Teacher Self-Efficacy and Engagement in Professional Development

Gitarani Pramudya, Rahayu Mardikaningsih

Mayjen Sungkono University of Mojokerto, Indonesia

A R T I C L E   I N F O

A B S T R A C T

Teachers' self-efficacy determines their engagement in professional development programs. This study presents a synthesis of how teachers' efficacy in personal capacity influence motivation, persistence and active participation in sustainable training. Through a thematic analysis of Bandura's theory of self-efficacy, this study highlights the main sources of efficacy, namely direct experience, vicarious learning, verbal feedback, and affective states and the mechanisms of their application in education. The findings show that teachers with high efficacy are more responsive to pedagogical innovations, open to feedback and quicker to implement new strategies in the classroom. In contrast, low self-efficacy inhibits participation and reduces the effectiveness of training programs. Practical implications include recommendations for training designs that reinforce successful experiences, sustainable mentoring and a culture of organizational support. The results of this research provide a foundation for education policymakers and practitioners in designing professional development interventions oriented towards increasing teachers' self-efficacy.

INTRODUCTION

The success of the education system is strongly influenced by the quality and professionalism of teachers. Teachers are required to master the subject matter, respond to learners' needs, and apply effective pedagogical approaches. Behind a teacher's performance lies a fundamental efficacy in his or her ability to carry out tasks and face complex learning challenges. This efficacy, known as self-efficacy, plays an important role in determining how far a teacher engages in activities that support the development of his or her professional capacity. In the developing world of education, teacher learning does not stop at the lecture hall or initial training, but rather becomes a sustainable process that demands active engagement in professional development programs (Mahler et al., 2018).

Engagement in professional development is an important indicator of teachers' commitment to improving their teaching practice. Such engagement is driven by external incentives also by internal factors such as self-perceptions of personal efficacy. Teachers with high self-efficacy tend to be more enthusiastic about pursuing learning opportunities and developing their skills. They are more open to feedback, innovation and self-reflection as part of the learning increase process (Powell & Bodur, 2016).

In contrast, teachers who feel unsure of their abilities often show resistance to professional development programs. This may include fear of failure, concern about high expectations, or even the notion that the program will not lead to increased performance. Teachers with low self-efficacy perceive that the changes offered are not relevant to their classroom context. In the long-term, this can create a quality inequality among educators, especially in regions or institutions with limited access to and motivation for sustainable training (Mahulae et al., 2020). Lack of self-efficacy is one of the main obstacles in equalizing the quality of education in Indonesia.

The increasing complexity of demands in education requires teachers to constantly update their competencies. Professional development programs that are systematically structured and relevant will be more effective if they are attended by teachers who are prepared and confident in their abilities. Teachers with high confidence tend to be more motivated, open to change, and active. It is important to examine the relationship between teachers' self-efficacy and their engagement in professional development activities to gain a comprehensive understanding of the factors that influence overall learning quality (Parkash, 2017).

One of the fundamental issues that has emerged is the lack of attention to the psychological dimension in analyzing teacher engagement in professional training. Many approaches tend to focus on structural and administrative factors, without considering the internal aspects of teachers that can be the main determinants of active participation. Bandura (1997) emphasizes that self-efficacy influences a person's behavior, and directs effort, perseverance, and how to respond to failure. Low self-efficacy can have a direct impact on teachers' disinterest in professional development programs.

There is still a lack of mapping the relationship between individual teacher characteristics and their preferences for available forms of professional development. Many previous studies have focused on the outcomes or impact of training, without exploring why some teachers tend to participate more actively than others. According to Guskey (2002), teachers' perceptions of the effectiveness of training are largely determined by the relevance of the content, the supportive environment and their own internal readiness. The latter component is often overlooked in the planning of capacity building programs. Without an in-depth understanding of these individual aspects, training programs tend to be generic and less effective in addressing real needs in the field.

Inequality in participation between high- and low-efficacy teachers has the potential to create disparities in learning quality between regions or institutions. Teachers who lack confidence tend to be passive and reluctant to engage in professional development programs. If this is allowed, then efforts to increase the quality of education evenly will be hampered. Pajares (1996) asserts that personal efficacy influences how individuals process new information, respond to feedback and implement change. Failure to understand the relationship between self-efficacy and teachers' engagement in professional development can lead to ineffective training design and lack of impact.

Amid global demands for increased quality of education, attention to the psychological aspects of teachers has become increasingly important. Teachers are the main drivers of change in the classroom, and the quality of their teaching is strongly influenced by the extent to which they feel capable of facing challenges. Readiness to learn, accept change, and evaluate teaching practices are largely determined by perceptions of self-efficacy. Understanding how self-efficacy shapes teachers' attitudes and behaviors in professional development is becoming increasingly relevant to explore.

The study of this topic also plays a role in strengthening a complete education framework. Whether focusing on curriculum or institutional structures, this approach invites us to see teachers as complex individuals with psychological dynamics that determine the effectiveness of education policies. When this approach is adopted in policy formulation, educational transformation is no longer one-way, but involves the active participation of teachers who feel able and encouraged to contribute.

This study aims to examine the relationship between teachers' self-efficacy and their engagement in professional development programs. By reviewing the relevant research literature, this study seeks to uncover the extent to which personal efficacy in self-efficacy is a determining factor in teachers' active participation in training or professional development. The results of this research are expected to make a theoretical contribution to the development of social psychology-based education research and serve as reference material for policy makers and education practitioners in developing training programs that are more responsive to teachers' needs and readiness.

RESEARCH METHOD

This research approach uses literature study as the main method to explore the relationship between teacher self-efficacy and engagement in professional development. The literature study was chosen because it allows researchers to delve deeply into relevant theories, previous findings, and established scholarly perspectives in the fields of educational psychology and teacher professional development. This method focuses on critically analyzing published scholarly works, both in the form of academic books and journal articles, to identify patterns, gaps, and conceptual contributions from previous research. According to Merriam (1998), literature review is both interpretive and descriptive, making it well suited to thoroughly understand the dynamics of teachers' efficacy about their abilities and their influence on professional behavior.

The data collection process in this literature study was carried out by selecting primary and secondary sources that came from reputable publications and had passed the peer-review process. The researcher adopted a systematic framework by categorizing the data based on the variables of self-efficacy and engagement in professional development. Each source was analyzed through thematic and comparative approaches to gain a proper understanding. As stated by Boote and Beile (2005), an effective literature study not only presents a summary of previous research results,

but also constructs new understanding through critical synthesis of various sources. This approach provides a strong theoretical and empirical basis for understanding the relationship between teachers' self-perceptions and their propensity to participate in training or professional capacity building.

RESULT AND DISCUSSION

In the world of education that continues to undergo transformation, the quality of teachers is one of the main foundations of the success of the teaching and learning process (Rout, 2017). Curriculum changes, technological advances, and the demands of globalization require teachers to master the material, and be able to adapt to complex learning dynamics (Sahito & Väisänen, 2018). In this situation, mental readiness and perception of personal capabilities are aspects that cannot be ignored. When teachers have efficacy in their capabilities, they tend to show high enthusiasm in developing themselves, either through formal training or self-learning activities (Goldhaber & Walch, 2014). Teachers with high self-efficacy not only show enthusiasm in improving competence, but are also able to transmit the spirit of learning to students, create a conducive classroom atmosphere, and encourage better learning outcomes.

The professional development process is no longer just an administrative routine, but part of a lifelong learning journey for an educator (Bancotovska, 2015). The decision to take part in the process is strongly influenced by how teachers view themselves. The efficacy that they are capable of mastering new skills and applying them effectively in the classroom is a strong internal drive. In contrast, doubts about one's own capacity can lead to reluctance and disefficacy in the effectiveness of the training (Samuseviča & Striguna, 2020). Herein lies the importance of self-efficacy as a psychological factor underlying the success of teacher competency development programs.

When a teacher feels an efficacy that they is capable of facing challenges in learning, he or she is more open to innovation, and more diligent in undergoing any professional improvement process (Toom, 2016). This attitude impacts teachers' personal growth, and directly affects the quality of teaching that learners receive (Brikmane, 2015). Teachers who actively develop their competencies will be better able to create meaningful learning, adaptive to students' needs, and able to build positive relationships in the classroom. Raising the issue of self-efficacy in relation to teachers' engagement in professional development is relevant and urgent to be researched in depth in order to build a more resilient education system that is oriented towards continuous quality improvement (Mustafa, 2013).

Teacher self-efficacy, which is an individual's efficacy in their ability to design and implement learning activities, has a fundamental impact on the decision to engage in professional development programs (van Daal et al., 2014). Teachers with high efficacy tend to view training as an opportunity to increase competence rather than an additional burden. They are more proactive in seeking information, participating in workshops, and applying learning outcomes to classroom practice (Moalosi & Waitshega, 2013). According to Bandura (1997), self-efficacy influences motivation, perseverance and response to challenges; teachers who are confident in their capacity will be more persistent in following the professional development process despite facing obstacles.

The process of participating in professional training often requires adaptation to new materials and changes in teaching methods. Teachers are required to understand unfamiliar content and integrate it into their teaching practices. Teachers with high self-efficacy are more prepared to try innovative approaches and accept feedback from peers or facilitators. Strong self-efficacy gives teachers the confidence that they can overcome obstacles that arise and successfully implement changes in the classroom environment. They are not intimidated by the complexity of the material or the fear of failure. In contrast, teachers with low efficacy often reject such opportunities because they feel unable to master the content or implement it effectively, as Guskey (2002) states about teacher change.

The decision to invest time and energy in professional development is also influenced by the perceived value gained. Teachers who have trust in their professional capacity will see direct benefits from training, such as improved student learning outcomes or classroom management efficiency. Pajares (1996) showed that teacher self-efficacy is positively correlated with student learning outcomes, which strengthens teachers' motivation to continue learning and developing. Teachers who witness a positive impact on their students become more eager to join sustainable programs.

A supportive school environment also interacts with teachers' self-efficacy in determining their level of engagement. Principals and colleagues who provide encouragement, rewards and opportunities for collaboration can strengthen teachers' efficacy in their abilities. In contrast, an unsupportive school culture, with little constructive feedback or limited access to resources, can lower self-efficacy and inhibit teacher participation. Guskey (2000) asserts that organizational support is one of the factors determining the success of professional development programs.

Positive self-evaluation facilitates teachers to set challenging yet realistic learning goals. Teachers with high efficacy usually set specific and measurable competency increased targets and commit to achieving them through training programs. They use self-reflection to monitor progress and adjust learning strategies. In contrast, low-efficacy teachers may set goals that are too low or avoid self-assessment altogether, making their participation in professional development a mere formality. The self-development process can become stagnant if honest reflection and internal motivation are not implemented so that the benefits of the training are not fully internalized in teaching practice.

Emotional components also play an important role in the relationship between self-efficacy and teacher engagement. Fear of failure or performance anxiety can suppress teachers' intention to actively participate in training. Bandura (1997) emphasizes that self-efficacy moderates stress and anxiety; teachers who are confident in their abilities tend to experience lower anxiety when facing new tasks. Improving teachers' self-efficacy may be a strategy to reduce psychological barriers to professional development. Interventions targeting self-efficacy not only have an impact on improving teachers' competencies, but also strengthen their emotional resilience in the face of the changing dynamics of the world of education.

Collaborative learning, such as study groups or communities of practice, provides a social context for strengthening self-efficacy through vicarious experiences. Teachers who see their peers' success in implementing new strategies will feel more confident trying something similar. These vicarious experiences, according to Bandura (1997), are a major source of self-efficacy. This observed success becomes a tangible model that helps reduce fear and increase confidence. Professional program designs that emphasize collaboration and sharing best practices can increase teacher participation. This approach not only enriches the content of the training but also strengthens the social and emotional dimensions of teacher learning.

Direct feedback from facilitators or mentors also contributes to strengthening teachers' self-efficacy. Teachers who receive constructive praise for their efforts and progress will feel valued and motivated to continue learning. Sadler (1989) emphasizes that effective feedback should be specific and based on performance criteria, so that teachers clearly understand areas of improvement and progress. This kind of feedback strengthens teachers' efficacy in their abilities. The integration of quality feedback in any development program is crucial to ensure that the process is truly psychologically and pedagogically impactful.

Training that is tailored to teachers' specific needs - for example, materials relevant to their subject or classroom challenges - will increase relevance and trust in applying new knowledge. The training provided turns into real solutions that help teachers develop professionally. Teachers tend to be more engaged if they perceive the training material to match their real needs. In contrast, generic, out-of-context training reduces teachers' motivation and self-efficacy, as Desimone et al. (2002).

Assessing the effectiveness of professional development programs should involve measuring changes in teacher self-efficacy before and after training. Instruments such as the Teacher Sense of Efficacy Scale (TSES) developed by Tschannen-Moran and Woolfolk Hoy (2001) can be used to evaluate pedagogical, managerial and engagement aspects of teachers. With such data, training organizers can assess the impact of the program on teachers' self-efficacy and adjust the design of subsequent training.

Effectiveness can be seen from the level of implementation of new strategies in the classroom. Teachers with high self-efficacy are more consistent in implementing learned learning methods. Ross (1998) showed that teacher self-efficacy predicts significant changes in teaching practices after training. Direct observation or in-depth interviews with teachers post-training can be an indicator of increased engagement and self-efficacy.

Sustainability of teachers' engagement in professional development is also influenced by opportunities for follow-up mentoring and sustainable reflection. One-off programs without follow-up tend to result in temporary increases in self-efficacy. Guskey and Yoon (2009) emphasize the importance of sustainable support to ensure teachers continue to feel capable and motivated. Mentoring and group reflection can maintain the momentum of teachers' self-efficacy and participation.

It is thus argued that the strengthening of teachers' self-efficacy is rooted in the four main psychological sources identified by Bandura (1997), and all four contribute directly to teachers' decisions to actively engage in professional development. First, mastery experiences play the strongest role. When a teacher successfully implements a new strategy in the classroom - for example, a group discussion technique that increases student participation - she gains concrete evidence that she has mastered the method. This success reinforces the efficacy that sustainable learning efforts will pay off, so teachers become more motivated to attend workshops or sustainable training.

Second, learning through observation (vicarious experiences) also strengthens efficacy. In the school context, learning groups or communities of practice allow teachers to see peers with similar backgrounds successfully implement pedagogical innovations. When teachers witness colleagues who share the same classroom challenges successfully overcome them, the perception of "if they can do it, so can I" grows. Live demonstrations or video modeling accompanied by narration of effective strategies can be important tools in providing this vicarious experience.

Third, social persuasion also shapes self-efficacy. Positive feedback and encouragement from principals, mentors or training facilitators signal that teachers' abilities are recognized and trusted. Specific praise - for example, "your management of the discussion showed a deep understanding of the material" - helps teachers focus their attention on aspects that need to be maintained or increased. This persuasion is especially effective if it comes from an authoritative figure and is delivered consistently, so that teachers feel supported in their efforts to learn and innovate.

Fourth, physiological and affective states affect teachers' interpretation of challenges. High stress, anxiety, or fatigue can lower perceptions of ability, even if actual competence is adequate. Professional development programs that include stress management, mindfulness or relaxation techniques help teachers manage their emotional states so they feel prepared for new material. With a stable mental and physical state, teachers are more likely to see training as an opportunity rather than a threat.

These four sources do not stand alone, but reinforce each other in a dynamic cycle. For example, initial success encourages teachers to join sustainable training (mastery leads to engagement), where they gain richer experiences of vicarious and social persuasion, while learning to manage stress. This cycle builds momentum that further strengthens self-efficacy. In turn, teachers with high efficacy are more likely to persistently seek professional development opportunities, actively collaborate, and proactively apply and reflect on learning outcomes - a mechanism that makes professional capacity building a natural part of their identity as educators.

Overall, the relationship between teacher self-efficacy and engagement in professional development is dynamic and mutually influential. Teachers who are confident in their capacity will be more proactive in seeking learning opportunities, while positive engagement in training will further strengthen their self-efficacy. Understanding these mechanisms is important for designing effective and sustainable professional development programs.

CONCLUSION

The understanding of teacher self-efficacy has shown that personal efficacy in teaching ability influence motivation and perseverance, and directly encourage active participation in professional development programs. Teachers with high self-efficacy see training and challenges as opportunities for growth rather than threats to their capabilities. Teachers with high self-efficacy are more willing to explore new methods, accept feedback, and commit to improving learning practices. In contrast, low self-efficacy may lead to skepticism and unwillingness to participate in training, which in turn widens the competency gap between educators. Strengthening teachers' self-efficacy is a strategic step to encourage active engagement in training, minimize disparities and improve the overall quality of education.

Strengthening teacher self-efficacy centers on four main sources: mastery experiences when teachers see positive results from implementing new methods in the classroom, vicarious experiences from peer successes, social persuasion through positive feedback and encouragement from supervisors or mentors, and managing affective and physiological states with stress management techniques. These four elements support each other in a dynamic cycle: initial success motivates participation in training, which in turn leads to sustainable vicarious experiences and social persuasion, while emotional stability ensures teachers view professional development as an opportunity rather than a threat. Teachers with high self-efficacy will be more persistent in seeking, attending and implementing capacity building programs, making professional development an integral part of their teaching practice.

The results of this research underscore the importance of designing professional development programs that are informative and reinforce teachers' efficacy in their abilities. Training institutions should pay attention to psychological aspects by providing successful experiences, constructive feedback and ongoing mentoring. Policymakers and school leaders need to create a culture of support that fosters self-efficacy, so that every teacher feels valued and encouraged to continue learning.

It is recommended that schools and education offices include a self-efficacy increase module in every teacher training program, for example through simulations, success case studies and structured reflection sessions. Training facilitators should be trained to provide specific feedback and encourage teachers to set personal learning goals. Future research could explore learning group-based interventions and digital mentoring to strengthen teachers' self-efficacy at different levels of education.

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