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Examining the Relationship between Microteaching Achievement and Teaching Practicum Performance: An Ex Post Facto Study in Fashion Education Students

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Abstract
The assumption that achievement in microteaching directly translates into effective teaching practice performance remains widely accepted in teacher education, yet empirical evidence, particularly in vocational contexts such as fashion education, remains limited and inconclusive. This study aims to examine the relationship between microteaching achievement and teaching practice performance among preservice teachers in fashion education. Employing a quantitative approach with an ex post facto correlational design, the study involved 33 students selected through total sampling. Data were collected from institutional academic records and analyzed using descriptive statistics, normality testing, and Spearman's rho correlation. The results indicate that both microteaching achievement and teaching practice performance are in the high category with low variability; however, the correlation between the two variables is not strong enough to suggest a direct or linear relationship. These findings imply that competencies developed in simulated teaching environments do not automatically transfer to authentic classroom contexts, particularly in vocational education that requires the integration of technical and pedagogical skills. The study highlights the need to redesign microteaching to be more contextually authentic and aligned with real teaching demands, thereby contributing to the improvement of teacher education programs and the development of more adaptive and context-sensitive teaching competencies.

Keywords: microteaching, teaching practicum, vocational education, fashion education, teacher education

INTRODUCTION

The transformation of education in the 21st century has significantly redefined the competencies required of future teachers, particularly in vocational education and training (TVET). Contemporary educational frameworks emphasize not only mastery of subject matter but also the integration of pedagogical, social, and professional competencies to effectively facilitate student-centered learning (Kamstrup & Hersom, 2024, p. 29; Mikkelsen et al., 2024, p. 29). In vocational domains such as fashion education, the demands are even more complex, as prospective teachers are expected to balance technical expertise with instructional proficiency in practice-oriented learning environments. Higher education institutions, therefore, play a crucial role in preparing teacher candidates through structured curricula that bridge theoretical knowledge and practical teaching experience. Two core components in this preparation are microteaching and teaching practicum. Microteaching is a controlled, simulated environment in which students develop foundational teaching skills, receive feedback, and refine their instructional strategies (Fernandez et al., 2025; Mukhtar et al., 2018, p. 65; O'Flaherty et al., 2023). In contrast, teaching practicum represents an authentic learning experience in real classroom settings, requiring adaptability, classroom management, and real-time pedagogical decision-making (Ekşi & Güngör, 2018, p. 162; Moussaid, 2024). While it is commonly assumed that strong performance in microteaching will translate

into effective teaching practicum outcomes, emerging evidence suggests that the transition from simulated to real teaching contexts is not always linear or predictable. This discrepancy raises critical questions regarding the extent to which microteaching achievement can serve as a reliable indicator of teaching practicum performance, particularly within the specific context of fashion education students.

Despite the recognized role of microteaching in developing foundational teaching competencies, the extent to which these competencies translate into effective performance during teaching practicum remains a critical and unresolved issue in teacher education. Microteaching is typically conducted in a controlled and simulated environment, where peer students often assume the role of learners, thereby limiting exposure to authentic classroom dynamics such as diverse student abilities, behavioral challenges, and contextual constraints (Gampine et al., 2025, p. 39; Mukhtar et al., 2018, p. 67). In contrast, teaching practicum requires preservice teachers to operate in real school settings characterized by complexity, unpredictability, and the need for immediate pedagogical decision-making (Mukhtar et al., 2018, p. 67). This disparity between simulated and real teaching contexts may result in inconsistencies between students' performance in microteaching and their actual effectiveness during practicum. Although prior studies have highlighted the benefits of microteaching in enhancing instructional skills and self-confidence, empirical evidence linking microteaching achievement directly to teaching practicum performance remains limited and inconclusive (Panadero et al., 2023; Said et al., 2025). Furthermore, within the context of vocational education—particularly in fashion education—this issue is even more critical due to the dual demands of technical skill mastery and pedagogical competence. Therefore, it is necessary to critically examine whether achievement in microteaching can be considered a reliable predictor of teaching practicum performance, or whether other contextual and individual factors play a more dominant role in shaping preservice teachers' success in real classroom environments.

In response to the aforementioned issues, this study aims to empirically examine the relationship between microteaching achievement and teaching practicum performance among preservice teachers in fashion education. Specifically, the study seeks to determine whether students' academic outcomes in microteaching courses are significantly associated with their performance during teaching practicum in real classroom settings. Employing an ex post facto correlational design, this research utilizes documented assessment data to provide objective evidence regarding the extent to which microteaching can serve as a predictor of practicum success. By focusing on measurable learning outcomes rather than self-reported perceptions, this study contributes to a more robust and data-driven understanding of teacher preparation effectiveness (Elias, 2018, p. 222; Panadero et al., 2023). Furthermore, the findings are expected to offer empirical insights that can inform curriculum evaluation and improvement, particularly in strengthening the alignment between simulated teaching experiences and authentic classroom practice (Schneider et al., 2022, p. 15; Spray et al., 2023, p. 545). Ultimately, this research aims to support the development of more effective teacher education programs that better prepare preservice teachers to meet the complex demands of vocational teaching environments.

Although microteaching has been widely acknowledged as an effective approach for enhancing preservice teachers' instructional skills, the existing body of literature reveals several important limitations that warrant further investigation. Most prior studies have primarily focused on the immediate pedagogical benefits of microteaching, such as improved teaching strategies, communication skills, and self-confidence, often relying on experimental or reflective designs rather than examining its long-term impact on authentic teaching performance (Heng & Chu, 2023, p. 1160684; Koşar, 2021, p. 631). Consequently, there remains a lack of empirical evidence that directly investigates the relationship between microteaching achievement and subsequent performance during teaching practicum using objective academic data. Furthermore, the majority of studies have been conducted in general education contexts, with limited attention given to vocational education and training (TVET), where the integration of technical expertise and pedagogical competence presents unique challenges (Diao & Qu, 2024; Gampine et al., 2025, p. 39). In particular, research within the field of fashion education is still scarce, despite its distinctive emphasis on practice-based learning and industry-relevant skills. In addition, theoretical assumptions regarding the transfer of training from simulated environments (microteaching) to real classroom contexts (teaching practicum) have not been sufficiently validated in empirical studies (Noguera et al., 2024, p. 746). This indicates a significant gap in understanding whether success in controlled teaching simulations can reliably predict performance in complex, real-world teaching

environments. Therefore, a systematic examination of the relationship between these two variables is necessary to address this gap and to provide evidence-based insights into the effectiveness of teacher preparation programs.

Building upon the identified research gap, this study offers a novel contribution by empirically examining the direct relationship between microteaching achievement and teaching practicum performance using objective academic records within the context of vocational education, specifically fashion education. Unlike prior studies that predominantly rely on self-reported perceptions or short-term experimental outcomes, this research adopts an ex post facto correlational approach to provide more robust and evidence-based insights into the effectiveness of teacher preparation programs. The novelty of this study also lies in its focus on a specialized vocational field, where the integration of pedagogical competence and technical expertise presents unique instructional challenges that are often underexplored in the literature (Giek et al., 2025, p. 2; Nakar & Plessis, 2023, p. 554; Sholikhah et al., 2026). Furthermore, by critically evaluating the assumption that competencies developed in simulated teaching environments can be effectively transferred to real classroom practice, this study contributes to the broader discourse on transfer of training and experiential learning in teacher education (Landon-Hays et al., 2020; Ledger & Fischetti, 2019, p. 1). The findings of this research are expected to have important theoretical implications in refining existing models of teacher preparation, as well as practical significance in informing curriculum design, particularly in strengthening the alignment between microteaching and teaching practicum components (Elias, 2018, p. 222; Fernandez et al., 2025). Therefore, this study is justified not only by its potential to fill a critical empirical gap but also by its contribution to improving the quality and relevance of vocational teacher education in increasingly complex educational environments.

Within the context of Universitas Negeri Semarang, particularly in the Fashion Education Study Program, microteaching and teaching practicum are integral components of the teacher preparation curriculum. Despite structured training through microteaching courses, preliminary observations indicate that students who demonstrate high achievement in simulated teaching settings do not always exhibit equivalent performance during their teaching practicum in partner schools. This inconsistency suggests the presence of a gap between simulated pedagogical training and authentic classroom practice. Moreover, the nature of fashion education, which combines theoretical instruction with hands-on skill demonstration, may further intensify the challenges faced by preservice teachers when transitioning from controlled environments to real teaching contexts. However, empirical evidence examining this issue within the specific context of fashion education at Universitas Negeri Semarang remains limited, thereby necessitating further investigation.

METHOD

This study employed a quantitative approach using an ex post facto correlational design to examine the relationship between microteaching achievement and teaching practicum performance among preservice teachers in fashion education. This design was considered appropriate as the study did not involve manipulation of variables but instead analyzed existing academic outcomes to identify potential associations under natural conditions.

The population consisted of all students enrolled in the Fashion Education Study Program, cohort 2022 (Class A), at Universitas Negeri Semarang, totaling 33 students. Given the relatively small population size, a total sampling technique was employed, whereby the entire population was included as the research sample. This approach ensured full representation and minimized sampling bias.

Data were collected through a documentation method, involving the retrieval of students' official academic records, specifically their final scores in the microteaching course and their performance scores in the teaching practicum (PPL). These data were obtained from institutional databases and reflect outcomes generated through standardized assessment procedures implemented by the study program. Microteaching performance is typically evaluated based on structured criteria such as lesson planning, instructional delivery, classroom interaction, and communication skills. Similarly, teaching practicum performance is assessed through multiple dimensions, including classroom management, instructional effectiveness, professional conduct, and adaptability in real classroom settings. The use of such structured and criterion-based assessments supports the content validity of the measured constructs.

The reliability of the data is reinforced by institutional assessment mechanisms involving multiple evaluators. Microteaching assessments are conducted by course instructors, while teaching practicum evaluations are generally carried out collaboratively by university supervisors and school mentors. This multi-rater system enhances scoring consistency and reduces individual bias, thereby supporting inter-rater reliability. Furthermore, the use of documented academic records rather than self-reported data minimizes the risk of response bias and common method variance, strengthening the overall credibility of the dataset.

The research procedure involved several stages. First, relevant academic data were collected and systematically organized. Second, descriptive statistical analysis was conducted to summarize the characteristics of the data. Third, a normality test using the Shapiro–Wilk test was performed to assess whether the data met the assumptions required for parametric analysis. Given that one of the variables did not meet the normality assumption, a non-parametric approach was adopted.

To test the research hypothesis, the Spearman's rho correlation test was applied to examine the strength and direction of the relationship between microteaching achievement and teaching practicum performance. This method is particularly suitable for small sample sizes and non-normally distributed data. All statistical analyses were conducted using the Statistical Package for the Social Sciences (SPSS) software, with a significance level set at 0.05.

RESULTS AND DISCUSSION

Descriptive Statistics of Research Variables

Table 1. Descriptive Statistics of Microteaching Achievement and Teaching Practicum Performance

Variable	N	Minimum	Maximum	Mean	Std. Deviation
Microteaching Achievement	33	77	88	83.82	2.78
Teaching Practicum Performance (PPL)	33	86	92	89.27	1.96

Based on Table 1, the results of the descriptive statistical analysis were obtained from the data on the learning outcomes of the microteaching and Field Practice (PLP) courses for 33 respondents.

For the learning outcomes variable for the microteaching course, the minimum score was 77.00, and the maximum score was 88.00, with a range of 11.00. The mean score was 83.8182 with a standard deviation of 2.77775. This indicates that student scores in the microteaching course tended to be in the high category with relatively little variation, thus indicating a fairly homogeneous distribution of the data. Meanwhile, for the learning outcomes variable for the PLP course, the minimum score was 86.00, and the maximum score was 92.00, with a range of 6.00. The mean score was 89.2727, and the standard deviation was 1.95692. This value indicates that the PLP learning outcomes are also in the high category, with a lower level of data dispersion compared to the microteaching variable, resulting in a more homogeneous data set.

Comparatively, the average PLP learning outcome score is higher than that of microteaching. Furthermore, the smaller standard deviation of PLP indicates that there is less variation among students in PLP scores, resulting in more equitable learning outcomes. Overall, both variables show a relatively good score distribution, with a tendency toward high scores and a relatively low data dispersion. This indicates that most students have quite good abilities in both the microteaching course and the PLP implementation.

Normality Test Results

A normality test was conducted to determine whether the research data were normally distributed. In this study, the normality test was conducted using the Kolmogorov-Smirnov and Shapiro-Wilk methods. The results of the normality test can be seen in Table 2.

Table 2. Normality Test Results

Variable	Statistic	df	Sig. (p-value)	Interpretation

Microteaching Achievement	0.948	33	0.074	Normal
Teaching Practicum Performance (PPL)	0.886	33	0.011	Not Normal

Based on the results of the normality test on the learning outcomes variable of the micro teaching course, the Kolmogorov-Smirnov significance value was obtained at 0.090 and the Shapiro-Wilk significance value was 0.074. Both values are greater than the 0.05 significance level, so it can be concluded that the learning outcomes data of the micro teaching course are normally distributed. Thus, the data in this variable meet the normality assumption. Conversely, the results of the normality test on the learning outcomes variable of the PPL course show a Kolmogorov-Smirnov significance value of 0.004 and a Shapiro-Wilk significance value of 0.011. Both values are less than 0.05, so it can be concluded that the learning outcomes data of the PPL course are not normally distributed. Because one of the variables is not normally distributed, the normality assumption in the parametric analysis has not been met. Therefore, the analysis of the relationship between variables cannot use the Pearson correlation test and is replaced by using the nonparametric Spearman's rho correlation test.

Spearman`s Rho Correlation Test

Based on the analysis conditions above, testing the relationship between learning outcomes in the microteaching course and learning outcomes in the PPL course was conducted using Spearman's rho correlation test. The Spearman test was chosen because this method is suitable for use with data that does not meet the assumption of normality.

Table 3. Results of Spearman's Rho Correlation Test

Correlation	Coefficient Variability	Sig. (2-tailed)	Description
Micro teaching and PPL	0,009	0,960	Not Significant

Based on the analysis, a correlation coefficient of 0.009 was obtained, with a significance level of 0.960. A significance level greater than 0.05 indicates no significant relationship between learning outcomes in the microteaching course and learning outcomes in the PPL. Furthermore, a correlation coefficient of 0.009 indicates that the relationship between learning outcomes in the microteaching course and learning outcomes in the PPL course is very low, or almost no relationship at all. A correlation value approaching zero indicates that changes in learning outcomes in the microteaching course are not accompanied by significant changes in learning outcomes in the PPL course. Therefore, the level of student learning outcomes in the microteaching course is not significantly related to the level of student learning outcomes in the PPL course.

The results of this study indicate that student success in PPL implementation is not solely influenced by learning outcomes in the microteaching course but can also be influenced by other factors, such as adaptability, direct teaching experience, learning motivation, the school environment, and student communication skills during the field practice. These research findings align with the notion that PPL implementation is a complex activity because students are directly exposed to real-world conditions in the school environment. Therefore, the ability to teach students is not only determined by mastery of theory and teaching practice in micro teaching, but is also influenced by mental readiness and the ability to face real learning situations. Overall, the results of the study show that there is no significant relationship between the learning outcomes of micro teaching courses and the learning outcomes of students' PPL. Thus, the hypothesis stating that there is a relationship between the two variables cannot be proven in this study.

Discussion

The findings of this study reveal that both microteaching achievement and teaching practicum performance among fashion education students are characterized by relatively high mean scores and low variability, indicating a generally strong and homogeneous level of pedagogical competence across participants. At a surface level, this pattern suggests that the teacher preparation program has been effective in equipping preservice teachers with essential instructional skills in both simulated and real teaching contexts. However, a more critical interpretation is required. The limited dispersion of scores may reflect not only consistent student performance but also potential constraints in the assessment

system, such as ceiling effects or limited sensitivity of evaluation criteria in differentiating higher-order teaching competencies. From a theoretical perspective, these findings can be situated within the framework of transfer of training, which posits that skills acquired in one learning context (e.g., microteaching) are expected to be applied in another (e.g., teaching practicum) (Afrianda & Takih, 2025, p. 3; Gampine et al., 2025, p. 39; Sholikhah et al., 2022). Nevertheless, the assumption of seamless transfer is often challenged in practice, particularly when the learning environments differ significantly in complexity and authenticity. Microteaching, as a controlled and simplified instructional setting, primarily facilitates the development of foundational teaching skills such as lesson structuring, questioning techniques, and instructional clarity (Cerruto et al., 2023, p. 1157; Mukuka & Alex, 2023, p. 8). In contrast, teaching practicum requires preservice teachers to navigate unpredictable classroom dynamics, diverse student needs, and real-time decision-making, which extend beyond the scope of simulated practice (Ersin et al., 2020, p. 2; Lian et al., 2024, p. 4). Therefore, while the high achievement observed in both variables is encouraging, it does not necessarily imply a direct or linear correspondence between competencies developed in microteaching and those demonstrated in authentic classroom settings. This nuanced interpretation highlights the importance of examining not only performance outcomes but also the contextual conditions under which teaching competencies are enacted.

Building upon the general pattern of high achievement in both variables, the correlation analysis using Spearman's rho provides a more nuanced understanding of the relationship between microteaching achievement and teaching practicum performance. The results indicate that the association between the two variables is [interpret: weak/moderate/strong; significant/non-significant], suggesting that success in microteaching does not necessarily translate proportionally into effective performance during teaching practicum. From a theoretical standpoint, this finding aligns with the notion that the transfer of learning is highly contingent upon the similarity between learning and application contexts, as well as the presence of mediating factors such as adaptability, reflective capacity, and situational awareness (Afrianda & Takih, 2025, p. 3; Harris et al., 2020, p. 2). In cases where the correlation is weak or non-significant, the results support the argument that microteaching, while valuable for developing foundational pedagogical skills, may not adequately capture the complexity of real classroom environments, thereby limiting its predictive validity (Fernandez et al., 2025; Iliasova et al., 2025). Conversely, even if a significant relationship is observed, it should be interpreted with caution, as it may reflect only a partial transfer of competencies rather than a comprehensive alignment between simulated and authentic teaching performance. This interpretation is further reinforced by studies emphasizing that teaching practicum performance is influenced by a broader set of variables, including classroom context, mentor support, and emotional readiness, which are not fully addressed in microteaching settings (Ledger & Fischetti, 2019, p. 4; Panadero et al., 2023). Therefore, the findings of this study underscore the need to reconceptualize microteaching not as a direct predictor of practicum success, but rather as one component within a more complex and dynamic system of teacher professional development.

When situated within the broader body of empirical research, the findings of this study both converge with and extend prior literature on the relationship between microteaching and teaching practicum performance. Several studies have reported that microteaching contributes positively to the development of core instructional competencies, including lesson organization, questioning strategies, and teaching confidence (Iliasova et al., 2025; Ramadhanti & Yanda, 2021, p. 5203). These improvements are often interpreted as evidence supporting the effectiveness of microteaching as a preparatory tool in teacher education. However, other studies have highlighted a persistent gap between simulated teaching performance and effectiveness in real classroom contexts, emphasizing that the controlled nature of microteaching limits exposure to authentic classroom complexities such as student diversity, behavioral challenges, and institutional constraints (Fernandez et al., 2025; Orosz et al., 2023, p. 643). The present study aligns more closely with this latter perspective, particularly in its implication that high achievement in microteaching does not automatically ensure equivalent success during teaching practicum. Importantly, this study advances the literature by relying on objective academic performance data rather than self-reported perceptions or short-term experimental measures, thereby enhancing the robustness and validity of its conclusions (Arslantaş, 2021, p. 158). Furthermore, by focusing specifically on the context of vocational education in fashion studies, this research addresses a notable gap in the literature, where most prior investigations have been situated within general education settings (Lam et al., 2020, p.

425). In doing so, it provides context-sensitive insights into how the dual demands of technical expertise and pedagogical competence may shape the transferability of teaching skills, thereby contributing to a more nuanced and domain-specific understanding of teacher preparation effectiveness.

A more contextualized interpretation of these findings becomes particularly important when considering the distinctive characteristics of vocational education, especially within the domain of fashion education. Unlike general academic subjects, fashion education requires the integration of procedural knowledge, technical skills, and pedagogical competence in a highly practice-oriented learning environment. This aligns with the principles of situated learning theory, which emphasize that knowledge and skills are most effectively developed and applied within authentic contexts that mirror real-world practice (Sinlapaninman et al., 2023, p. 99; Skov et al., 2023, p. 154; Sholikhah et al., 2025). In microteaching settings, preservice teachers typically engage in simplified instructional scenarios that may not fully capture the complexities of demonstrating hands-on techniques, managing workshop-based classrooms, or facilitating skill-based assessment. Consequently, the transfer of competencies from microteaching to teaching practicum may be inherently constrained by the lack of contextual fidelity between these environments. Furthermore, the concept of pedagogical content knowledge (PCK) highlights that effective teaching in specialized domains such as fashion requires not only general pedagogical skills but also the ability to transform subject-specific knowledge into teachable forms (Fitria et al., 2025). In real classroom settings, this involves adapting demonstrations, guiding student practice, and responding to diverse levels of technical proficiency—demands that are often underrepresented in simulated teaching contexts. Empirical studies in vocational and technical education have similarly underscored the challenges of transferring instructional skills across contexts that differ in authenticity and complexity (Afrianda & Takih, 2025, p. 3; Findeisen & Seifried, 2023, p. 314). Therefore, the findings of this study suggest that the relationship between microteaching and teaching practicum performance should be understood not merely as a matter of skill acquisition, but as a function of contextual alignment, domain specificity, and the extent to which training environments approximate the realities of professional teaching practice.

The findings of this study also carry important implications for the development and refinement of theoretical frameworks in teacher education, particularly those related to the transfer of learning and experiential learning processes. While traditional models often assume a relatively linear progression from skill acquisition in controlled environments to application in authentic settings, the present results suggest that such transfer is more complex, context-dependent, and mediated by multiple interacting factors. This supports more contemporary perspectives on experiential learning, such as Kolb's learning cycle, which emphasizes the iterative process of concrete experience, reflective observation, abstract conceptualization, and active experimentation (Kolb & Kolb, 2009). Within this framework, microteaching may be understood as an initial phase that facilitates structured practice and reflection, but not as a complete representation of professional teaching competence. In addition, the findings resonate with the concept of adaptive expertise, which highlights the ability of teachers to flexibly apply knowledge and skills in novel and unpredictable situations—an ability that is typically developed through exposure to authentic practice rather than controlled simulations (Chen et al., 2025, p. 1530430; Moran et al., 2023). Consequently, this study contributes to the ongoing refinement of teacher education theory by emphasizing that the effectiveness of preparatory experiences such as microteaching should be evaluated not only in terms of immediate skill development but also in relation to their capacity to support adaptive, context-sensitive teaching performance. By providing empirical evidence from a vocational education context, this research reinforces the need for theoretical models that account for domain specificity, contextual variability, and the dynamic nature of professional competence in teaching.

CONCLUSION

This study examined the relationship between microteaching achievement and teaching practicum performance among preservice teachers in fashion education using an ex post facto correlational design based on objective academic data. The findings reveal that both variables demonstrate high average scores with low variability, indicating a generally strong and homogeneous level of pedagogical competence among students. However, the correlation analysis suggests that the relationship between microteaching

and teaching practicum is not necessarily strong or linear, implying that success in simulated teaching environments does not automatically translate into equivalent effectiveness in real classroom contexts. These results challenge the traditional assumption of direct transfer of training and instead highlight that the development and application of teaching competencies are complex, context-dependent, and influenced by multiple factors, including classroom dynamics, contextual authenticity, and individual adaptability. This is particularly evident in vocational education, where the integration of technical expertise and pedagogical competence adds further complexity to the teaching process. Therefore, this study contributes to the refinement of teacher education theory by emphasizing the need to view microteaching as one component within a broader and dynamic system of professional development rather than as a direct predictor of practicum success. Based on these findings, it is recommended that teacher education programs enhance the alignment between microteaching and teaching practicum through the design of more authentic, context-rich, and practice-oriented learning experiences, including the integration of real classroom scenarios, reflective practices, and digital or simulation-based innovations. Additionally, curriculum development should adopt more iterative and integrative approaches to support the transfer of learning, while future research should involve larger samples, longitudinal designs, and the inclusion of mediating variables such as self-efficacy, mentoring quality, and teaching context. At the institutional level, improvements in assessment systems are necessary to ensure greater sensitivity in measuring higher-order teaching competencies, alongside strengthened collaboration between universities and partner schools to bridge the gap between simulated and authentic teaching environments. Finally, attention to social and ethical considerations, particularly in ensuring equitable access to learning resources and maintaining objective evaluation practices, remains essential in supporting the development of competent and professional vocational teachers.

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