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Citation: Sukarno, Suyud, & Riyadini, M. V. (2025). Analysing determinants of professional teacher competency attainment in pre-service teacher professional education. *Jurnal Kependidikan: Penelitian Inovasi Pembelajaran*, 9(1), 22–32.
<https://doi.org/10.21831/jk.v9i1.73011>

Received : 7 May 2024

Accepted : 29 April 2025

Published : 31 May 2025

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Analysing determinants of professional teacher competency attainment in pre-service teacher professional education

Sukarno ^{1, a}, Suyud ^{2, b}, Maria Vineki Riyadini ^{3, c}

^{1,2,3} Universitas Negeri Yogyakarta, Indonesia

^a <https://orcid.org/0009-0007-9708-2434>

^b _

^c <https://orcid.org/0009-0008-0736-5471>

✉ sukarno@uny.ac.id

Abstract: Among all educational resources, teacher professionalism significantly contributes to producing quality education graduates. Teachers stand at the forefront of the implementation of education in schools. As a dominant factor in the learning process, the quality of learning is strongly influenced by the quality of the teacher's performance in teaching. This study aims to identify determinant factors that determine the achievement of Teacher Professional Education (PPG) students' competencies to become professional teachers. This study reports the results of analysing determinant factors, such as experienced teachers. The research design entails a quantitative survey study. 288 respondents participated in the survey, comprising pre-service PPG students from several colleges in Yogyakarta and its environs. Survey results revealed determinant factors of professional teachers encompassing four dimensions: (1) teachers' attitudes towards teaching, (2) commitment to the teaching profession, (3) teachers' morale, and (4) teachers' work motivation. Emphasising these dimensions in teacher education programs is vital for enhancing overall teaching quality.

Keywords: determinant factors; pre-service teachers; professional teachers; PPG.

Introduction

In the contemporary era marked by rapid globalisation, there is an escalating demand from the public for educational institutions to deliver high-quality services, ensuring the production of adept and competitive individuals (Sa & Syed, 2015). This pressing reality poses both a responsibility and a challenge for schools to furnish exemplary education to their students entrusted by the community.

Numerous factors contribute to the quality of educational services in schools, encompassing all educational resources, particularly human resources. Among these resources, the professionalism of teachers emerges as a pivotal determinant in cultivating high-calibre graduates (Ahmad et al., 2023; Chawla et al., 2023; Gong, 2024). At the forefront of educational implementation, teachers substantially influence the learning process (Bascia & Hargreaves, 2000; Elberkawi et al., 2021). The quality of instruction is intricately tied to the calibre of teaching performance, which, in turn, hinges upon the level of teacher professionalism. Consequently, attaining teacher competencies guarantees an efficacious educational process capable of yielding proficient graduates.

The imperative for professional teachers has grown exponentially in enhancing the educational landscape. President Joko Widodo, in his address to the House of Representatives on August 16, 2019, underscored the significance of improving the quality of Indonesian individuals by accentuating the enhancement of teacher quality across various facets, from the selection process and teacher training to pedagogical innovations leveraging technology (Cabinet Secretariat of The Republic of Indonesia, 2024). As delineated in Law No. 14 of 2005, professional teachers must possess academic qualifications, competencies, educator certificates, physical and mental fitness, and a commitment to realising national educational objectives (Maulana et al., 2023; Matnuh, 2018). These attributes can only be cultivated through systematically designed education and training programs facilitated by teacher education institutions.

There are three core domains in education, namely curriculum, teachers, and teacher education, thereby underscoring the pivotal role of teacher education in bolstering the educational landscape in Indonesia (Ben-Peretz, 2009). Historically, Indonesia has had a long-standing tradition of teacher education institutions, epitomised by the Teacher Professional Education (PPG) program. Consequently, it behoves the PPG Management Unit to discern, harness, and nurture the potential of PPG participants to evolve into professional educators (Kesuma & Fatimah, 2021; Mukrim et al., 2023; Wahyudin, 2016). Furthermore, the PPG management unit must ascertain the determinants underpinning the attainment of PPG graduate competencies to inform the formulation of efficacious policies for organising and managing PPG initiatives (Astriawati et al., 2021; Francisca & Ajisuksmo, 2015; Sugiyanto et al., 2021).

The teacher education policy encompasses various legislative and regulatory documents aimed at shaping the preparation and competence of professional educators. According to Law No. 14/2005 on teachers and lecturers, teachers are professionals requiring expertise, proficiency, and specific quality standards acquired through professional education (Astuti et al., 2019; Ates & Kadioglu, 2018; Schleicher, 2016). Specifically, professional teachers must possess intelligence, competence, and superior character to effectively fulfil their roles (Suyanto & Djihad, 2013). Their commitment extends to understanding national educational goals and engaging in continuous professional development.

The characteristics of professional teachers are multifaceted, encompassing intellectual abilities, understanding of educational visions, effective knowledge transfer, understanding of child psychology, and organisational skills (Suyanto & Djihad, 2013). Additionally, effective teachers demonstrate fairness, empathy, responsibility, emotional stability, dynamism, and high intelligence (Danim, 2012). They prioritise accuracy, dedication, and service excellence while fostering a conducive learning environment. McEwan (2014) further identifies ten characteristics of highly effective

teachers, emphasising passion, positivity, leadership, engagement, motivational skills, instructional effectiveness, subject knowledge, field intelligence, and a rich mental life (McEwan, 2014).

The quality and performance of teachers are central to the education process, as emphasised by various scholars (Chan, 2005; Darling-Hammond, 2000; Ingersoll, 1997; Okpala & Ellis, 2005). Chan (2005) highlights that strong teacher qualifications, competencies, enthusiasm, subject matter knowledge, morale, and commitment are essential for quality teaching. High teacher morale has been linked to positive student learning outcomes, underscoring its significance in the educational context (Whitaker et al., 2000). Research indicates that students learn better under 'good teachers' than 'bad teachers' (Haselkorn & Harris, 2001; Protheroe et al., 2002), reinforcing the critical role of teacher morale in educational success.

Motivation is a crucial determinant of educational success, with teacher motivation significantly influencing student motivation (Czubaj, 1996). A motivated teacher can enhance students' enthusiasm for learning, as motivation impacts the attention and effort dedicated to learning and applying subject matter (Moshinskie, 2001). Therefore, educational success often hinges on teachers' motivation, who inspire their students.

Teacher attitude is another influential factor in teaching and learning, shaping how teachers approach learning situations (Day, 2004). Positive teacher attitudes can enhance performance and student achievement, while negative attitudes may lead to absenteeism, burnout, and turnover (Day, 2004; Okwilagwe, 2005). Understanding and measuring teachers' attitudes toward their profession are crucial for improving teaching quality and student outcomes.

This research aims to enhance teachers' competencies through Teacher Professional Education (TPE), a pivotal aspect of educational development. Factors such as teacher morale, motivation, attitude, and commitment are critical determinants of professional competence, and this study seeks to provide deeper insights into these factors within the context of PPG. By understanding and addressing these determinants, teacher education programs can better prepare educators to excel in their profession and contribute positively to the education system.

This study identifies the determinants shaping the attainment of PPG students' competencies in becoming professional teachers. It reports on the analysis of determinant factors encompassing four dimensions: (1) teacher attitudes toward teaching, (2) commitment to the teaching profession, (3) teacher morale, and (4) teacher work motivation. By identifying these determinant factors, the PPG Management Unit can fulfil its core tasks and functions of recognising, harnessing, and developing the potential of PPG participants to emerge as professional educators. The outcomes of this study serve as a crucial benchmark for determining policies that facilitate effective and efficient PPG management, ultimately culminating in the achievement of PPG graduate competencies.

Method

This study employed a quantitative survey research design to investigate determinant factors influencing the attainment of professional teacher status among Pre-service PPG students. The analysis of these factors was structured around four dimensions adapted from previous research, which include (1) teacher attitudes toward teaching, (2) commitment to the teaching profession, (3) teacher morale, and (4) teacher work motivation (Adetola, 2016).

The participants in this study comprised alumni and current Pre-service PPG students actively enrolled in the second semester of 2023 across multiple LPTKs implementing the PPG program in Yogyakarta. 288 PPG student respondents completed the questionnaire, representing diverse majors and gender compositions.

Finding and Discussion

To answer the questions of this study, a research instrument was developed to capture prospective teachers' profiles on several determinants of professional teachers. The instrument items were adapted from Adetola (2016) and adjusted to the target participants of this study (see Appendix). The questionnaire was divided into four dimensions, with ten items in each dimension. These dimensions are (1) the profile of teachers' attitudes towards teaching, (2) the profile of commitment to the teaching profession, (3) the profile of teachers' morale, and (4) the profile of teachers' work motivation. This study used Google Forms to collect data from respondents. A total of 288 target respondents participated in filling out the questionnaire.

Then, the data collection results from the developed questionnaire are tested for reliability. The reliability test is carried out to test the survey items developed for their level of trustworthiness so that the questionnaire can be trusted as a data collection tool. The Cronbach's Alpha test was used to determine the reliability of the questionnaire developed in this study. It determines the consistency between items, so this questionnaire can repeatedly measure similar research variables. The results of the reliability test are listed in the table below. The data obtained indicates that each item contained in the dimensions of the questionnaire is valid. In addition, the Cronbach's Alpha value is > 0.60 in each dimension. Thus, the questionnaire the researcher developed is declared reliable or consistent.

As mentioned, the respondents of this study are students and alumni of the Teacher Professional Program (PPG) of Yogyakarta State University. There are 68 males, with the rest (76.4%) female. They come from 28 different majors. The most significant number of respondents came from the Elementary School Teacher Education (PGSD) department, with a percentage of 26.7%, followed by the Physical and Health Education (9.7%) and Natural Science study programs (9%). These students and alumni have different educational backgrounds. Most are undergraduate graduates (94.4%), and a small proportion are four-year graduates with master's and diplomas. Respondents also had different teaching experience backgrounds regarding teaching duration and education level. Most respondents had less than one year of teaching experience, including their undergraduate teaching practice and professional education. The following had the highest teaching experience spanning 1-2 years, and so on.

In terms of respondents' teaching experience in terms of the level of the institution, pre-service PPG students and alums have teaching experience at various levels of education; 37.2% teach at the early childhood education (PAUD) level, 1.4% teach at the kindergarten (TK) level, 38.5% teach at the elementary school (SD) level, 22.9% teach at the junior high school (SMP) level, and 37.2% teach at the senior high school (SMA/SMK) level.

The survey's findings on the determinants of professional teachers will be discussed based on adapted dimensions and concluded at the end of the study. The following is a description of the findings for each dimension.

Profile of teachers' attitudes towards teaching

The first dimension describes respondents' attitudes towards teaching in general, both attitudes related to teaching itself and their attitudes towards learners. Almost all respondents naturally like teaching. They always try to make their teaching enjoyable by adjusting the learning materials. However, they face challenges. About 40% of respondents stated they had felt tired of teaching, and some (27%) sometimes did not feel like teaching. Many things can influence this phenomenon. Further studies on possible contributing factors to teacher burnout may be needed. This is because if the phenomenon is sustained and becomes teacher burnout, it will potentially affect students (Madigan & Kim, 2021; Oliveira et al., 2021).

Concerning learners, respondents had a positive attitude. They are open to learners. This can be seen from the 97% of respondents who allow learners to come to them when they need help. Respondents are also enthusiastic about encouraging learners' learning.

More than 90% of respondents encouraged learners to study their notes and textbooks. In addition, successfully getting learners to understand complex subject matter satisfies almost all respondents.

From the survey findings, respondents view learners as one of the determining factors in successful teaching. 99% of respondents believe teaching can be exciting when learners can work with them as teachers. Conversely, learners who exhibit negative attitudes can trigger negative feelings on the part of the teacher. Almost 70% of respondents feel unhappy when their learners are not serious about them as teachers. Besides the attitude, the number of learners can also be challenging for teachers. At least 40% of respondents stated that the number of learners in a class makes teachers unable to give them their full attention.

Profile of commitment to the teaching profession

This section identifies respondents' commitment to the teaching profession. The commitment referred to in this dimension includes respondents' commitment to interpreting the teaching profession and carrying out the tasks attached to it. These tasks include lesson preparation, lesson implementation, and professional development.

Almost all respondents take the teaching profession seriously. Before learning, 97% of the respondents make preparations before entering the classroom. They do this regularly. In addition, almost all respondents are committed to preparing teaching materials appropriate to their class's learning. Commitment to the teaching profession is shown not only when teaching but also when assessing students. More than 90% of respondents admitted to assessing students' assignments promptly. Meanwhile, respondents were also committed to participating in activities outside of class hours. This can be seen from the willingness of more than 80% of respondents to participate in co-curricular activities.

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As future professional teachers, respondents also commit to caring for students. This is shown during teaching and outside of class hours. 95% of respondents were committed to addressing individual differences when teaching. In addition, more than half of the respondents were even willing to take the time to deal with students' problems. This result aligns with one of the characteristics of effective teachers described by McEwan (2014): showing the quality of caring for students.

Respondents were also committed to continuously developing themselves as professional teachers. Almost all respondents admitted to being open to correction in

academic matters. When they receive such corrections, they will do their best to improve their skills. In addition, if required to defend policies related to the teaching profession, 96% of respondents said they were ready to do so.

The above explanation also confirms the statements of almost all respondents that they are committed to carrying out all their responsibilities as teachers with complete seriousness.

Teachers' moral profile

In the third dimension, the results reveal a comprehensive picture of teachers' views on the moral profile of teachers (Adetola, 2016). Data from the questionnaire results reveal teachers' views on the moral factors that influence their satisfaction in the teaching profession. First, in terms of compensation, most teachers are satisfied with their salaries and allowances, whether they are considered equivalent to other professions (35.8%) or received regularly (40.6%). However, views on promotion within the teaching profession are mixed, with 50.3% agreeing that promotion can result in increased salary and status, while 17.4% disagree. This indicates that the incentive system in the teaching profession plays an essential role in teacher satisfaction and could be an area for improvement.

The results obtained are in line with motivation theory in the context of compensation and job satisfaction, which states that the level of job satisfaction can be influenced by the extent to which individuals feel that the compensation they receive is equivalent to the efforts and contributions they make in their work (Meithiana, 2017; Periska, 2015).

Second, regarding the teaching workload, most teachers (42%) agreed that the workload at school satisfied them. However, 31.9% disagreed, and 19.8% strongly disagreed. These results suggest the need for a more careful approach to managing teachers' workloads to ensure their satisfaction and maintain a healthy balance.

In addition, the data highlighted that teachers' perceptions of their profession are very diverse, ranging from the view of teachers as a source of a sense of accomplishment (43.1% strongly agree) to motivation to influence lives and life ambitions (with a consensus level of around 50.7% strongly agree). Finally, most teachers (45.8%) were less likely to agree that the prospect of becoming a principal makes teaching an attractive profession.

These results highlight the complexity of teachers' motivation and satisfaction in their profession, which is influenced by external factors such as compensation and promotion, as well as internal factors such as passion for teaching and a sense of accomplishment (Keller, 2016; Madigan & Kim, 2021; Zainuddin, 2018). Therefore, to improve PPG students' competencies to become qualified professional teachers, educational institutions and education policy need to understand the diversity of teachers' views and feelings and design training programs that consider these factors.

Teacher work motivation profile

In the educational context, high teacher morale has positively impacted student learning (Whitaker et al., 2000, 2013). Furthermore, research has revealed that students are more likely to learn well when they have 'good teachers' than 'bad teachers' (Haselkorn & Harris, 2001; Protheroe et al., 2002; Rakes et al., 2013).

Motivation is a crucial factor in educational success, and teachers' motivation to teach plays a vital role in student motivation (Czubaj, 1996; Patrizia et al., 2018; Utami et al., 2020). The presence of a motivated teacher can increase students' motivation to learn. Motivation describes the attention and effort required to learn and apply the subject matter (Ciampa, 2014; Moshinskie, 2001; Xie et al., 2017). Therefore, educational success is often linked to motivation, as a motivated teacher is more likely to inspire students.

The last dimension identified through the questionnaire was the teachers' work motivation profile. A comprehensive picture of teachers' work motivation was revealed based on the results obtained.

The data from Table 5.1 illustrates teachers' views on their motivation and perceptions of their work as teachers. The results show that most teachers feel busy (33.3% strongly agree and 37.8% agree). This is related to their view of having an essential role in the teaching profession (46.5% agree and 49.7% strongly agree).

In addition, most teachers feel they have high responsibilities and challenges (35.1% strongly agree and 63.2% agree) and are pretty well recognised for their contributions (56.3% agree and 25% strongly agree). They also see the teaching profession as one that allows them to work according to personal ethics and principles (47.6% agree and 45.5% strongly agree). Most teachers feel that teaching provides them with varied work goals and activities, energising, and fosters creativity (38.9% strongly agree and 57.6% agree).

However, several teachers also felt they had to deal with high pressure and stress levels in the teaching profession (29.2% strongly agreed and 30.6% agreed), and some found it easier to work alone than as a team member (42.4% agreed). In addition, some teachers feel they have a high degree of autonomy in their teaching (40.3% agree). In contrast, most feel that teaching provides opportunities to acquire new knowledge and skills (23.6% agree and 75% strongly agree).

This data reflects the diversity of teachers' perceptions and motivations towards their profession, which are influenced by various factors such as responsibility, recognition, autonomy, and work pressure. Therefore, in understanding the factors that influence PPG students' attainment of competencies to become professional teachers, education institutions and education policy need to pay attention to teachers' diverse views and motivations and design training programs that cover these aspects.

Discussion

This study delved into the determinants of professional teacher competencies among Pre-Service Teacher Professional Education (PPG) students, examining various dimensions such as attitudes, commitment, morale, and work motivation. The findings were analysed in the context of existing literature and theories, shedding light on the intricate factors shaping the professional development of future educators.

The literature review underscored the significance of teacher education policies in shaping the quality of teaching professionals. Laws and regulations emphasise the importance of preparing competent and morally upright teachers who can effectively nurture students' intellectual and moral growth. For instance, Article 2, paragraph (1) of Law No. 14/2005 on teachers and lecturers in Indonesia explicitly outlines the professional standards expected from teachers, emphasising the need for expertise, proficiency, and ethical conduct.

Drawing insights from countries with advanced teacher education systems, such as Finland, Hong Kong, South Korea, the United Kingdom, and the United States, it becomes evident that comprehensive teacher education programs are essential for producing exemplary educators. These countries prioritise robust curriculum frameworks, stringent quality assurance mechanisms, and ongoing professional development to ensure teachers have the requisite knowledge, skills, and dispositions to excel in their roles.

Echoing scholarly literature insights, professional teachers' characteristics were explored in depth. These encompass intellectual prowess, a deep commitment to student welfare, effective communication, and the ability to foster an engaging learning environment. Suyanto and Asep Djihad (2013) delineate minimum standards for professional teachers, emphasising attributes such as intellectual ability, understanding of educational objectives, pedagogical expertise, and organisational skills (Suyanto & Djihad, 2013).

Furthermore, McEwan (2014) identifies ten characteristics that highly effective teachers must possess, including passion for teaching, positive rapport with students, instructional effectiveness, and ongoing professional growth (McEwan, 2014). These insights highlight the multifaceted nature of effective teaching, incorporating elements of empathy, adaptability, and continuous professional development. The alignment

between these characteristics and the findings from the survey underscores the importance of cultivating a holistic approach to teacher preparation and development.

Building upon prior research, the study examined key determinant factors influencing professional teacher competencies. Teacher morale, motivation, attitude, and commitment emerged as pivotal in shaping the teaching-learning process. The literature review indicates that high teacher morale positively impacts student learning outcomes (Whitaker et al., 2000, 2013). Similarly, teacher motivation is crucial to student engagement and academic success (Czubaj, 1996; Moshinskie, 2001).

In contrast, negative attitudes and low motivation among teachers can hinder student learning and overall classroom effectiveness. Day (2004) emphasises the significant impact of teachers' attitudes on teaching and learning, including student achievement and teacher performance (Day, 2004). Furthermore, negative teacher attitudes harm student motivation and academic achievement (Okwilagwe, 2005).

The findings hold significant implications for teacher education programs, particularly in refining pedagogical approaches and curricular frameworks. By cultivating a supportive and conducive learning environment, institutions can nurture aspiring educators who embody the ethos of professionalism and dedication. Strategies aimed at bolstering teacher morale, fostering intrinsic motivation, and promoting a positive attitude toward teaching can enhance the overall quality of education delivery.

Furthermore, the results underscore the importance of ongoing professional development and mentorship opportunities for teachers. Some researchers emphasise the need for continuous learning and self-reflection among teachers to adapt to evolving educational landscapes and meet the diverse needs of learners (Danim, 2012; Saylag, 2012; Wang, 2017). Education stakeholders can empower teachers to navigate complex classroom dynamics and foster optimal student outcomes by investing in comprehensive teacher training programs and mentorship initiatives (Abulibdeh et al., 2024; Eden et al., 2024).

In conclusion, this study offers valuable insights into the determinants of professional teacher competencies among PPG students. By elucidating the intricate interplay between teacher characteristics, education policies, and motivational factors, the findings contribute to the ongoing discourse on teacher development and educational reform. Concerted efforts are warranted to tailor teacher education initiatives to address future educators' diverse needs and aspirations, thereby fostering a cadre of proficient and compassionate teachers poised to shape the future of education.

Conclusion

This study illuminates the profiles of Teacher Professional Education (PPG) program students and alumni. Respondents strongly believe in the teaching profession's societal importance and express satisfaction in fulfilling their roles. Notably, autonomy in classroom management and stable income motivate respondents to pursue teaching careers.

The research highlights four critical dimensions, teacher attitudes, commitment, morale, and work motivation, that shape teacher professionalism among PPG students. Emphasising these dimensions in teacher education programs is crucial for enhancing overall teaching quality.

Recommendations for improving teacher education include curriculum enhancements to cultivate desired attitudes and commitments alongside efforts to create supportive learning environments. Implementing mentoring or coaching programs can aid PPG students in refining their moral and motivational profiles.

Future research avenues could explore how these factors influence teacher competencies across diverse educational contexts. Qualitative inquiries could provide nuanced insights into PPG students' experiences and perceptions, paving the way for more effective teacher education programs and a deeper understanding of teacher professionalism.

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