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# Integrated Learning Models for Micro-Teaching Course

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**Abstract**

The progressive world of education needs to be accelerated by fulfilling the competencies of prospective teachers who are also progressive through a series of performance tasks that are relevant to learning needs in the 21st century. This research used Analysis, Design, Development, Implementation, and Evaluation (ADDIE) to innovate an integrated learning model for a micro-teaching course. A needs analysis was conducted on 75 students, two lecturers, and 30 teachers to assess actual performance, confirm desired performance, and identify causes of performance gaps. Researchers then designed performance tasks and validated them by 10 raters, tested them on 337 students to test the outer and inner models, and tested them on 30 students, 28 lecturers, and 49 teachers to test differences. Test content validity using the Aiken-V formula and test inter-rater reliability using ICC. Meanwhile, testing the validity and reliability of the construct uses outer and inner model analysis (CB-SEM), and the difference test uses ANOVA. The content validity results prove that all task performance meets the Aiken parameters (0.75-1.00), the interrater reliability value is 0.573, and the Cronbach alpha value is 0.931. Testing the outer model proves that the loading factor task performance value ranges from 0.709-0.874, the Cronbach alpha value ranges from 0.768-0.880, the composite reliability value ranges from 0.768-0.879, the AVE value ranges from 0.580-0.649, and the discriminant validity value ranges from 0.761-0.806. The inner model test proves that the Chi-Square/df value = 2.254, RMSEA value = 0.061, SRMR value = 0.036, NFI value = 0.910, TLI value = 0.936, and CFI value = 0.948. Meanwhile, the results of the ANOVA test confirm that the Sig value = 0.098, so it can be concluded that there are no significant differences between the three sample groups regarding the model innovation results. Thus, the 25-task performance in the integrated learning model has a significant psychometric function relative to the actual situation, so it becomes one of the references that lecturers can use to improve the competency of prospective teachers in micro-teaching courses (not limited to teaching skills, analytical thinking skills, academic integrity, and transformational leadership).

**Keywords:**

Academic Integrity;
Analytical Thinking Skills;
Integrated Learning Model;
Micro-Teaching Model in Physical Education;
Teaching Competence;
Teaching Skills;
Transformational Leadership.

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## 1- Introduction

The downstream of micro-teaching aims to improve and increase prospective teachers' teaching skills. They are trained systematically by allowing them to experiment with critical roles and behaviors as teachers [1], focusing on building knowledge, understanding, skills, and attitudes that can be applied in a professional environment [2]. Providing opportunities for prospective teachers to learn, develop, and apply specific skills for teaching and simulating learning assessments in cycles of observation, collaboration, teaching simulation/experimentation, reflection, criticism, and reteaching [3]. Micro-teaching also promotes constructive feedback and reflection from peers and lecturers, enabling students to improve their teaching skills by identifying the strengths and weaknesses of their practice as teachers. It will

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help students find alternative ways to overcome obstacles and improve their teaching performance in the future [4, 5]. Enabling long-term changes to the set of teaching skills of prospective teachers so that they can adapt and transform to meet all the teaching demands of their students in every era [6]. Good teaching skills help prospective teachers and/or teachers to face real learning situations in the classroom, especially those related to interactions with students [7], increase students' motivation, enjoyment, and learning expectations [8, 9], and improve the quality of learning [10] in order to help and make it easier for students to develop their potential according to their learning needs.

Despite the various benefits of micro-teaching above, in current physical education practice, various facts about gaps in teacher performance are still diagnosed. These gaps are not limited to a lack of work commitment, teachers teaching without planning, and a lack of educational activities [11]. Apart from that, teachers are also limited in mastering the core knowledge of physical education subjects, the facilities and assessment equipment are not credible, there are difficulties in managing the class [12], and the teacher's style is still monotonous when carrying out lessons [13]. Other big challenges are teachers' inability to teach skills well, lack of ability to prepare equipment/instruments, and incompatibility of curriculum content with the educational environment [14]. Even in some instances, teachers are not given broad access to modern and professional courses to develop their competencies [15]. This concern underscores the importance of physical education, paying attention to the art of teaching and designing learning practices that are transformative and truly pluralistic [16]. It means that, in line with the various advances and learning needs of 21st-century students, teachers must be analytical and have integrity when evaluating a set of teaching skills, as well as be analytical and have integrity when evaluating the various learning needs of their students. The results of this analysis must be able to "provoke" prospective teachers and teachers always to be initiative, active, and productive in developing their competencies periodically through various academic activities, such as seminars and workshops, as well as research and development of classroom actions to improve the service quality of student learning.

Most researchers have succeeded in developing micro-teaching models to respond to the problem of the teaching competency of prospective teachers. Call it the Innovative Micro Model to improve pedagogical competence [17], the Learner-Centered Micro-Teaching Model to develop teaching competence [18-20], the Practicum-Based Microteaching to improve teaching skills [21], the Microteaching Lesson Study Model to develop teacher professionalism in multi-faceted thinking, problem-solving, self-confidence, and patience in dealing with students, as well as preparing plans [22-25], the Tadaluring Microteaching Model to improve teaching skills [26], and the Microteaching Learning Model Based on Experiential Learning to improve teaching skills [27]. Other researchers have even developed online and hybrid-based micro-teaching models, such as the Micro Teaching-Learning Model Based on YouTube Channel to improve teaching skills in distance learning [28] and the Microteaching Guide Book Based on Hybrid Learning to improve teaching skills [29]. If we diagnose, several models have begun to pay attention to the experience and other valuable skills of prospective teachers, such as problem-solving abilities; however, on average, the micro-teaching models developed previously are still oriented towards mastering and improving teaching skills [6, 30-32]. The facts about the problems of physical education teachers above (see the second paragraph) are not only limited to teaching skills but also how teachers can adapt to various changes in the educational curriculum. Therefore, the micro-teaching model innovation needs to consider forming a learning culture for prospective teachers who can take the initiative, be active, be oriented, and be productive toward their competencies and learning class.

This research offers new syntax and task performance in the micro-teaching model to more comprehensively contribute to various skills that support the long-life education of prospective teachers. For example, analytical skills help prospective teachers formulate plans and solve problems [33-35]. Academic integrity assists prospective teachers in advancing the pursuit of knowledge and truth through intellectual honesty [36, 37] by ensuring accountability, encouraging self-autonomy, and recognizing the achievements of other individuals [38]. Meanwhile, transformational leadership helps prospective teachers individually or collectively improve their classroom learning practices while improving student learning quality and achievement [39, 40]. The goal is that when they are in a professional environment (when they become teachers), they can overcome various problems of their students and also overcome the problem of their teaching competence analytically, with integrity, and with an orientation towards future transformation without waiting for external intervention (for example, supervision by the school principal). This model innovation underlines that prospective teachers must continue to be projective towards future work needs and strive to incorporate skills to answer future needs into their students' learning experiences to make their learning activities more meaningful. Thus, they need to be provided with a training experience that empowers analytical thinking processes, with integrity in assessing and evaluating their teaching skills autonomously and with integrity to evaluate their students' learning needs and development, as well as having a transformative spirit toward their teaching experience so that they are constantly updated to update teaching competencies that are relevant to the development of student learning in the 21st century and beyond.

In addition to the syntax novelty and task performance developed, we also use a strict methodological protocol that has not been maximized in previous micro-teaching model developments. We started the study with a comprehensive needs analysis from three perspectives: students, lecturers, and teachers. We always involve these three sample groups from the beginning of model testing (CB-SEM) so that the relevance of the task performance developed has a high

psychometric function to the learning needs of the 21st century so that it can predict the quality of work of prospective teachers/teachers in the school environment and class. Finally, this research aims to innovate a micro-teaching model that can integrate other skills, such as analytical thinking, academic integrity, and transformational leadership of prospective teachers in various task performances that are clinical, comprehensive, and also credible through teaching skills training.

## 2- Method

The integrated learning model innovation uses the Analyze, Design, Develop, Implement, and Evaluate (ADDIE) research and development method [41], which is elaborated as follows (see Figure 1).

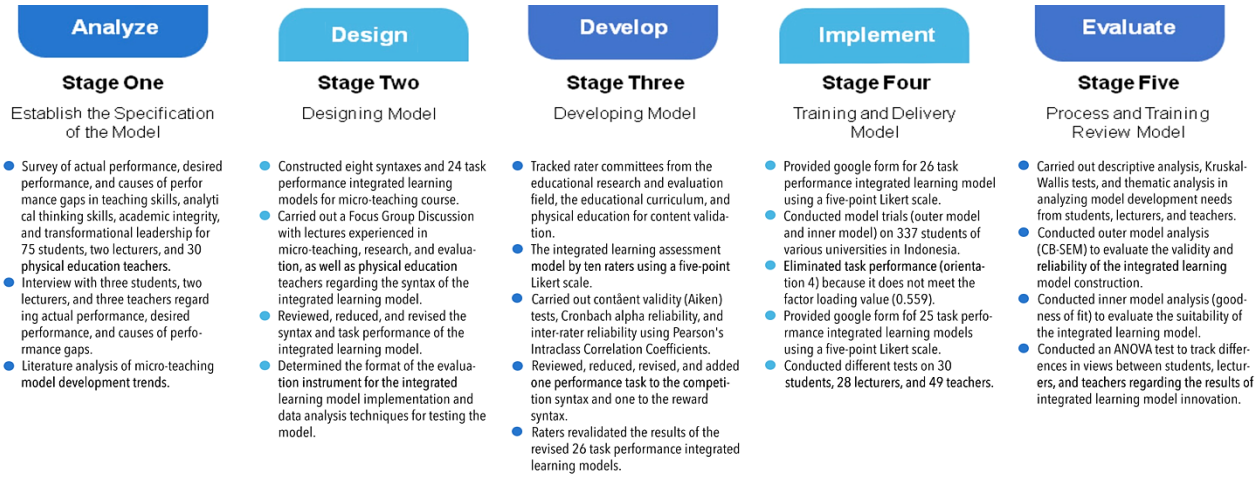


**Figure 1. Research process flow chart**

### *2-1-Analyze*

At this stage, researchers diagnose various performance gaps, including actual performance, desired performance, and the causes of performance gaps. The diagnosis was done using three data collection techniques, online surveys, semi-structured interviews, and literature reviews. The needs analysis involved students/prospective teachers (n = 75), micro-teaching lecturers (n = 2), and physical education teachers (n = 30) to produce comprehensive data. When conducting an online survey, researchers used 12 statement items (five Likert scales; strongly agree-disagree), each with four statement items to diagnose actual performance, four to diagnose desired performance, and four to diagnose reasons for performance gaps. The representation of the four statements in the items refers to the four research variables that became the rationale for developing the model: teaching skills, analytical thinking skills, academic integrity, and transformational leadership.

For example, in the statement item (actual performance) of teaching skills: "*Students' current teaching skills are not yet comprehensive, so they are not yet able to carry out analytical, innovative, collaborative, communicative, humanist, and supportive learning*." Statement item (desired performance) analytical thinking skills: *"As a prospective teacher, I must have high analytical thinking skills to help me to distinguish and organize students' learning problems carefully before creating and implementing solutions."* Statement item (cause of performance gap) academic integrity: "*What causes prospective teachers to not have high academic integrity, so they are not able to behave honestly, trustworthy, fairly, and have respect, responsibility, and courage in assessing, measuring, and evaluating student learning experiences and outcomes."*

Viewing the analysis results from the online survey, researchers conducted semi-structured interviews to confirm and elaborate on respondents' responses to the online survey. Researchers did not use all respondents for interview activities (except for lecturers, both of whom were interviewed). Meanwhile, for students and teachers, researchers interviewed only three people, each of whom was determined using purposive sampling techniques. Finally, researchers also conducted an analysis or literature review to ascertain developments or trends in developing micro-teaching learning models in physical education. This study focuses on the orientation of model development, whether published articles still focus on improving teaching skills, or whether there has been development in other dimensions of micro-teaching courses.

In the needs analysis phase, researchers adopted mixed research methods with explanatory sequential design so that qualitative research was used to enrich and confirm the results of quantitative studies. Quantitative data was analyzed descriptively, and a Kruskal-Wallis difference test was done among students, lecturers, and teachers. Meanwhile, researchers adopted the thematic protocol developed by Lester et al. [42] for qualitative data. A detailed explanation of

the specific needs analysis phase was published in April in the Jurnal Keolahragaan with the title "*Need analysis for innovation in integrated learning models for micro-teaching courses: Explanatory sequential design*" [43].

### *2-2- Design*

The results of the needs analysis have mapped the causes of performance gaps in aspects of teaching skills, such as learning approaches that do not focus on analytical, collaborative, communicative, humanistic, and supportive methods; mistakes in choosing teaching methods; limited field experience; learning that is still monotonous; and not yet mastering methodology and didactics. as well as learning models, less effective lecture hours for courses that train teaching skills. Causes of performance gaps in aspects of analytical thinking skills, such as the use of teaching methods that do not support the development of analytical thinking skills, lack of special training in problem-solving, only memorizing information rather than understanding it in depth, lack of practical experience that supports the development of analytical skills, not being able to understand what it is problems and how to make decisions to solve problems, lack of problem-based learning, lack of analytical thinking practice, too fixated on factual knowledge, lack of encouragement for independent thinking, high-stress levels, and always using the same problem-solving standards for every student.

The causes of performance gaps in the academic integrity aspect include the absence of support provided by educators or the environment, students not having self-confidence, high-performance pressure, lack of understanding of academic ethics, lack of interaction with others, lack of respect for each other, students are unable to master oneself so that they are unable to behave honestly, fairly and responsibly, students are less accustomed to having integrity in their duties and responsibilities in college, lack of education in academic ethics, a widespread culture of plagiarism, lack of strict sanctions, lack of work ethic and intrinsic motivation, and there is no example of integrity for students through real action. The causes of performance gaps in the transformational leadership aspect include lack of practical experience in managing teams, lack of opportunities to practice leadership in real situations, uncertainty in developing an inspirational vision, lack of support and mentorship from the academic environment, low thought processes, lack of lecturers' ability to build learning to create innovative work, lack of leadership education, lack of leadership training opportunities and role models, and lack of personal integrity.

Based on the findings of the causes of the performance gap, the researcher then formulated a performance task syntax that could manifest learning behavior to overcome the causes of the student performance gap in teaching skills, analytical thinking skills, academic integrity, and transformational leadership. The design stage is a follow-up to the results of the previous needs analysis so that researchers begin to develop performance task syntax that can manifest learning behavior to improve teaching skills, analytical thinking skills, academic integrity, and transformational leadership. After the initial design was developed, researchers conducted focus group discussions (FGD) and semi-structured interviews to ensure the credibility of the constructed learning behavior syntax. Twelve FGD participants had experience in micro-teaching, research, and evaluation, and teachers who produced a multi-faceted perspective on the syntax design of integrated learning models.

The results of the researcher's synthesis of FGDs and semi-structured interviews produced eight syntax and 24 student performance tasks in the integrated learning model. First, orientation. Students observe, analyze, and discuss about course objectives (cognitive, affective, and psychomotor), integration experiences, assessment instruments, and target performance scores (task performance 1-4). Second, distribution. Distribute students into small, heterogeneous groups and decide on the role of each member to enlarge the learning experience (i.e., peer-assessment role, students-teacher, and students) (performance tasks 5-8). Third, experimentation. Students experiment with roles, alternately using departmentalization and holistic methods (task performance 9-11). Fourth, presentation. Students present the results of performance assessments based on assessment instruments and are willing to provide clarification if there are objections (task performance 12-13). Fifth, analysis. Students analyze problems according to the instrument and explore the causes through focus group discussions (performance tasks 14-16). Sixth, problem-solving. Students solve problems, reflect on usefulness, and make follow-up decisions (performance tasks 17-19). Seventh, competition. Contest student performance to evaluate their performance development (task performance 20-22). Lastly, reward. Give rewards to students who succeed in improving performance and reflection on transfer learning (task performance 23-24) (see Table 3-revised version).

Next, to assess the implementation of the syntax of the integrated learning model, use the Gutmann scale (Yes and No) by providing an information column at the end of each performance task to provide space for explicit notes on the performance behavior that the student-teacher experiments with (see Appendix I). Assessment of syntax content validity using descriptive analysis and Aiken-V analysis. Testing content reliability using Cronbach's alpha and Pearson's Intraclass Correlation Coefficients (ICC). Meanwhile, the predictive power and feasibility of the model will be tested using outer model analysis (validity and reliability of the model) and goodness of fit (inner model). Apart from that, researchers also carried out an ANOVA test to see whether there were significant differences between students, lecturers, and teachers regarding learning model innovation.

### *2-3- Develop*

Third, develop, produce, and validate the syntax of the integrated learning model. At this stage, the product the researcher has developed is validated by an expert committee (rater). Researchers used 10 raters (age = 49.1±14.7; work experience = 23±13.4) tracked using the Google Scholar platform by considering publication experience and teaching experience in related fields. Researchers record rater correspondence (email) to facilitate the accessibility of the validation process through paper publication. Raters consist of various expert backgrounds, such as educational research and evaluation, educational curriculum, physical education, and sports science (see Table 1). The learning model design is circulated using a Google form to the rater's email during validation. If the scale does not meet the parameters, the researcher continues to revise it, and the rater carries out revalidation until it meets the test parameters.

**Table 1. Rater committee**

| No | Education | Gender | Age/work experience (year) | Expertise | Affiliation |
|---|---|---|---|---|---|
| 1 | Prof., Dr., M.Pd. | Male | 64/36 | Education research and evaluation | Universitas Negeri Surabaya |
| 2 | Prof., Dr., M.Kes. | Male | 64/38 | Sports science | Universitas Negeri Yogyakarta |
| 3 | Prof., Dr., M.Pd. | Male | 66/36 | Physical education | Universitas Pattimura |
| 4 | Ph.D., M.Pd. | Male | 40/15 | Physical education | Universitas Negeri Semarang |
| 5 | Dr., M.Pd. | Male | 36/9 | Education curriculum | Universitas Negeri Padang |
| 6 | Dr., M.Kes. | Male | 65/38 | Physical education | Universitas Nusa Cendana |
| 7 | Dr., M.Pd. | Male | 37/14 | Physical education | Universitas Siliwangi |
| 8 | Dr., M.Pd. | Female | 35/11 | Physical education | Universitas PGRI Jombang |
| 9 | Dr., M.Pd. | Male | 30/5 | Sports education | Universitas Persatuan Guru 1945 NTT |
| 10 | Dr., M.Pd. | Male | 55/28 | Sports science | Universitas Kristen Artha Wacana |

### *2-4- Implement*

The fourth implementation, namely conducting trials on 337 university students (men = 238, women = 99; M±SD = 21.0±3.0) with details: Semester II (3.3%), Semester IV (13.9%), Semester VI (68%), Semester VIII (13.4%), Semester X (1.2%), Semester XII (0.3%). Researchers deliberately involved Semesters II and IV even though they did not have direct experience in teaching practice. However, their views were still needed to compare how early semester students projected task performance in micro-teaching courses. Researchers distributed a Google form via WhatsApp Group, and students responded to all task performance on a five-point Likert scale (strongly agree-disagree).

In the outer and inner model test, respondents were determined using a convenience sampling technique; namely, they were a group of individuals who (easily) participated in the research, who were the most approachable, or, in another way, easily accessible to the researcher using Google forms [44]. Even though they used convenience sampling, researchers still minimized bias by providing equal access to all respondents to fill out the Google form. Another form of minimizing bias is that 82.7% of students who passed the trial had experience in practical field experience, including those who were temporary or had completed micro-teaching programs and those who had completed campus teaching programs or teaching assistantships in unit education. This consideration is so that students/respondents can photograph and verify various performance tasks in the syntax of the integrated learning model, which contributes to improving their performance as prospective teachers.

Convenience sampling helps researchers access respondents from various universities in Indonesia. For example, respondents (not limited to) come from Universitas Syiah Kuala (Aceh Province), Sekolah Tinggi Olahraga dan Kesehatan Bina Guna (North Sumatera Province), Universitas Negeri Padang (West Sumatera Province), Universitas Jambi (Jambi Province), Universitas Mulawarman (East Kalimantan Province), Universitas Palangka Raya (Central Kalimantan Province), Universitas Negeri Jakarta (Jakarta Special Capital Region Province), Universitas Pendidikan Indonesia (West Java Province), Universitas Negeri Semarang (Central Java Province), Universitas Negeri Surabaya (East Java Province), Universitas Kristen Artha Wacana (East Nusa Tenggara Province), Universitas Pendidikan Mandalika (West Nusa Tenggara Province), Universitas Tadulako (Central Sulawesi Province), and Universitas Pattimura (Maluku Province).

The main goal of developing the model is to prepare prospective teachers with skills relevant to the practical needs of student learning in schools (including teaching skills, analytical thinking skills, academic integrity, and transformational leadership). Of course, this condition is felt most clinically by teachers, so when testing the model, teacher involvement is crucial, both in the initial phase (needs analysis), model design phase (FGD), and also in the final phase (trial). The researchers then carried out an ANOVA test involving 30 students, namely 25 men, three women (age = 21.9±1.30), 28 lecturers (23 men; five women) who have experience as lecturers teaching Micro-teaching courses or lecturers who have experience in professional teacher education programs or lecturers supervising student teaching

training in schools (age = 40.2±8.7; work experience = 13.7±8.7), and 49 teachers, 36 men; 13 women (age = 37.6±7.7; work experience = 11.0±5.6), from Elementary School at 46.9%, Junior High School at 28.6%, and Senior High School at 24.5%.

### *2-5- Evaluate*

Finally, evaluation is assessing the quality of the model innovation, both in the development stage (content validity and reliability) and the implementation stage (model testing). Evaluation includes determining evaluation criteria, selecting evaluation tools, and conducting evaluations. Researchers use descriptive analysis to group and process data and information about summary, mean, standard deviation, min, max, and variables. Next, test content validity using the Aiken-V formula [45] and Inter-Rater Reliability from Pearson's Intraclass Correlation Coefficients (ICC) with the criteria: (1) <0.50 (poor), (2) 0.50-0.75 (moderate), (3) 0.75-0.90 (good), and (4) >0.90 (excellent) [46]. Meanwhile, the reliability test uses the Cronbach alpha formula using the criteria (1) <0.6 (poor), (2) 0.6 to <0.7 (acceptable for exploratory research), (3) 0.7 to <0.8 (good), (4) 0.8 to <0.9 (excellent), (5) 0.9 to 0.95 (somewhat high), and (6) ≥0.95 (too high; indicators are redundant) [47].

The outer model analysis uses the criteria (1) loading factor >0.70 [48-50], (2) reliability and construct validity, respectively, Cronbach alpha >0.70, composite reliability >0.70 [47, 51], and Average Variance Extracted >0.50 [51], and (3) Fornell-Larcker discriminant validity (AVE root> correlation) [52]. Meanwhile, goodness of fit testing (inner model) uses the criteria (1) Chi-Square/df <3, (2) Root Mean Square Error of Approximation <0.08, (3) Square Residual Mean Root <0.10, (4) Normal Fit Index >0.90, (5) Tucker-Lewis Index >0.90, and (6) Comparative Fit Index >0.90 [47, 51, 53]. The entire testing process uses the help of the Microsoft Excel and SmartPLS programs version 4.0.9.9.

Apart from testing content validity and reliability, construct validity and reliability, and GoF, researchers also conducted an ANOVA test on three sample groups, including students, lecturers, and teachers, regarding task performance innovations in the integrated learning model. Do students, lecturers, and teachers have different or similar views on the syntax and task performance innovations that have been developed? The results of the ANOVA test prove the views of the three sample groups; if the Sig value is <0.05, then there is a significant difference, and vice versa. For ANOVA testing, use Microsoft Excel and SPSS version 29 programs.

## 3- Results and Discussion

### *3-1- Results*

#### *3-1-1-Content Validity and Reliability*

After passing through the analysis and synthesis phase, the original version of the integrated learning model innovation produced eight syntaxes with 24 student performance tasks. Ten raters (five number rating categories) then validated the model design. In the first validation, 24 task performances met the Aiken parameters, namely >0.70 (0.84-1.00); unfortunately, the interrater reliability value was still <0.50 (0.12), and the Cronbach alpha value <0.70 (0.11). Apart from that, there are still raters who give a score of two (2) with many critical notes to improve student task performance and make it more transparent.

The following rater's notes received great attention and needed clarification and follow-up. At the same time, the researchers did not discuss several other notes because they were only technical notes. The rater's notes start from performance task number one to fourth. For example, IMSM (male/64 years old) notes that "*Try to measure single traits (single traits); if they are plural, then they must be sorted out. The goal is for respondents to answer confidently and accurately. For example, the orientation syntax: (1) students listen, (2) analyze, (3) discuss, (4) make decisions, these are multidimensional traits. If even one of the four activities is not carried out, then the answer becomes doubtful and even tends to be incorrect. Likewise, if assignment item number 1, four indicators are measured, namely: (1) course objectives, (2) integration strategy, (3) assessment instrument, and (4) target value; if there are indicators that are not paid attention to (with various possibilities), then the response is invalid. It would be better if it has been made into an item. It would be better if the traits measured are unidimensional.*" Another rater's note came from S (male/64 years old): "*Wouldn't there be an item that asked about the lesson plan, or should it be explicitly implied in various questions?*" For this reason, researchers revised the first to fourth research tasks to focus on task performance with single traits.

In the fifth performance task, R (male/36 years old) provided a note that needed clarification: "*Is the group division based on the pre-test carried out previously? "This needs to be considered so that collaboration between students occurs based on their initial level of ability (entry behavior)?*" It is almost the same as the notes of another rater, AJFL (male/55 years), namely, "*Looking at each other's abilities so that each group is balanced from various aspects*." So, in revising the task performance, the researcher emphasized the group distribution referring to skill level, gender, and ethnicity) to enlarge the learning experience and collaboration experience. The ninth task performance, AJFL (male/55 years old), said, "*Attitude as a peer reviewer must be visible*." This note aligns with developing a learning model because one of the skills that will be trained to students is increasing skills or their attitude of academic integrity, so that through their experience of conducting peer-assessment, whether they can have integrity or vice versa, take advantage of this momentum to practice their unethical behavior.

Four raters gave notes on task performance 10, including rater R (male/36 years old), namely "*Is the experimentation not in accordance with the roles agreed upon at the distribution stage?*", LMB (male/65 years old), namely "*Provide good verbal reinforcement or non-verbal*," RP (female/35 years old) namely "*There needs to be rules regarding the duration of implementation (teaching exercises) for each student. For example, one (1) student carried out teaching exercises five (5) times*," and AJFL (male/55 years old) "*Characteristics and style as a teacher need to be practiced*." The rater's notes above actually reaffirm that in task performance 10, students who act as teachers (student-teachers) will experiment with their teaching skills, both from the opening, core, and closing phases of learning using the part and whole method according to the time allowed have been mutually agreed upon. For example, practicing opening and closing the lesson takes 10 minutes, and carrying out the main lesson takes 15 minutes for the part training phase. Meanwhile, students spend 25 minutes training in each group for the whole phase. Thus, each student has more intensive practice experience according to the amount of time in each meeting and the number of meetings during one semester.

In task performance 15, JA (male/66 years old) asked clarification: "*Why only use interviews, not others?*" R (male/36 years old) stated, "*Exploration is sufficient by conducting focused discussions related to problems in teaching each student*." Thus, the researcher revised task performance 15 by accommodating FGD activities to make them more interactive and critical in solving problems. In task performance 16, rater CNW (male/30 years old) noted, "*Hypothesis was added to the analysis carried out so that it was not just an analysis but also had its hypothesis so that there was material to find a solution*." Meanwhile, in task performance 17, DTJ (male/37 years old) said, "*Problems must be resolved in their respective groups. For example, group 1's problems are solved by group 1 so that the group's performance can be more optimal later*." Task performance 20, R (male/36 years old) "*Learning videos need to use YouTube and other media platforms so that there are many features such as comments, likes, and shares if the video is good. It also develops the digitalization abilities of students/teacher candidates*." AJFL (male/55 years old) then added that "*Teaching videos should have an agreed product form that is following the physical education learning system (material characteristics)*." In task performances 23 and 24, IMSM (male/64 years old) gave notes as in the first-fourth task performance, namely, "*It is better if the trait is measured single, so that the formulation of the task performance for students reflects the success of improving performance, students integrate success in life academic, and students integrate success into non-academic life*."

From the rater's notes on the initial design of the scale above, the researcher reviewed, reduced, and revised them by viewing the concept of indicators to maintain the substance of developing an integrated learning model in training and improving teaching skills, analytical thinking skills, academic integrity and transformational leadership of prospective teachers. Therefore, researchers added two (2) performance tasks to the learning model syntax design. Firstly, adding task performance, students upload videos of their teaching performance competitions on the YouTube digital platform or other task performance competition syntax. Second, in the reward syntax, namely separating integration in academic and non-academic life (single traits) (see Table 3-revised version).

The revalidation results confirmed that three raters gave a minimum score of three (3) and a maximum score for all raters of five (5). Thus, all raters, on average, assessed 26 syntax performance tasks >4.0. In detail, first rater = 4.8±0.4, second rater = 4.7±0.5, third rater = 4.8±0.4, fourth rater = 4.2±0.4, fifth rater = 4.6±0.6, and sixth rater = 4.8±0.4, seventh rater = 4.7±0.5, eighth rater = 4.8±0.4, ninth rater = 4.8±0.4, and last rater = 4.8±0.4.

**Table 2. Expert committee content validation (*revised version*)**

| Task performance | M±SD | Aiken-V | Decision | Task performance | M±SD | Aiken-V | Decision |
|---|---|---|---|---|---|---|---|
| 1 | 4.9±0.3 | 0.98 | Valid | 14 | 4.9±0.3 | 0.98 | Valid |
| 2 | 4.7±0.7 | 0.93 | Valid | 15 | 4.9±0.3 | 0.98 | Valid |
| 3 | 4.0±0.0 | 0.75 | Valid | 16 | 4.7±0.7 | 0.93 | Valid |
| 4 | 4.9±0.3 | 0.98 | Valid | 17 | 4.9±0.3 | 0.98 | Valid |
| 5 | 4.9±0.3 | 0.98 | Valid | 18 | 5.0±0.0 | 1.00 | Valid |
| 6 | 4.9±0.3 | 0.98 | Valid | 19 | 4.9±0.3 | 0.98 | Valid |
| 7 | 4.9±0.3 | 0.98 | Valid | 20 | 4.8±0.4 | 0.95 | Valid |
| 8 | 4.7±0.7 | 0.93 | Valid | 21 | 5.0±0.0 | 1.00 | Valid |
| 9 | 4.9±0.3 | 0.98 | Valid | 22 | 4.0±0.0 | 0.75 | Valid |
| 10 | 5.0±0.0 | 1.00 | Valid | 23 | 4.0±0.0 | 0.75 | Valid |
| 11 | 4.9±0.3 | 0.98 | Valid | 24 | 4.9±0.3 | 0.98 | Valid |
| 12 | 4.1±0.3 | 0.77 | Valid | 25 | 4.9±0.3 | 0.98 | Valid |
| 13 | 4.0±0.0 | 0.75 | Valid | 26 | 4.8±0.4 | 0.95 | Valid |

The Aiken test results prove that all task performance in the syntax of the integrated learning model has a value of >0.70, namely 0.75-1.00 (see Table 2), so that it meets the Aiken test parameters [45]. Apart from that, the interrater reliability value is 0.573, so it is included in the moderate category [46] with a Cronbach alpha value of 0.931 (somewhat high) [47]. Thus, all performance tasks developed in the syntax of the integrated learning model have met the content validity and reliability parameters on single and average measures.

**Table 3. Task performance integrated learning model**

| Students' task performance (*original version*) | Students' task performance (*revised version*) |
|---|---|
| 1. Students pay attention to course objectives, integration strategies, assessment instruments, and target grades | 1. Students observed the course objectives provided by the lecturer (for example, through semester lesson plans, videos, banners, articles, etc.) |
| 2. Students analyze course objectives, integration strategies, assessment instruments, and target grades | 2. Students analyze integration strategies or learning models to achieve course objectives |
| 3. Students discuss course objectives, integration strategies, assessment instruments, and target grades | 3. Students discuss performance assessment instruments to support the achievement of course objectives |
| 4. Students make decisions about study objectives, integration strategies, assessment instruments, and target grades | 4. Students and lecturers make decisions about target grades at the end of the course |
| 5. Distributing students into small, heterogeneous groups enlarges the learning experience | 5. Distribute students into small, heterogeneous groups (including skill level, gender, ethnicity) to enlarge the learning experience |
| 6. Students determine the role of each member (for example, as peer-assessment, teacher, and student) in the small group to encourage the level of member participation in improving their performance | 6. Students determine the role of each member (for example, as peer-assessment, teacher, and student) in the small group to encourage the level of member participation in improving their performance |
| 7. Students simulate each role in the micro group | 7. Students simulate each role (for example, as peer-assessment, teacher, and student) in micro groups |
| 8. Students analyze each role in the micro group to support improving their performance | 8. Students analyze each role (for example, as peer-assessment, teacher, and student) in micro groups to support improving their performance |
| 9. Students experiment with the role of peer review to assess the performance of their colleagues | 9. Students experiment with the role of peer review to assess the performance of their peers |
| 10. Students experiment with the role of a teacher to practice the skills of opening and closing learning | 10. Students experiment with the role of a teacher to practice the skills of opening and closing learning |
| 11. Students experiment with the role of students (taught students) alternately using part and whole methods in micro groups to support the implementation of performance training | 11. Students experiment with the role of students (taught students) alternately using part and whole methods in micro groups to support the implementation of performance training |
| 12. Students present the results of the teaching skills assessment based on the assessment instrument | 12. Students present the results of peer-assessment of their colleagues' teaching performance according to the assessment instrument at each meeting |
| 13. Students clarify when they receive objections from colleagues or lecturers regarding their assessment results | 13. Students clarify when they receive objections from colleagues or lecturers regarding the results of their peer-assessment |
| 14. Students analyze their colleagues' performance problems according to the assessment instrument | 14. Students analyze their colleagues' teaching performance problems according to the assessment instrument |
| 15. Students explore the causes of performance problems through interviews | 15. Students conduct focus group discussions regarding each student's teaching performance problems |
| 16. Students summarize various findings on performance problems from instruments and interview results | 16. Students summarize various findings on teaching performance problems from instruments and focus group discussions |
| 17. Students work together to find solutions to solve performance problems | 17. Students work together to find solutions to solve performance problems in each micro group |
| 18. Students reflect on the usefulness of solutions to solve performance problems | 18. Students reflect on the usefulness of solutions to solve performance problems |
| 19. Students make follow-up decisions to resolve performance problems | 19. Students make follow-up decisions to resolve performance problems |
| 20. Students compete in their teaching performance (in the form of teaching videos) | 20. Students compete in their teaching performance at the end of the course (in the form of teaching videos) |
| 21. Students assess the results of their teaching performance (self-assessment) | 21. Students upload videos of their teaching performance competitions on YouTube or other digital platforms |
| 22. Students assess the performance results of their colleagues (peer-assessment) | 22. Students evaluate the results of their teaching performance (self-assessment) from the competition video |
| 23. Students who succeed in improving their performance receive rewards (for example, certificates, books, and other mutually agreed rewards) | 23. Students evaluate the results of their peers' performance (peer-assessment) from the competition video |
| 24. Students reflect on the success of improving their performance and integrating it into academic and non-academic life | 24. Students who succeed in improving their teaching performance receive rewards (for example, certificates, books, and other mutually agreed rewards) |
| | 25. Students reflect on the successful integration of their performance in academic life |
| | 26. Students reflect on the successful integration of their performance in non-academic life |

### *3-1-2-Construct Validity and Reliability*

The integrated learning model task performance was tested on 337 students to measure construct validity and reliability using the Covariance Based-Structural Equation Model (CB-SEM). When the observed data set is large, CB-

SEM provides factor-based model fit indices better than PLS-SEM fit indices [54]. CB-SEM confirms the theory by determining how closely the proposed theoretical model can reproduce the covariance matrix for the observed sample data set [55].

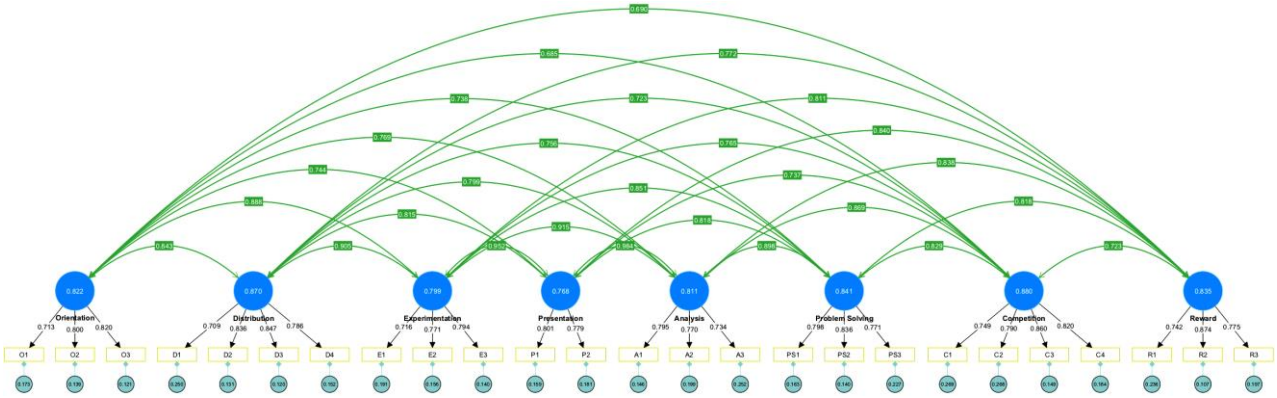


**Figure 2. Diagram path (25 task performance)**

The results of the first stage outer model (CB-SEM) analysis showed that one (1) performance task (orientation syntax; O4) received a factor loading value of <0.70 (0.559), different from the other 25 which received a value of >0.70, so the researcher eliminated task performance O4. The results of the second stage of analysis confirmed that 25 task performances met the loading factor value >0.70 (0.709-0.874) [48-50] (see Figure 2), and also the Cronbach alpha reliability parameter >0.70 (0.768-0.880) and composite reliability >0.70 (0.768-0.879) [47, 51], and Average Variance Extracted >0.50 (0.580-0.649) [51]. The discriminant validity results also meet the Fornell-Larcker parameters with a value range of 0.761-0.806 [51, 52] (see Table 4). Thus, each manifest variable (25 task performance) is related to the latent variable, so the task performance developed in the integrated learning model design can represent or correlate significantly with the actual situation.

**Table 4. Construct validity and reliability**

| Syntax | Cronbach alpha | Composite reliability | Average variance extracted | Discriminant validity |
|---|---|---|---|---|
| Orientation | 0.822 | 0.823 | 0.606 | 0.779 |
| Distribution | 0.870 | 0.871 | 0.635 | 0.797 |
| Experimentation | 0.799 | 0.805 | 0.580 | 0.761 |
| Presentation | 0.768 | 0.768 | 0.624 | 0.790 |
| Analysis | 0.811 | 0.807 | 0.588 | 0.767 |
| Problem solving | 0.841 | 0.842 | 0.643 | 0.802 |
| Competition | 0.880 | 0.879 | 0.649 | 0.806 |
| Reward | 0.835 | 0.838 | 0.639 | 0.799 |

### *3-1-3-Goodness of Fit Test*

The goodness of fit (GoF) test aims to assess the extent to which the hypothesized model reproduces the underlying multivariate structure of a set of variables [56]. In the GoF test, it was confirmed that the Chi-Square/df value was <3 (2.254), the Root Mean Square Error of Approximation value was <0.08 (0.061), the Residual Mean Root Square value was <0.10 (0.036), the Normal Fit Index value was >0.90 (0.910), Tucker-Lewis Index value >0.90 (0.936), and Comparative Fit Index value >0.90 (0.948) (see Table 5). Thus, the integrated learning structural model satisfies the GoF parameters [47, 51, 53]. It means that the syntax construct of the integrated learning model has an appropriate psychometric function to measure actual conditions so that the predicted model has a high actual value when applied in a micro-teaching course.

**Table 5. Goodness of fit evaluation**

| | Estimated model | Null model |
|---|---|---|
| Chi Square/df | 2.254 | 20.681 |
| Root Mean Square Error of Approximation | 0.061 | 0.242 |
| Square Residual Mean Root | 0.036 | n/a |
| Normal Fit Index | 0.910 | n/a |
| Tucker-Lewis Index | 0.936 | n/a |
| Comparative Fit Index | 0.948 | n/a |

### *3-1-4-ANOVA Test*

ANOVA testing is used to identify whether the model that has been developed is on the same continuum of projected learning experiences (task performance) idealized by students, lecturers, and teachers or vice versa. Are they different? The Shapiro-Wilk normality test value for students = 0.284, lecturers = 0.068, and teachers = 0.083 (>0.05), and the homogeneity test result is 0.203 (>0.05). It means that the data in the three sample groups is normally distributed and homogeneous, so it can be continued with the ANOVA (parametric) test. The results prove that the three sample groups only show significant differences in reward syntax (0.004 <0.05). Meanwhile, the other seven indicators have Sig values between 0.090-0.761, so there are no significant differences.

Overall, the ANOVA test confirmed that the Sig. value was 0.098 (>0.05), so it could be concluded that there were no significant differences between the three sample groups in responding to the 25 task performance of the integrated learning model (see Table 6). Students, lecturers, and teachers agreed that the innovation of 25 task performances in eight integrated learning model syntaxes could be used to develop various skills of prospective teachers to increase their competence in organizing learning.

**Table 6. ANOVA test**

| Syntax | Students (n = 30) | Lectures (n = 28) | Teachers (n = 49) | ANOVA | |
|---|---|---|---|---|---|
| | | | | F | Sig |
| Orientation | 4.36±0.53 | 4.42±0.75 | 4.44±0.57 | 0.274 | 0.761 |
| Distribution | 4.33±0.56 | 4.45±0.80 | 4.42±0.54 | 0.464 | 0.630 |
| Experimentation | 4.31±0.61 | 4.49±0.53 | 4.45±0.63 | 1.131 | 0.327 |
| Presentation | 4.22±0.58 | 4.41±0.63 | 4.37±0.68 | 1.034 | 0.359 |
| Analysis | 4.19±0.65 | 4.40±0.66 | 4.46±0.58 | 2.466 | 0.090 |
| Problem solving | 4.21±0.80 | 4.46±0.65 | 4.44±0.56 | 1.874 | 0.159 |
| Competition | 4.11±0.78 | 4.36±0.81 | 4.30±0.58 | 1.466 | 0.236 |
| Reward | 4.09±0.77 | 4.43±0.61 | 4.50±0.62 | 5.922 | 0.004 |
| **Total** | **105.7±12.2** | **110.6±10.8** | **110.4±8.8** | **2.380** | **0.098** |

### *3-2- Discussion*

The integrated learning model innovation has fulfilled a high psychometric function in training teaching skills, analytical thinking skills, academic integrity, and transformational leadership in micro-teaching courses. The results of the Aiken-V validity test prove that all task performance meets the parameters in the range 0.75-1.00 (>0.70), the interrater reliability value is 0.573 (>0.50), and the Cronbach alpha value is 0.931 (>0.70). Testing the validity and reliability of the construct proves that the loading factor value ranges from 0.709-0.874 (>0.70), the Cronbach alpha value ranges from 0.768-0.880 (>0.70), the composite reliability value ranges from 0.768-0.879 (>0.70), the AVE value ranges from 0.580-0.649 (>0.50), and the discriminant validity value ranges from 0.761-0.806. GoF testing proves that the Chi-Square/df value is 2.254 (<3), the RMSEA value is 0.061 (<0.080), the SRMR value is 0.036 (<0.10), the NFI value is 0.910 (>0.90), the TLI value is 0.936 (>0.90), and the CFI value is 0.948 (>0.90). Finally, the ANOVA test results also confirmed no significant differences between the three sample groups (Sig = 0.098> 0.050). Students, lecturers, and teachers agree that the eight syntaxes and 25 performance tasks that were innovated can train a set of skills that support the development of prospective teachers' teaching competencies. Thus, this learning model can be an alternative that lecturers can use to prepare competent teacher candidates who maintain a spirit responsible for making effective and efficient learning approaches, methods, and strategies with their expertise, personality, and social relations to explore potential students during learning [57].

The results of this research enrich the innovation of previous micro-teaching models which were limited to improving teaching skills such as the Innovative Micro Model with three main concepts, namely inquiry, knowledge, and the dynamics of the learning group [17], Practicum-Based Microteaching Model with the planning, teaching, and feedback cycle [21], Tadaluring Microteaching Model with the syntax of classroom practice (planning, teaching, feedback), online practice (making connections, replanning, reteaching, and refeedback), and offline practice (replanning , reteaching, video editing, posting on WhatsApp, and giving feedback) [26], increasing high-level skills such as in developing the LCMT model through five main stages, planning, practical, evaluation, reflection, and decision making [18] and increasing multi-faceted thinking, problem solving, self-confidence, patience in dealing with students, as well as preparing plans and producing activities in the Microteaching Lesson Study Model using the stages of goal-setting, develop a lesson plan, implementation and observation, evaluation/reflection/ reteaching, and improvement [22-25]. The abovementioned models rely on planning, implementation, evaluation, and reflection, generally used in lesson study and action research models. Besides, these models have not maximized psychometric functions in the testing and development process, so the results still require further discussion.

We try to enrich the integrated learning model by strengthening candidate teachers' performance tasks by maximizing constructivist learning theory, transformative learning theory, and goal setting theory. For example, in orientation syntax, goal-setting theory play an important role by ensuring that students understand what they will achieve in one semester, how to achieve it, and what behavioral indicators they need to achieve these goals (such as analyzing instruments used in performance assessments) so that prospective teachers are more selective in using information in lecturer learning designs, act according to assessment rubrics, use feedback to improve academic performance, and develop independent learning strategies [58-60]. Their participation in learning becomes more meaningful and routine, so they can make critical analyses and strategic decisions in every learning action and eliminate various unproductive actions toward achieving goals [61]. It means that the innovation of the integrated learning model offers a new landscape for lecturers as one of the learning model options for micro-teaching classes. This model not only focuses on teaching skills and analytical thinking, but we facilitate a learning culture for prospective teachers that is goal-oriented, visionary, collaborative, supportive, empowering, and has integrity in developing various teaching competencies of prospective teachers.

The integrated learning model promotes student-centered learning experiences by stimulating learning behaviors that are oriented (goal-setting) towards future skills and analytical towards various changes and progress and also encourages constructive and transformative learning behaviors through the creation of integrated learning environments and experiences that are functional, comprehensive, and communal that mutually support and empower various potentials to achieve progress together. The eight syntaxes of the integrated learning model (from the orientation to the reward phase) are concisely elaborated in the following discussion (see Figure 3).

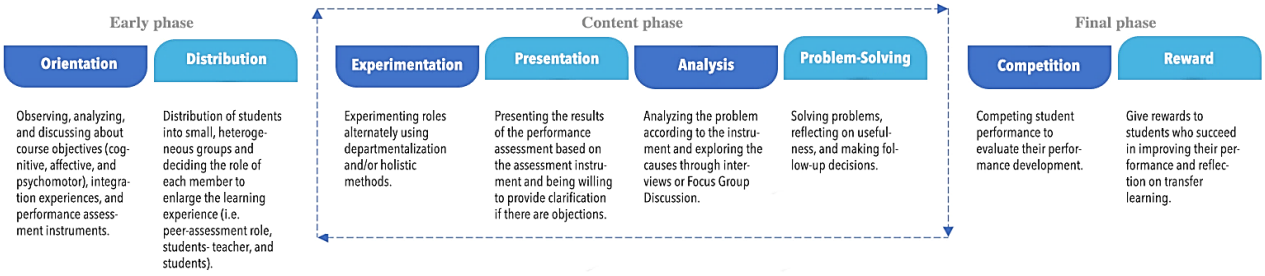


**Figure 3. Integrated learning model syntax**

### *3-2-1- Orientation*

In the initial stage, lecturers need to orient their students' learning experience by conducting a review to determine the direction or goal and rationalizing tendencies toward the direction or goal of learning. When developing the orientation syntax, researchers considered Goal-Setting Theory because human behavior consciously has goals [62], as well as Self-Determinant Theory because humans have basic psychological needs to predict a series of positive outcomes of autonomy, competence, and relatedness [63, 64]. Orientation is almost similar to learning objectives but is expanded because, apart from determining objectives, lecturers must rationalize the significance of these objectives and how to achieve them (including strategies and instrumentation) so that students can set goals and determine their autonomy in achieving them. by paying attention to task performance indicators. Learning objectives use action verbs and describe the expected performance and the conditions under which that performance must occur [65]. This emphasis significantly influences the nature of the learning process and the type and frequency of evaluation [66]. Orientation is required to help students understand what they will study obviously. Students choose appropriate courses/programs, narrow focus and organize learning, eliminate the risk of wasting time, reduce unnecessary stress, provide students with a clear picture of what they will learn or achieve at the end of the class before each class begins, highlighting what exactly and more importantly students must know to achieve [67-69].

### *3-2-2- Distribution*

The integrated learning model also places group division in the second syntax called distribution. The distribution of students into small groups provides opportunities for them to learn and teach each other while facilitating them to transfer more excellent knowledge and skills from previous learning through communication, value clarification, negotiation, conflict resolution, teamwork, decision-making, and critical thinking, solving a problem, and creating a product [70, 71]. Limited use of group work strategies can develop a positive learning climate, help class cohesion, and increase student independence during cross-cultural engagement in learning [72]. As students interact and influence each other, groups develop many dynamic processes, including norms, roles, relationships, development, need to belong, social influence, and impact on behavior [73]. Costley's [74] study provided interesting findings, where students who contributed less to the group had more significant and higher collaboration benefits than students who took a more active role. It means that the dominance of certain students in a group may be unsuitable for building collaboration and group

cohesion. Considering the results of Costley's [74] study, it is vital to determine the roles in heterogeneous groups so that all members are responsible for their respective roles. For example, as a peer reviewer, he is tasked with conveying his vision and the transformation strategy so that his colleagues can achieve the vision set and evaluate his colleagues' teaching performance, acting as a teacher who organizes learning and acting as students learning subjects. These roles are rotated at each meeting to provide different experiences while maintaining collaboration and mutual commitment. With good commitment, the increase in student teaching performance will be better than if they are not committed in groups [32].

### *3-2-3- Experimentation*

A learning experience is a series of conditions and learning events that structure a student's experience and are related to a specific set of goals [75]. Experimenting with the skills that have been designed and established during the orientation phase (first stage) and paying attention to the role of each member (second stage) is a valuable experience that helps students form and develop new knowledge and skills. Learning activities aim to create a student learning experience so that all information and experience must be "zoomed in" to various student activities, not vice versa to the lecturer (direct instruction). In this section, students (in groups) do exercises about learning content (for example, about teaching skills). Each student takes turns or takes turns doing the exercise, including the group coordinator. Instruments or observation guides can be used to collect data on skills that want to be trained. This data will be a reference for providing guidance, problem-solving, and skill development while students are studying.

According to Rink [75], a good learning experience meets four criteria, namely (1) has the potential to improve the performance of student activity skills, (2) provides maximum activity or practice time for all students at the appropriate ability level, (3) is appropriate for the experience level of all students, and (4) has the potential to integrate psychomotor, affective, and cognitive educational objectives whenever possible. Referring to Rink's [75] thoughts, in experimenting skills, this can be done with a departmental organization or with a holistic method known as the part-and-whole method. The part-and-whole method is part training, where students practice necessary subtasks before performing the entire task [76]. After students successfully achieve the performance criteria for each "part," or component in the whole, the lecturer connects these parts, thus forming a "whole." These learning experiences provide students with a landscape of understanding of the content at various performance levels and enable higher-level development [77, 78]. This method has also been implicitly successful [31] in integrating with the guided practice model in action research to improve the teaching skills of physical education students.

Another strategic action in the experimentation phase is for students to play roles as highlighted in the distribution phase, such as peer reviewers/coordinators, teachers, and students. These three roles alternate along with changes in training time per student. Those who play the role of peer review will guide the training, so they are responsible for training their analytical thinking, academic integrity, and transformational leadership. For example, students express their vision and strategies to achieve the vision by maximizing development and empowering members, creating support, and developing innovative thinking. The integration experience above was carried out by taking into account the success of increasing transformational leadership carried out by [79-81], namely playing roles and modeling transformational behavior in various practices or contexts of their work. One of the methods used in this research is role-playing in micro-teaching course. Thus, the group setting must be expanded by creating a function in training transformational leadership in behavioral indicators, as has been developed by [82-84].

Likewise, when students carry out peer-assessment (based on instruments), they must be analytical and have integrity by assessing their peers according to the instruments that have been determined. This experience was circumvented because, according to Rose-Ackerman & Palifka [85], academic integrity issues include abuse of authority. Can students be honest, trustworthy, fair, respectful, responsible, and courageous when assessing their colleagues' teaching performance by having peer review authority? On the contrary, they tend to prioritize behavior without integrity. Integrating these experiences can foster student integrity because maintaining academic integrity is a serious problem that often occurs in universities [86]; at least 77.5% of students admit to having committed academic dishonesty [87]. Peer cheating is one of the most vital factors associated with student academic cheating [88]; even of the 40% of students who witnessed cheating, 94% never reported the problem [89]. Therefore, the integrated learning model provides an experimentation phase to create an environment and experience that helps students develop their teaching skills and analytical thinking skills, academic integrity, and transformational leadership through strengthening concepts, role-playing, and feedback.

### *3-2-4- Presentation*

The ability to make oral presentations is an important aspect of a student's experience at university [90, 91] so it needs to be integrated into a variety of student experiences throughout their learning period [92]. Teaching students to design effective oral presentations enables them to be successful in future professional environments, such as job interviews and communication with colleagues in the workplace, and prepares them for possible further academic

careers [93, 94]. Students deal with challenges when presenting, such as nervousness, fear of being judged, challenging content, topic uncertainty, and high self-expectations [90, 95]. To bridge this, presentation design in this syntax teaches students not to be limited to reporting presentations just once, as is often the case in other learning models. However, the format of this presentation is that students report the results of performance assessments from their colleagues. All students who have taken on the role of peer reviewer are tasked with presenting the results of their assessment and, at the same time, being responsible for the results of the assessment by being willing to clarify them when confirmed by their peers and/or lecturers. Through "simplification" and high presentation experience, the aim is to help students develop their analytical thinking (examining information or skill data that supports or does not support student performance), their academic integrity (honest, trustworthy, and brave enough to take responsibility for assessment results peer performance), as well as presentation skills (able to organize material well and not worry too much when speaking in front of other people).

### *3-2-5- Analysis*

This phase is the process of diagnosing the trainee's negligence. Students analyze their colleagues' teaching performance (instrument-based) using three indicators from Anderson & Krathwohl [96], namely differentiating, organizing, and attributing to skill areas that have not been optimized during training. Students must be able to differentiate data that is a problem of teaching performance, organize data to see its relevance and contribution to performance, and attribute it to see other points of view or the meaning of their performance problems with integrity [96-99]. Students use analytical processes to build a logical structure of thinking about problems, for example, their teaching skills [100] to simplify, speed up, and ensure the accuracy of problem-solving [101, 102]. Students and lecturers also need to map skills mastery from easiest to most challenging to provide focused solutions from complex to easy skills, making every guidance effort more organized. Remember that this process still focuses on diagnostic efforts, so investigating the causes and consequences of negligence during practice is very important so that lecturers and colleagues have comprehensive data about skills training problems. Besides quantitative data, exploring obstacles from a student's perspective is necessary to complement the previous quantitative data. For example, when student-teachers have difficulty implementing strategies to optimize student practice. So, it can be explored with the question, "*Why do you have difficulty conveying and explaining the importance of learning objectives?*" "*Do you not have knowledge about strategies in teaching or the use of teaching methods?*" etc. This exploration is needed to ascertain the psycho-social factors influencing students' skills training success.

### *3-2-6- Problem-solving*

In problem-solving, students use rationality to understand information or concepts (teaching skills) in detail and connect any information or ideas to solve problems [98, 102-104] including by using proactive decision-making approaches, such as systematic identification of objectives, systematic identification of alternatives, systematic search for information, using a decision radar, taking the initiative, and striving for improvement [105]. The collection of solutions from various student perspectives in each group is then reflected on so that they gain a comprehensive and clinical understanding of their implementation, which they can try out in subsequent exercises. During the dialogue, students focus on solutions to be more enthusiastic and responsive in learning and improving skills according to joint recommendations. The lecturer's position is to facilitate, accompany, and guide. Lecturers clarify solutions, direct student skills, and guide and correct teaching performance problems to ensure that analytical thinking, academic integrity, and transformative vision of students in each group have been optimized. When compared to the Problem-Based Learning model, this activity is at the last or fifth level, where lecturers and students analyze and draw conclusions based on the results of problem-solving [106-110]. Meanwhile, in the Project-Based Learning model, in reflection activities (fifth of six), students and lecturers reflect on learning, the effectiveness of investigation and project activities, the quality of student work, the obstacles that arise, and strategies for overcoming them [111]. It means that in substance, even though the integrated learning model is facilitated to improve teaching skills, higher-level thinking process segments, such as analytical thinking and critical thinking, remain essential to the student learning experience to improve their performance.

### *3-2-7- Competition*

The world of work is now increasingly competitive, so preparing students with the nuances of performance competitions is necessary. The competition is not held at every meeting, but at the end of the main meeting, to be precise, at the 15th meeting, which can also be formatted in the form of a final teaching skills test to complete the data and decisions of lecturers regarding the skills training to their students. The competition allows lecturers to reflect on their success in improving student performance. When conducting competitions, lecturers still rely on the instruments they used in the initial test to balance the comparative data. The main goal in the integrated learning model is the construction

of students' experience and adaptability to the skills being trained so that competition experience must be able to verify these results. Several studies prove that competition increases attention in physical task efforts and produces positive results by increasing engagement, increasing achievement, and facilitating individual creativity [112]. The material being contested is a skill, so it is vital to attract student's attention, as reported in the DiMenichi & Tricomi [113]. Competitions are needed to support student performance development and convince and increase students' confidence and self-esteem regarding their performance achievements. Competitions can be structured in various forms, for example, with an offline version, so lecturers can collaborate with colleagues or even with competent physical education teachers to be involved as an assessment team. Second, it can also be in the online form so that students can record their teaching practices and then upload them to YouTube or other media to be evaluated by themselves, their colleagues, or lecturers using certain instruments. This process also trains students' academic integrity. In addition, confirming that the progressive world is facing an ever-changing educational landscape, prospective teachers must have the desire to build their technological capabilities by improving their skills and retooling their innovation and creativity in delivering their teaching [114].

#### *3-2-8- Reward*

Reward systems have positive and negative impacts on individual development. The positive impact is that it can attract interest, foster good study habits, create a positive learning atmosphere, and increase individual learning motivation. However, individuals can also develop reward addiction, increased sensitivity to punishment, and decreased intrinsic motivation. If lecturers want to maximize the advantages of the reward system, avoiding disadvantages and maintaining advantages is an efficient way [115]. Several studies report that reward history is significantly related to students' motivational orientation and performance [116, 117]. The conditions above really depend on when and how rewards are given to students, whether at the beginning, middle, or end of semester learning. So that rewards do not become an addiction, lecturers can use them to strengthen students' self-esteem regarding the performance they have achieved at the end of the semester. Rewards can take various forms, such as providing certificates issued by universities, rewarding academic books, and so on. Rewards are unused to stimulate students to learn because they can change their orientation towards real learning goals and increase mental health problems [118]. Rewards are given as a form of appreciation for students' efforts throughout learning activities. Rewards for students can also reflect improved performance so that their achievement strategies can be fused into other academic and non-academic contexts (transfer learning). Thus, their "best-practice" is not completed in the classroom but is used as learning behavior in various contexts.

## 4- Conclusion

This research has succeeded in innovating an integrated learning model in micro-teaching course by offering eight syntaxes through 25 performance tasks to train teaching skills, analytical thinking skills, academic integrity, and transformational leadership for prospective physical education teachers. At the model design stage, there are 24 performance tasks from eight learning syntaxes. Entering the content testing (develop) stage, the rater provides several critical notes to complete the task performance, one of which is revising the task performance into single traits, resulting in some revisions to the design of the task performance and resulting in the addition of two task performances, one each in syntax competition and the other in the reward syntax. Entering the testing phase with CB-SEM (implementation), the fourth task performance on orientation syntax did not meet the loading factor value (0.559 <0.70), so it was deleted and retested. Finally, the 25 task performances in the integrated learning model have met content validity and reliability, construct validity, and reliability so that the model has a significant psychometric function relative to the actual situation.

The results of the ANOVA test also confirmed that students, lecturers, and teachers gave the same approval for the syntax and task performance found in the integrated learning model. Thus, this model can be used as one of the best choices for lecturers in developing the competence of prospective teachers in micro-teaching courses. This model innovation needs to undergo empirical testing (in the classroom) to see its implications for teaching skills, analytical thinking skills, academic integrity, and transformational leadership. Therefore, future research could pay attention to this lacuna. By looking at various task performances, future researchers can also conduct empirical testing of other potential variables not listed explicitly as mentioned previously but have a high determination in supporting the development of prospective teacher competencies in the 21st century. The results of this investigation are beneficial for perfecting student performance tasks in supporting the development of competency of prospective teachers who are adaptive and progressive towards various advancements of the times to ensure student learning experiences that are nationally and internationally competitive, progressive, and also of superior character.

## 5- Declarations

### *5-1- Author Contributions*

Conceptualization, J.B., A.M., B., and A.M.; methodology, J.B. and B.; software, J.B. and M.N.A.; validation, A.M., B., and A.M.; formal analysis, J.B. and M.N.A.; investigation, A.M.; resources, J.B.; data curation, M.N.A.; writing—original draft preparation, J.B.; writing—review and editing, A.M., B., A.M., T.J., and A.J.F.L; visualization, M.N.A.; supervision, A.M., B., A.M., T.J., and A.J.F.L.; project administration, J.B.; funding acquisition, M.N.A. All authors have read and agreed to the published version of the manuscript.

### *5-2- Data Availability Statement*

The data presented in this study are available on request from the corresponding author.

### *5-3- Funding and Acknowledgements*

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### *5-4- Institutional Review Board Statement*

The study was conducted in accordance with the Declaration of Helsinki and approved by the Institutional Review Board (or Ethics Committee) of the Universitas Kristen Artha Wacana (06/LEMLIT-UKAW/P.10/I.2024).

### *5-5- Informed Consent Statement*

Informed consent was obtained from all subjects involved in the study.

### *5-6- Conflicts of Interest*

The authors declare that there is no conflict of interest regarding the publication of this manuscript. In addition, the ethical issues, including plagiarism, informed consent, misconduct, data fabrication and/or falsification, double publication and/or submission, and redundancies have been completely observed by the authors.

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# Appendix I. Guidelines for observing integrated learning models

| Syntax | Students task performance | Responses | | Note |
|---|---|---|---|---|
| | | Yes | No | |
| Orientation (observing, analyzing, and discussing about course objectives (cognitive, affective, and psychomotor), integration experiences, and performance assessment instruments) | 1. Students observed the course objectives provided by the lecturer (for example, through semester lesson plans, videos, banners, articles, etc.) | | | |
| | 2. Students analyze integration strategies or learning models to achieve course objectives | | | |
| | 3. Students discuss performance assessment instruments to support the achievement of course objectives | | | |
| Distribution (distribution of students into small, heterogeneous groups and deciding the role of each member to enlarge the learning experience, i.e. peer-assessment role, students-teacher, and students) | 4. Distribute students into small, heterogeneous groups (including skill level, gender, ethnicity) to enlarge the learning experience | | | |
| | 5. Students determine the role of each member (for example, as peer-assessment, teacher, and student) in the small group to encourage the level of member participation in improving their performance | | | |
| | 6. Students simulate each role (for example, as peer-assessment, teacher, and student) in micro groups | | | |
| | 7. Students analyze each role (for example, as peer-assessment, teacher, and student) in micro groups to support improving their performance | | | |
| Experimentation (experimenting roles alternately using departmentalization and/or holistic methods) | 8. Students experiment with the role of peer review to assess the performance of their peers | | | |
| | 9. Students experiment with the role of a teacher to practice the skills of opening and closing learning | | | |
| | 10. Students experiment with the role of students (taught students) alternately using part and whole methods in micro groups to support the implementation of performance training | | | |
| Presentation (presenting the results of the performance assessment based on the assessment instrument and being willing to provide clarification if there are objections) | 11. Students present the results of peer-assessment of their colleagues' teaching performance according to the assessment instrument at each meeting | | | |
| | 12. Students clarify when they receive objections from colleagues or lecturers regarding the results of their peer-assessment | | | |
| Analysis (analyzing the problem according to the instrument and exploring the causes through interviews and/or Focus Group Discussion) | 13. Students analyze their colleagues' teaching performance problems according to the assessment instrument | | | |
| | 14. Students conduct focus group discussions regarding each student's teaching performance problems | | | |
| | 15. Students summarize various findings on teaching performance problems from instruments and focus group discussions | | | |
| Problem-solving (solving problems, reflecting on usefulness, and making follow-up decisions) | 16. Students work together to find solutions to solve performance problems in each micro group | | | |
| | 17. Students reflect on the usefulness of solutions to solve performance problems | | | |
| | 18. Students make follow-up decisions to resolve performance problems | | | |
| Competition (competing student performance to evaluate their performance development) | 19. Students compete in their teaching performance at the end of the course (in the form of teaching videos) | | | |
| | 20. Students upload videos of their teaching performance competitions on YouTube or other digital platforms | | | |
| | 21. Students evaluate the results of their teaching performance (self-assessment) from the competition video | | | |
| | 22. Students evaluate the results of their peers' performance (peer-assessment) from the competition video | | | |
| Rewards (give rewards to students who succeed in improving their performance and reflection on transfer learning) | 23. Students who succeed in improving their teaching performance receive rewards (for example, certificates, books, and other mutually agreed rewards) | | | |
| | 24. Students reflect on the successful integration of their performance in academic life | | | |
| | 25. Students reflect on the successful integration of their performance in non-academic life | | | |