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Professional Development Influence on Teachers' Self-Efficacy: an analysis of teacher performance appraisal and development (TPAD) framework in Kenyan schools

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Abstract

This study explored the effects of the Teacher Performance Appraisal and Development (TPAD) framework on the self-efficacy of teachers in public secondary schools located in Masinga Sub-County, Kenya. Utilizing Bandura's social cognitive theory, the study explored the connection among three essential components of TPAD - professional development, professional knowledge and practice, and participation in professional learning communities (PLCs) - and the sense of self-efficacy among teachers. A total of 256 educators participated in a survey, which included principals, deputy principals, and heads of departments, utilizing a semi-structured questionnaire for data collection. The results indicated that educators' engagement in professional development initiatives, attainment of professional knowledge and skills, and participation in professional learning communities were all positively linked to increased levels of self-efficacy. The regression analysis revealed that these TPAD components accounted for a notable portion of the variance in teacher self-efficacy. The findings indicate that successfully applying the TPAD framework, emphasizing tailored professional development and promoting collaborative learning settings, can boost teachers' confidence in their capacity to positively influence student learning. Nonetheless, the study also pointed out the shortcomings of the existing TPAD system, including the absence of personalized feedback, which could impede its ability to foster lasting enhancements in teacher self-efficacy. The findings provide important insights for those in positions of authority within educational institutions who aim to enhance teacher evaluation and professional development programs to ultimately boost educational outcomes.

Keywords: *Appraisee, Appraiser, Teacher Performance Appraisal and Development Tool (TPAD), and Teacher Self-Efficacy are some of the concepts that are being discussed.*

Introduction

The concept of teacher self-efficacy has received considerable focus within the field of education, especially with teacher performance appraisal and development (TPAD) frameworks. Research repeatedly demonstrates that teacher self-efficacy is a vital determinant of teacher motivation, work satisfaction, and, therefore, student academic success (Tschannen-Moran & Woolfolk-Hoy, 2001; Ghaith & Yaghi, 1998). The education sector in Kenya has experienced substantial reforms designed to enhance teacher efficacy and student success. The implementation of the TPAD framework in Kenyan schools is a vital component of these reforms, designed to improve teacher performance via consistent evaluation and improvement.

The TPAD framework has been extensively implemented in several countries, including Kenya, to enhance teacher performance and student outcomes (Wong & Wong, 2012). The usefulness of the TPAD framework in augmenting teacher self-efficacy is a subject of continuous discussion. Certain scholars contend that the TPAD framework serves as a significant instrument for teacher development by offering consistent feedback and assistance to educators (Hargreaves & Fullan, 2012). Conversely, others have expressed apprehensions that the TPAD framework may be excessively bureaucratic, potentially resulting in teacher demotivation and diminished self-efficacy (Day & Gu, 2010). This study seeks to contribute to the continuing discourse regarding the usefulness of the TPAD framework in augmenting teacher self-efficacy in Kenyan educational institutions. This will be achieved by a look into the correlation between teacher performance assessment and development, and teacher self-efficacy, emphasizing the TPAD framework.

The nexus between professional development and teacher self-efficacy has garnered considerable attention in educational literature, with a growing body of research suggesting that a teacher's sense of self-efficacy is a pivotal determinant of educational outcomes (Tschannen-Moran & Woolfolk-Hoy, 2001; Ghaith & Yaghi, 1998). Self-efficacy, as conceptualized by Bandura (1997), refers to an individual's belief in their capacity to successfully execute tasks and achieve desired outcomes, in this case, the ability to manage and instruct pupils effectively. A prevalent assumption in the field is that professional development programs, designed to enhance teachers' knowledge and skills, can have a profound impact on their self-efficacy (Hargreaves & Fullan, 2012; Day & Gu, 2010). To shed light on how these programs can be optimized to support teacher development, this study aims to investigate the relationship between professional development activities and the promotion of self-efficacy among educators, with a view to informing the design of more effective professional development initiatives.

The changing nature of the educational landscape, in which instructors are required to adapt to new technology, pedagogical approaches, and the varied requirements of their students, highlights the need for successful professional development. Because educators are working hard to overcome these problems, their sense of self-efficacy is becoming increasingly crucial. It is the purpose of this study to investigate the ways in which various forms of professional development, such as workshops, mentoring, and collaborative learning, influence the sense of self-efficacy that teachers have. Through the examination of these factors, the purpose of this study is to make a contribution to a more in-depth comprehension of the ways in which professional development may be utilized to assist educators in maintaining educational quality.

The relationship between performance assessment and self-efficacy has been a subject of considerable scrutiny in educational research, with scholars examining the complex interplay between various factors that influence this

connection. Specifically, researchers have focused on three key aspects of the link: (1) teachers' engagement in professional learning communities (PLCs), (2) teachers' professional growth and development, and (3) the impact of professional knowledge and practice on self-efficacy. According to the literature, the primary objective of teachers' professional development is to facilitate ongoing learning and growth, enabling educators to remain current in their field through participation in seminars, workshops, and other professional development opportunities (Sayed & Bulgrin, 2020; Shulman, 1987). Empirical research has consistently demonstrated that teachers' self-efficacy is significantly influenced by their participation in professional development activities (Yoo, 2016). Moreover, the self-efficacy of teachers is also shaped by their possession of professional knowledge and their active engagement in professional networks, which provide opportunities for collaboration, peer support, and knowledge sharing (Hargreaves & Fullan, 2012).

As stated by Jonyo (2017), the objective of Teacher Performance Appraisal and Development (TPAD) is to enhance the level of instruction and learning that takes place in Kenyan educational system institutions. Both the evaluation of the work of teachers and the strategies for addressing performance disparities in Kenyan schools are the primary focuses of this instrument. Kirui, Ng'eno, and Tabot (2022) conducted a research that included teachers, principals, and TSC officials. They found that the implementation of TPAD in secondary schools in Kenya resulted in an increase in teachers' professional knowledge, indicating that it was a useful tool. On the other side, the Teacher Performance Assessment and Development (TPAD) has been challenged for being an insufficient instrument for evaluating teachers, for instance because it does not provide instructors with customized feedback (Philip, 2020). Furthermore, there are instances in which the TPAD scores are not in agreement with the scores of the learners, which demonstrates instances of exaggeration on the part of both the appraisers and the appraisees. It is necessary to have a deeper understanding of the TPAD, particularly with regard to its connection to the self-efficacy of teachers.

Problem Statement

Teacher self-efficacy, defined as a teacher's conviction in their capacity to impact student learning, is widely regarded as an important aspect in increasing both instructional quality and student results. According to research, high levels of teacher self-efficacy are linked to the implementation of new instructional practices, the establishment of successful learning environments, and higher work satisfaction. Teachers with low self-efficacy, on the other hand, may become disengaged, which can have a detrimental influence on instructional effectiveness and student achievement.

Professional development (PD) programs are commonly used to improve teacher self-efficacy, although their effectiveness varies depending on the style and implementation of these efforts. In Kenya, the Teacher Performance Appraisal and Development (TPAD) system was implemented with the goal of increasing instructional quality by concentrating on teacher performance evaluation, resolving performance gaps, and encouraging continual professional development. However, concerns persist about the system's capacity to give focused feedback and how it aligns with student learning outcomes. While some research imply that TPAD benefits teachers' professional development, others have expressed reservations about its ability to provide tailored feedback and its overall usefulness in developing teacher self-efficacy.

Despite the widely accepted relevance of self-efficacy in educational contexts, there is little understanding of the link between TPAD, professional development, and teacher self-efficacy. This study attempts to close this gap by investigating how TPAD, as a performance evaluation instrument, affects teacher self-efficacy. Furthermore, the study intends to investigate how professional development within the TPAD framework might be maximized to improve teachers' confidence, instructional methods, and overall performance in Kenyan secondary schools.

Study Objectives

The main objective of this study is to determine the extent to which professional development influences a teacher's self-efficacy.

Literature Review

The theoretical foundation for this investigative study can be traced back to Albert Bandura's (1986) social cognitive theory, which describes self-efficacy as "one of the most theoretically, heuristically, and practically useful concepts formulated in modern psychology" (Betz, Klein, & Taylor, 1996, p. 47). The theory focuses primarily on the concept of self-efficacy, which is thought to be an important predictor of an individual's motivation, behavior, and performance (Bandura, 1986). Recent research in education has found a link between teachers' self-efficacy, motivation, and classroom behavior (Akkuzu, 2014). Furthermore, studies have found that teachers' self-efficacy has a significant impact on their students' academic performance and behavior (Pan, 2014). This theoretical framework will be used in the current study to investigate the relationship between the teacher performance appraisal and development (TPAD) framework and the components of teachers' self-efficacy, specifically classroom management, instructional strategies, student engagement and control, and teacher confidence in dealing with students both inside and outside of the classroom.

Makopoulou et al. (2021) performed a research in the United Kingdom to investigate the effects of a short-course continuous professional development (CPD) program on teaching assistant and teacher self-efficacy (SE). The study looked at how individual factors (such as age, gender, years of teaching experience, differences between sectors, and roles and responsibilities) and contextual factors (such as administrative support, the school's ethos and culture regarding professional learning and collaboration, and available resources) influenced teachers' self-efficacy. The results indicated that participants experienced a significant increase in SE immediately after completing the CPD program. However, all participants did not fully retain their improved SE over time (typically three to six months after attendance), demonstrating the limited and unsustainable benefit of short-term professional development activities.

Bett (2016) conducted research in Kenya on the cascade of teachers' continuous professional development (TCPD). The research proposed that the structure and content of successful TCPD be influenced by the requirements that exist on the ground. The findings emphasized the importance of empowering teachers to conduct action research as a means of addressing the limitations of teacher-focused professional development in Kenya. Similarly, Kitawi (2014) described a university-led initiative in Kenya that used action research projects conducted by teachers and educational managers to improve community capacity development, which could be useful in other developing countries.

The concept of self-efficacy, which refers to teachers' belief in their ability to improve student learning, has been a major focus of educational research (Miller, Ramirez, and Murdock, 2017). Studies have found a positive relationship between teachers' self-efficacy and their passion for teaching, with higher levels of harmonious passion indicating greater efficacy, especially in the early stages of a teacher's career (Fernet, Lavigne, Vallerand, & Austin, 2014; Moe, 2016). Furthermore, research has revealed that self-efficacy is one of the few individual teacher traits that can consistently predict teacher practice and student outcomes (Zee, de Jong, & Koomen, 2016).

Self-efficacy thus, has a significant motivational construct that plays a crucial role in shaping the beliefs, behaviors, and emotions of teachers.

Recent studies have also examined the influence of professional development (PD) on teacher self-efficacy across multiple countries. Job-embedded PD activities like coaching, mentoring, and action research were found to

positively impact teacher self-efficacy in most countries, while traditional forms like seminars and workshops showed limited effects (Gümüş & Bellibaş, 2021). Increased PD experience was significantly associated with higher teacher self-efficacy, particularly for rural schoolteachers (Yang, 2019). A study on Indonesian EFL teachers revealed that PD participation led to changes in perceived self-efficacy levels, with the greatest impact observed in instructional strategy (Bachtiar, 2019). Another study found that a PD program focusing on promoting thinking and problem-solving skills significantly improved teachers' self-efficacy, with varying effects based on teaching experience but not education level (Tongchai, 2021). These findings highlight the importance of carefully designed PD programs to enhance teacher self-efficacy.

Research Methodology

The study employed a descriptive research strategy to investigate the characteristics of a specific population within a set timeframe (Rice & Southall, 2018). A total of 256 educators, comprising principals, deputy principals, and heads of departments (HODs) from sixteen public secondary schools in Masinga Sub-County, Machakos County, were selected as the target sample. The respondents were chosen using a simple random sampling method to ensure equal representation (Easton & McColl, 2005).

Data collection was conducted through a semi-structured questionnaire consisting of five sections: demographic information, professional development, professional knowledge, participation in Professional Learning Communities (PLCs), and teacher self-efficacy. The questionnaire utilized a Likert scale with five response options, ranging from 1 (strongly disagree) to 5 (strongly agree). The collected data were analyzed using descriptive statistics like mean, standard deviation, and frequency distributions, as well as inferential statistics such as regression analysis to examine the relationships between variables.

Results

Table 1: Regression Analysis

Coefficients ^a						
Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.
		B	Std. Error	Beta		
1	(Constant)	.068	.148		.452	.652
	Teacher Professional Support Plan	.466	.067	.480	6.590	.041
	Teacher Professional Knowledge	.573	.095	.569	1.829	.021
	Teacher Participation in Professional Learning Community	.677	.063	.691	7.521	.000

a. Dependent Variable: Teacher's self-efficacy

As demonstrated by the regression analysis (Table 1), the findings of the study suggested that teachers who engaged in professional development programs had considerably greater levels of self-efficacy than teacher participants who did not participate in such programs. A significant relationship was found between teacher self-efficacy and the presence of teacher professional support plans ($\beta = 0.48$, $p < 0.05$) and engagement in professional learning communities (PLCs) ($\beta = 0.69$, $p < 0.05$). Furthermore, it was shown that there was a positive correlation between self-efficacy and professional knowledge and practice ($\beta = 0.57$, $p < 0.05$ of the analysis). Based on these data, it

appears that activities for professional development, particularly those that include teamwork and continuous learning, have a significant influence in boosting the confidence of teachers and the efficacy of their teaching.

Discussion

Numerous studies have underscored the crucial role of professional development in enhancing teacher self-efficacy (Yoo, 2016; Gumus & Bellibaş, 2021), aligning with the current study's findings on the significance of professional development. Collaborative learning environments are suggested to provide educators with the necessary support to improve teaching practices and classroom management skills. This idea is reinforced by the strong link between participation in professional learning communities (PLCs) and self-efficacy, as evidenced by Zonoubi, Rasekh, and Tavakoli (2017).

Teachers' self-efficacy is significantly influenced by the professional development opportunities they receive. The current study reveals that teachers' professional development plans positively impact their self-efficacy, aligning with arguments put forth by Gumus and Bellibaş (2021). In a similar vein, Yoo (2016) in the United States found that teachers' self-efficacy was closely tied to the teacher participation in professional development activities, with those teachers engaging in such programs experiencing an increase in self-efficacy due to enhanced teaching skills and classroom management techniques.

Yet, the study also sheds light on limitations associated with the Teacher Performance Appraisal and Development (TPAD) framework. A key challenge is the framework's lack of personalized feedback, hindering its effectiveness in fostering sustained, long-term professional growth. This observation resonates with criticisms raised by Philip (2020) regarding the inconsistent implementation of TPAD across educational institutions.

The research findings suggest that investing in teacher professional development support programs can enhance educators' self-efficacy (Caprara et al., 2006). To improve student performance through teacher evaluation, ongoing investment in professional development, effective teacher preparation, robust evaluation policies, and analyzing the link between teacher evaluation ratings and student grades are recommended.

Moreover, teachers' self-efficacy is influenced by professional knowledge and teaching practices, impacting student experiences and self-efficacy. Mastery of subject matter and innovative instructional strategies significantly contribute to teachers' self-efficacy. Additionally, engagement in professional learning communities locally and nationally plays a key role in bolstering teachers' self-efficacy (Tschannen-Moran & McMaster, 2009; Caprara et al., 2006; Demir, 2020; Kahraman et al., 2014).

Future research could enhance this study by exploring alternative methodological approaches, such as utilizing secondary data, to deepen the understanding of the relationship between teachers' self-efficacy, professional knowledge, professional growth, and participation in professional learning communities. Investigating the impact of technological integration on TPAD and teacher performance in secondary schools is also recommended, given the imperative of technology integration. Additionally, examining how teachers' evaluations influence student learning outcomes in their respective schools would further enrich the evidence presented in this study.

(The authors confirm that there are no competing interests.)

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