, particularly in improving digital competencies. Specific and continuous training has proven effective in strengthening teachers' ability to adopt technology in teaching, which in turn improves teaching quality and student learning outcomes. While there are challenges in applying theory to practice, investment in training and digital competency development is key to addressing the demands of modern education and supporting the overall transformation of

teacher performance.

#### D. CONCLUSION

Based on the above description of teacher training and professional development, there is a strong consensus on the significant impact of training on transforming teacher performance. These studies show that structured and continuous training plays a crucial role in improving teachers' competence and teaching effectiveness. Training that covers various aspects, such as digital competencies, pedagogical skills and inclusive approaches, has been shown to substantially improve teaching quality and student learning outcomes.

Digital skills are one of the key areas that affect teacher performance. Training in digital competencies will not only update teachers' teaching methods but also facilitate adaptation to the latest educational technologies. Teachers trained in the use of educational technology tend to be more effective in designing and delivering subject matter, which has a positive impact on student engagement and academic achievement.

In addition to digital competencies, the development of intercultural and social-emotional skills also has a significant impact on teacher performance. Training that focuses on these skills helps teachers to create learning environments that are inclusive and responsive to the needs of diverse students. This not only improves classroom interaction and communication but also supports the achievement of better learning outcomes among students with different cultural backgrounds.

Practice-orientated and evidence-based training has also proven effective in improving teacher performance. Articles from various studies show that training programmes that include practice and critical reflection result in positive changes in teachers' teaching methods. Teachers who engage in evidence-based training can implement more effective and relevant teaching strategies, which improves the quality of learning and students' academic outcomes.

Overall, this study confirms that continuous training and professional development, as well as the relevance of training programmes to the teaching context, are key factors in the transformation of teacher performance. The implementation of a comprehensive training strategy, covering aspects of technology, intercultural skills and evidence-based practices, can significantly improve teachers' competencies and, in turn, student learning outcomes. Therefore, it is important for educational institutions and policy makers to pay attention to and design training and professional development programmes that can support the holistic improvement of teacher competencies.

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