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Student teachers' challenges, coping strategies, and support needs in developing teaching materials during teaching practicum

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Abstract:
This study aims to investigate student teachers' challenges, coping strategies, and support needs in developing teaching materials during teaching practicum (Praktek Lapangan Kependidikan/PLK). This research employed a descriptive quantitative design supported by qualitative data. The participants were 33 student teachers from the English Education Program who had completed the PLK program from January to June 2025. Data were collected using a four-point Likert scale questionnaire and semi-structured interviews. Data were analyzed using descriptive statistics and thematic analysis. The findings reveal that student teachers experienced a moderate level of challenges in developing materials (M = 2.67), particularly in procedural aspects such as conducting needs analysis (2.70), selecting and adapting materials (2.76), and evaluating developed materials (2.94). Time constraints also emerged as a significant challenge, with a mean score of 2.86. In contrast, student teachers demonstrated a high level of coping strategies (M = 3.45), including collaborating with mentor teachers (3.58), adapting materials to learners' needs (3.36), and applying instructional scaffolding as a key strategy. Additionally, utilizing technology tools emerged from the qualitative data as an additional strategy reported by the participant. Furthermore, the findings indicate that student teachers have high support needs (M = 3.28), especially in terms of access to teaching resources (3.42) and guidance from mentor teachers (3.30). However, support from university supervisors in the form of direct feedback and reflective supervision was found to be limited, with the mean score 3.12. Overall, this study highlights that developing teaching materials during teaching practicum is a complex process influenced by the interaction of challenges, strategies, and support needs. The findings suggest the importance of strengthening practical training and support mechanisms in English Education Programs to better prepare student teachers for real classroom contexts.

Keywords: Student teachers, teaching materials development, material development challenges, coping strategies, support needs

1. INTRODUCTION AND LITERATURE REVIEW

Teaching materials play a crucial role in supporting and facilitating the learning process in the classroom. They help ensure that learning activities are conducted in a structured, systematic, and effective manner. Teaching materials may include textbooks, workbooks,

audiovisual media, and digital resources that support students in developing their language skills. According to Richards (2001), teaching materials are a central component of most language programs because they provide the primary source of language input and learning activities in the classroom. Teachers may rely on institutional materials, published textbooks, or materials they develop themselves to support instructional objectives.

For student teachers, the ability to develop effective teaching materials is an essential professional skill. Developing materials requires teachers to analyze learners' needs, determine learning objectives, select and adapt appropriate resources, and design meaningful classroom activities. One of the most important opportunities for student teachers to practice these skills is during the teaching practicum. In Indonesia, this practicum is commonly known as Praktek Lapangan Kependidikan (PLK), where student teachers are placed in schools to gain real teaching experience under the supervision of mentor teachers and university supervisors. During this period, student teachers are expected to apply the theoretical knowledge acquired during their university studies to real classroom situations. According to Zeichner (2010), the teaching practicum represents a critical stage in teacher education because it allows student teachers to integrate theory and practice while developing professional competence.

Despite its importance, the teaching practicum often presents various challenges for student teachers. These challenges may include classroom management issues, limited teaching resources, time constraints, and difficulties in designing instructional materials. Several studies have reported that student teachers encounter numerous obstacles when implementing their teaching responsibilities in real classroom contexts. For example, research conducted in South Africa by Kiggundu and Nayimuli (2009) found that student teachers frequently struggle with limited teaching resources, undisciplined students, and insufficient instructional support. Similarly, Laguitao et al. (2021) reported that student teachers in the Philippines often experience difficulties due to limited access to teaching materials and learning resources, which sometimes forces them to purchase or borrow materials to support their teaching. In another context, Chukwurah and Chukwurah (2021) revealed that student teachers in Nigeria face challenges related to classroom management, including difficulties controlling large classes and gaining students' respect. These studies suggest that the transition from theoretical preparation to real teaching situations can be demanding for novice teachers.

Among the various challenges encountered during teaching practicum, developing teaching materials is often considered one of the most demanding tasks. Student teachers are expected to design or adapt materials that are suitable for students' proficiency levels, learning objectives, and classroom contexts. According to Richards (2001), effective material development requires not only language proficiency but also pedagogical knowledge, understanding of learner characteristics, curriculum alignment, and awareness of classroom contexts. Similarly, Harwood (2010) explains that although student teachers are frequently required to create their own teaching materials, the process can become challenging when they lack sufficient guidance or experience in material development.

Informal discussions with several student teachers from the English Department at Universitas Negeri Padang revealed that many rely heavily on textbooks or worksheets provided by mentor teachers rather than developing their own teaching materials. In some cases, important stages of material development, such as needs analysis, material adaptation, and activity design, are not fully implemented. These observations raise important questions regarding the factors that influence student teachers' ability to develop teaching materials during their teaching practicum.

Several previous studies have explored related issues. For example, Rahayuningsih (2016) investigated student teachers' challenges in developing teaching materials during teaching

practicum in vocational schools and identified several difficulties, including limited knowledge of students' fields of study, insufficient supervision time, and confusion in selecting appropriate media. Kamila (2020) studied pre-service EFL teachers in Southern Thailand and found that challenges in language proficiency, classroom management, and communication with mentor teachers were among the major challenges faced during teaching practicum. In addition, Alif et al. (2025) investigated the perceptions of pre-service English teachers regarding the challenges, such as limited teaching time, inadequate school facilities, classroom management difficulties, low student motivation, and struggles with lesson preparation, especially in adapting to familiar content or integrating technology. The study also identified several strategies employed during teaching practice, including the use of digital tools (e.g., ChatGPT, Quizizz), aligning materials with student interests, incorporating games and quizzes, and building positive classroom relationships.

Although previous studies have investigated challenges experienced by student teachers during teaching practicum, several gaps remain. Most studies focus on identifying the challenges experienced by student teachers without examining how they cope with these challenges or the types of support they require to improve their material development skills. Moreover, limited research has examined these issues in the context of PLK in Indonesian secondary schools.

Therefore, a more comprehensive investigation is needed to understand not only the challenges faced by student teachers in developing teaching materials but also the strategies they use to overcome those challenges and the types of support they need to enhance their competence. Such understanding may provide valuable insights for teacher education programs in preparing student teachers to develop effective teaching materials during their teaching practicum.

Based on these considerations, this study aims to analyze the challenges faced by student teachers in developing teaching materials during teaching practicum (PLK), investigate the strategies they employ to overcome these challenges, and explore the types of support they need to improve their competence in developing teaching materials. The study is grounded in materials development perspectives that emphasize needs analysis, learning objectives, material selection and adaptation, evaluation, and contextual relevance (Graves, 2000; Richards, 2001; Tomlinson, 2012, 2023). It also considers motivation as a factor influencing student teachers' engagement in material development (Dörnyei, 2001). To examine coping strategies, the study draws on pedagogical content knowledge (Shulman, 1987) and collaborative teacher learning through mentor and peer support (Johnson, 2009; Richards & Farrell, 2011). Support needs are interpreted through the Zone of Proximal Development (Vygotsky, 1978), reflective teaching and feedback (Farrell, 2007; Richards & Farrell, 2011), and access to teaching resources (Tomlinson, 2012).

2. METHOD

This study employed a descriptive quantitative design supported by qualitative data to investigate student teachers' challenges, coping strategies, and support needs in developing teaching materials during teaching practicum (PLK). This design was appropriate because it allowed numerical trends to be described while interview data were used to elaborate and contextualize the questionnaire findings (Creswell, 2014).

The population of this study consisted of all students in the English Education Program who enrolled in the Teaching Practicum (PLK) during the January–June 2025 period at Universitas Negeri Padang, a total of 108 student teachers. From the population, 33 student teachers were selected as the study sample. This study employed a simple random sampling technique to ensure that each member of the population had an equal opportunity to be selected. The

selected sample represents approximately 30% of the total population, which is considered adequate for describing the population's characteristics in a descriptive study.

In this study, two instruments were used to collect data: a questionnaire and a semi-structured interview. The questionnaire was used to obtain quantitative data on student teachers' challenges, coping strategies, and support needs in developing teaching materials during the teaching practicum. Meanwhile, the interview was conducted to gain deeper insights and to support the quantitative findings. The indicators of challenges included understanding material development procedures, conducting needs analysis, selecting and adapting materials, evaluating materials, time constraints, motivation, and access to teaching resources. The strategies aspect consisted of seven indicators related to the processes employed by student teachers in developing teaching materials. Furthermore, the support needs aspect included three indicators, namely guidance and mentoring, feedback and reflective supervision, and access to teaching resources and facilities.

For this study, the validation process was conducted in two stages, which included a pilot test carried out involving four student teachers outside the research sample, and evaluated through expert judgment to ensure relevance, appropriateness, and alignment with the research objectives. Then, the reliability of the questionnaire was tested using Cronbach's Alpha with the help of IBM SPSS Statistics version 25. The results of the reliability test showed that the questionnaire, consisting of 24 items, obtained a Cronbach's Alpha coefficient of 0.813. Then, according to Ghozali (2016), the Cronbach's Alpha value of 0.813 falls into the high reliability category.

The data collection procedure began with the questionnaire administered online using Google Forms, and the link was shared with participants via WhatsApp. Meanwhile, for the interview, a total of five student teachers were selected purposively based on their questionnaire responses. The participants were categorized into three levels of challenges: low, moderate, and high, to represent a range of experiences. The interviews were conducted online via the Zoom application and were audio-recorded. Each interview lasted approximately 10 -15 minutes.

The data analysis techniques were conducted using two approaches: quantitative analysis for the questionnaire data and qualitative analysis for interview data. For quantitative analysis, each response was assigned a numerical value based on a four-point Likert scale. To determine the tendency of respondents' answers, the mean score for each item was calculated using the AVERAGE function, and to measure the variability of responses, the standard deviation was calculated using the STDEV function, a formula adapted from Martinez and Bartholomew (2017). In addition, frequency distribution was used to show the number of responses for each scale category. Then, to interpret the mean score, the following classification was used, adapted from Sugiyono (2016). The results of the quantitative analysis were presented in tables showing the frequency, mean score, standard deviation, and category for each item. Meanwhile, the interview data were analyzed using thematic analysis following the procedures proposed by Braun and Clarke (2006). The analysis was conducted through the following steps: transcribing, familiarization, coding, categorizing, generating themes, and reporting.

3. RESULTS AND DISCUSSION

This section presents the findings and discussion of the study. The data were obtained from a questionnaire and semi-structured interviews, and are organized based on the three research questions: challenges, coping strategies, and support needs in developing teaching materials during teaching practicum (PLK).

3.1 Student Teachers' Challenges in Developing Teaching Materials

The findings from the data obtained through a questionnaire and semi-structured interviews provide a deeper explanation of student teachers' challenges in developing teaching materials. The data were analyzed using descriptive statistics and thematic analysis. The thematic analysis resulted in several themes, including teaching resources, time constraints, teacher professionalism, learner-related factors, and contextual factors. To interpret the mean score of the questionnaire data, the classification proposed by Sugiyono (2016) was adopted.

Table 1. Interpretation of Mean Score

Score Range	Category
1.00 – 1.75	Very low
1.76 – 2.50	Low
2.51 – 3.25	Moderate
3.26 – 4.00	High

Table 2. Student Teachers' Challenges in Developing Teaching Materials

No.	Indicator of Challenges	Mean Score	interpretation
1.	Limited ability of material development procedures	2.67	Moderate
2.	Limited ability to conduct needs analysis	2.70	Moderate
3.	Difficulty in selecting and adapting materials	2.76	Moderate
4.	Limited ability to evaluate and reflect on materials	2.94	Moderate
5.	Time constraints for material development	2.86	Moderate
6.	Low motivation in developing materials	2.56	Moderate
7.	Limited access to teaching resources	2.20	Low
Total mean		**2.67**	**Moderate**

From Table 2, the total mean score is 2.67, indicating that the challenges experienced by student teachers are generally moderate. This suggests that student teachers encounter noticeable but manageable challenges in developing teaching materials during their practicum. The table also shows that the highest mean score of the indicator challenges related to evaluate and reflect on materials show a mean score of 2.94 (moderate). These findings indicate that evaluation and reflection are among the most challenging aspects for student teachers.

Then, the challenge in material development procedures shows mean score of 2.67 (moderate). In addition, based on the results of the semi-structured interviews with respondents, qualitative data related to the theme of teacher professionalism are presented as follows:

"…*Developing the material is quite difficult…"* (Participant GGM)

These findings indicate that student teachers have a basic understanding of the procedures, although some still experience difficulties and face challenges in applying material development procedures.

Next, the challenge in conducting needs analysis obtained a mean score of 2.70 (moderate). The qualitative data also show that student teachers face challenges in conducting needs analysis related to the theme of teacher professionalism, which leads them not to conduct a needs analysis of their students.

"…There has not been a needs analysis of the students..." (Participant GGM)

"…I do not directly conduct a needs analysis with my students; rather, I rely on the scores provided by the homeroom teacher…" (Participant AA)

"…I am not sure what the students need…" (Participant FZ)

This suggests that student teachers have not fully mastered the ability to identify learners' needs before developing teaching materials.

Furthermore, challenges in selecting and adapting materials show a mean score of 2.76, indicating moderate difficulty. This implies that aligning materials with students' needs and instructional objectives remains challenging.

Another challenge is time constraints for material development, which falls into the moderate category, with a mean score of 2.86. This suggests that student teachers experience difficulties in managing time during the teaching practicum. The theme of time constraints is also found in the qualitative data as follows:

"…Time was limited, and I only had one week; during that same week, I also had completed an observation report…" (Participant IAF)

One participant reported limited time for material preparation due to teaching schedules and additional practicum tasks. This suggests that multiple responsibilities during the practicum affect the time available for developing teaching materials.

Finally, challenges related to access to resources obtained the lowest mean score of 2.20, categorized as low. This suggests that access to teaching materials is relatively less problematic. In the qualitative data, the theme of teaching resources was identified as follows:

"…My mentor teacher did not use the government-provided textbook; she independently searched for other resources. So, we had to find our own sources…" (Participant IAF)

"…Developing the materials independently was not feasible, so the materials had to be sourced…" (Respondent IAF)

"…*The resources at the school were limited; only a textbook was provided…"*(Respondent FZ)

Some participants reported limited use of textbooks and a lack of available teaching materials. These findings indicate that student teachers sometimes rely on their own efforts to obtain appropriate teaching materials.

In addition, learner-related factors were reported as challenges in the qualitative data, suggesting that students' motivation may influence the effectiveness of teaching materials. One participant mentioned :

"…All students are unmotivated…" (Participant GGM)

Finally, contextual factors were also identified, particularly related to institutional constraints. One participant stated,

"…The topic must be the same; it was difficult to find an explanation text that matched the topic, especially when it had to be related to the environment…" (Participant IAF)

This indicates that limitations imposed by the school may restrict student teachers' flexibility in developing teaching materials.

Moreover, the standard deviation values range from 0.65 to 1.14, indicating varying degrees of response consistency among participants.

Overall, the findings indicate that student teachers experience moderate challenges, with a total mean score of 2.67, particularly in procedural aspects and time constraints, while challenges related to resources are relatively lower. Additionally, the interview findings provide additional explanation through the theme that student teachers face a variety of challenges, including teaching resources, time constraints, teacher professionalism, learner-related factors, and contextual factors during the teaching practicum.

3.2 Student Teachers' Strategies in Developing Teaching Materials

The findings of student teachers' strategies in developing teaching materials are provided in this section. Although the interview indicators were developed based on theoretical constructs, the findings revealed additional strategies emerging from the data, such as technology-assisted material development and instructional scaffolding. These emergent themes reflect the actual practices of student teachers in real classroom contexts and extend beyond the initial theoretical framework. Therefore, the data were analyzed using thematic analysis, resulting in several themes: understanding learners' needs, Instructional scaffolding, material adaptation, material evaluation and revision, collaborative support, technology assisted development. The researcher provides the relationship between the planned indicator with found theme below:

Indicator (Planned)	Actual Theme (Found)	Relationship
Needs analysis	Understanding learners' needs	✓ Same concept (expanded)
Recognizing difficulties	Instructional scaffolding	✓ More practical form
Planning objectives	Instructional scaffolding	✓ Real classroom execution
Designing activities	Instructional scaffolding	✓ Teaching strategy
Adapting materials	Material adaptation	✓ Direct match
Evaluating materials	Material evaluation & revision	✓ Same concept
Collaboration	Collaborative support	✓ Same concept
Not in the indicator	Technology-assisted development	NEW (emerged)

Table 3. Student Teachers' Strategies in Developing Teaching Materials

No.	Indicator of Strategies	Mean Score	Interpretation
	Identifying learners' needs before developing materials	3.36	High
	Recognizing students' learning difficulties	3.39	High
	Planning instructional objectives	3.55	High
	Designing appropriate learning activities	3.52	High
	Adapting existing materials	3.36	High
	Evaluating self-developed materials	3.42	High
	Collaborating with mentors and peers	3.58	High
Total mean		**3.45**	**High**

Table 3 shows that all indicators fall into the high category, with a total mean of 3.45. This indicates that student teachers frequently use a variety of strategies in developing teaching materials during their practicum.

In terms of specific strategies, the highest mean score relates to collaboration with mentors and peers (M = 3.58). This suggests that student teachers actively seek support and ideas from others when developing teaching materials. In the qualitative data, the theme of collaborative support was identified as follows:

"…Before the lesson, I consulted my teaching materials with the mentor teacher, who then checked whether they were correct and suitable…" (Participant IAF, Appendix 6)

"…Only after the mentor approved it, I gave the material to the students…" (Participant IAF)

"…I collaborated with mentor teachers, as the mentor teacher had a better understanding of the students' actual needs and learning characteristics…"(Participant FZ)

Collaborative support emerged as a key strategy employed by student teachers. Participants reported actively consulting and seeking feedback from their mentor teachers during the material development process. These responses indicate that student teachers rely on professional collaboration to ensure the appropriateness and effectiveness of their teaching materials.

Next, identifying learners' needs obtained a mean score of 3.35 and was categorized as high, although it is lower than other strategies. This indicates that student teachers attempt to consider learners' characteristics when developing teaching materials; however, they have not yet fully mastered conducting needs analysis. The qualitative data further elaborates these findings in theme understanding learners' needs, as follows:

"…My strategy was to understand what the students needed by considering their abilities, as there were differences in proficiency levels between classes. One class had relatively strong English skills, while another had significantly lower proficiency…" (Participant IAF)

"…Since we were teaching English and the students' interest in learning English was very low, I first conducted a needs analysis of the students..." (Participant IK)

"…Before entering the classroom, I first assessed the students' abilities and then adjusted the materials from the textbook accordingly..." (Participant GGM)

These findings describe that student teachers attempt to tailor their teaching materials to suit learners' characteristics and classroom contexts.

Then, adapting existing materials (M = 3.36) is also categorized as high, although it is relatively lower than other strategies. This indicates that student teachers attempt to consider learners' characteristics and modify materials accordingly, but they are still learning how to adapt materials properly. Then, qualitative findings under the theme of adapting materials to learners' needs shows that participants tried to differentiate the materials for each class as follows:

"…I differentiated the texts for each class..." (Participant IAF)

Additionally, qualitative data show that student teachers frequently applied instructional scaffolding strategies to support students' understanding of the materials. These strategies included simplifying content, focusing on vocabulary, providing preliminary exercises, guiding students individually, and monitoring their learning progress. Some participants state, as follows:

"…The learning objective focused on students' understanding first…" (Participant GGM)

"…The students did not understand the simple past tense, so I taught the simple past tense first. I supported them to help them understand the material..." (Participant AA*)*

"…So, before learning, I will slowly go over the open material, one by one, and identify any new words they do not understand. So, in the beginning, I will practice building vocabulary first. Then, moving on to the main teaching material, it will be smoother because they have already made the effort to remember it…" (Participant IK)

"For the strategy, for example, when students need some assistance, I try to support them. Some students are sometimes shy to ask questions. So, I walk around the classroom and ask which parts they find difficult or do not understand. If they still do not understand, I explain it again and guide them step by step." (Participant FZ)

These findings suggest that student teachers actively support learners in comprehending the materials through step-by-step instructional techniques.

Additionally, technology-assisted material development was identified as an emerging strategy in the qualitative data. One participant reported using digital tools to support material creation, stating, as follows;

"…I used ChatGPT to create the text…" (Participant IAF)

This suggests that technology is used as a supportive tool in the initial stage of material development, while the final materials are still evaluated and adjusted by the student teachers. The standard deviation values range from 0.50 to 0.61, indicating relatively consistent responses among participants.

Overall, the findings suggest that student teachers demonstrate a high level of engagement in using various strategies in developing teaching materials. The interview findings provide a deeper explanation that indicates the student teachers employ a range of interconnected strategies in developing teaching materials. These strategies reflect their efforts to respond to classroom needs and enhance the effectiveness of their teaching practices.

3.3 Student Teachers' Support Needs in Developing Teaching Materials

The data were analyzed using descriptive statistics and thematic analysis. The thematic analysis resulted in two themes: facilitation of resources and professional support.

Table 4. Student Teachers' Support Needs in Developing Teaching Materials

No.	Indicator of Support Needs	Mean Score	Interpretation
1.	Guidance and mentoring from mentor teachers	3.30	High
2.	Feedback and reflective supervision	3.12	Moderate
3.	Access to teaching resources and facilities	3.42	High
Total mean		**3.28**	**High**

Table 4 presents the total mean score 3.28, indicating that student teachers perceive a high level of need for support. This suggests that support plays an important role in helping student teachers improve their ability to develop teaching materials.

First, access to resources and facilities is categorized as high, with the highest mean score of 3.42 (SD = 0.61). This indicates that access to teaching materials, tools, and facilities is the most strongly perceived support need among student teachers. Additionally, the qualitative data provide some information, as follows:

"Maybe what I need are more sources…" (Participant IAF)

"…First, I focus on the resources. Based on the syllabus, I used the resources provided by my mentor teacher, which were already quite complete. However, they needed to be revised so they would not be too monotonous, as students tend to prefer materials with pict ures and colors…" (Participant IK)

"The main support I need comes from resources…" (Participant FZ)

Several participants emphasized the importance of having sufficient and accessible learning resources. In addition, participants highlighted the need for more engaging and varied materials. These responses indicate that student teachers require not only access to resources but also diverse and engaging instructional materials to support effective teaching.

Support from mentor teachers shows a moderate level of need, with a mean score of 3.30. This indicates that student teachers strongly need guidance and assistance from mentor

teachers during the material development process. While the qualitative data provide more information related to the theme of professional support, as follows:

> *"…Before I apply the materials to students, I show them to my mentor teacher first. Then, my mentor checks the materials, and once they are approved. I use them with the students. In fact, every time before teaching, I always show my materials to my mentor first…"* (Participant IAF)
>
> *"I think it is more about the mentor teacher, because they understand the real classroom situation. So, the mentor teacher guides us on how to"* (Participant GGM)
>
> *"…The support I need the most is from my mentor teacher, because during the teaching pr acticum, the mentor teacher is the one who helps me."* (Participant AA)
>
> *"…My mentor teacher is very helpful in checking whether the material is already good…"* (Participant IK)

Participants consistently reported that mentor teachers played a significant role in guiding and validating their teaching materials. These findings suggest that mentor teachers function as key sources of practical and contextual support during the material development process.

Second, the lowest mean score is direct feedback and reflective supervision, which shows a moderate level of need, with a mean score of 3.12. Although this is slightly lower than the other items, it still indicates that student teachers value feedback and reflection as part of their professional development. The qualitative data under the theme of professional support explain the lowest mean score in quantitative data, as follows:

> *"In terms of support, I rely more on my mentor teacher as my university supervisor is somewhat difficult to contact"* (Participant AA)
>
> *"…As for university supervisors, they are quite busy, so there is not much communication."* (Participant IK)

However, the findings also reveal limitations in university supervision support. Some participants reported difficulties in communicating with university supervisors. This indicates that, while mentor teachers provide strong support, institutional supervision from the university may not be fully optimized.

Overall, these findings indicate that student teachers require multiple forms of support, particularly in terms of mentor guidance and access to resources, while also recognizing the importance of feedback and supervision. This suggests that improving student teachers' ability to develop teaching materials is not only dependent on their individual skills but also on the availability of external support systems during the teaching practicum.

3.4. Discussion

This part discusses the study findings in relation to relevant theories and prior studies. The discussion is structured around the research questions in chapter I, focusing on the challenges faced by student English teachers, the strategies they used to overcome the challenges, and the support needs in developing teaching materials during *PLK* (*Praktek Lapangan Kependidikan*) or teaching practicum in schools**.**

Student Teachers' Challenges in Developing Teaching Materials

The findings from both the questionnaire and the interviews consistently indicate that student teachers experience moderate challenges in developing teaching materials during the teaching practicum (PLK). These challenges are particularly evident in procedural aspects, such as needs analysis, material adaptation, and evaluation, as well as in contextual constraints, including time constraints and classroom conditions.

One of the most prominent challenges identified in this study is related to evaluating and reflecting on teaching materials, which obtained the highest mean score of 2.94 in the questionnaire data. This finding can be explained by the complexity of evaluation as a stage in materials development. According to Tomlinson (2023), materials development is not only about creating or selecting materials, but also about continuously evaluating their effectiveness in facilitating language learning. Consistent with this, Graves (2000) states that developing materials is a flexible process rather than a fixed or linear one. This process requires critical thinking and reflective skills, which are often underdeveloped in novice teachers. Therefore, the difficulty experienced by student teachers in evaluating materials reflects their developing level of professional competence.

In addition, challenges in conducting needs analysis were also identified as moderate with the mean score 2.70. This finding aligns with the view of Graves (2000), who emphasizes that needs analysis is a fundamental step in designing effective teaching materials, as it helps teachers understand learners' goals, proficiency levels, and learning preferences. However, the interview data revealed that several student teachers did not conduct needs analysis prior to developing materials. This suggests that although student teachers may have learned the concept theoretically, they face difficulties in applying it in real classroom situations. Relevant research also shows that student teachers experience difficulties in developing knowledge in their student areas (Rahayuningsih, 2016).

Similarly, challenges in selecting and adapting materials indicate that student teachers are still developing their ability to align materials with instructional goals and student characteristics. Richards (2001) states that effective teaching materials should be carefully selected and adapted to suit learners' needs, curriculum objectives, and classroom contexts. Nunan (2004) argues that teachers are not only users but also active creators of their own teaching materials, classroom objectives, and assessment procedures, and they must be able to adapt and modify the materials in their teaching. The finding is consistent with previous studies by Rahayuningsih (2016) and Alif et al. (2025), which reported that student teachers have struggled particularly when adapting and selecting teaching materials to unfamiliar content. The moderate level of difficulty found in this study suggests that student teachers are not yet fully able to integrate these considerations into their material development practices.

Another important finding is related to time constraints, which were consistently reported in both the questionnaire and interview data. Student teachers indicated that limited time and multiple responsibilities during PLK, such as lesson preparation and administrative tasks, restricted their ability to develop teaching materials effectively. This finding supports Richards (2001), who argues that materials development is a time-consuming process that requires careful planning, design, and evaluation. Similarly, Farrell (2007) explains that student teachers often experience heavy workloads and tight schedules, which prevent them from engaging in more creative aspects of teaching, such as materials design.

In line with the previous study by Alif et al. (2025), Novitasari and Murtafi'ah (2022) and Pratidina (2017), time constraints were found to make it difficult for student teachers to develop and deliver teaching materials. In the context of teaching practicum, the limited time available may hinder student teachers from fully engaging in this process.

Although the questionnaire results categorized access to resources as a low-level challenge, the interview findings revealed that some student teachers still experienced difficulties in obtaining or using appropriate teaching materials. This finding also supports previous research on Indonesian pre-service EFL teachers, which reported obstacles related to learning materials, resources, and teaching media (Mudra, 2018). Additionally, this finding can also be interpreted through Tomlinson's (2023) perspective, which highlights that the effectiveness of materials

depends not only on their availability but also on how teachers select, adapt, and use them in specific contexts. McGrath (2002) argues that material development is highly dependent on the availability of relevant and accessible resources, especially for novice teachers still learning to design instructional support. Therefore, even when resources are available, a lack of guidance or experience may limit their effective use.

Furthermore, the interview data revealed additional challenges related to learner factors and institutional constraints, such as low student motivation and restrictions on teaching topics. These findings indicate that material development is influenced by various contextual factors. As noted by Graves (2000), course and material design are always shaped by the teaching context, including institutional policies and learner characteristics. This suggests that student teachers must navigate not only pedagogical challenges but also contextual limitations.

Overall, these findings highlight a gap between theoretical knowledge and practical implementation. While student teachers have been introduced to key concepts of materials development at the university level, such as needs analysis, adaptation, and evaluation, they encounter difficulties when applying these concepts in real teaching situations. This reflects the transitional nature of teaching practicum, where student teachers are still developing their professional identity and competence.

In conclusion, the integration of quantitative and qualitative findings demonstrates that student teachers face moderate but significant challenges in developing teaching materials during PLK. These challenges are primarily related to procedural competence, as emphasized by Tomlinson (2023), Graves (2000), and Richards (2001), as well as to contextual factors such as time constraints and classroom conditions. This suggests that enhancing student teachers' ability to develop teaching materials requires not only strengthening their theoretical understanding but also providing more practical training, guided support, and opportunities for reflective practice during the teaching practicum.

Student Teachers' Strategies in Developing Teaching Materials

The findings on student teachers' strategies in developing teaching materials cannot be separated from the challenges they experienced during the teaching practicum (PLK). As discussed before, student teachers faced moderate challenges, particularly in relation to procedural aspects of materials development, such as conducting needs analysis, selecting and adapting materials, and evaluating materials, as well as time constraints. These challenges appear to directly shape the types of strategies employed by student teachers.

First, the use of instructional scaffolding strategies can be interpreted as a response to difficulties in conducting formal needs analysis and planning. As identified before, student teachers reported limited ability to systematically analyze learners' needs. Instead of applying formal procedures, they tended to translate this limitation into practical classroom actions, such as simplifying materials, focusing on vocabulary, and guiding students step by step. This suggests that student teachers compensate for their limited procedural knowledge by adopting more immediate, experience-based strategies during instruction. In line with the views of Graves (2000), needs analysis is ideally conducted systematically before instruction; however, in practice, student teachers appear to implement it implicitly through instructional adjustments. Moreover, this aligns with Shulman's (1987) theory that pedagogical content knowledge refers to teachers' understanding of content and pedagogy, particularly regarding how the material is matched to students' abilities and interests. The frequent use of scaffolding indicates that prospective teachers prioritize classroom effectiveness over redesigning material and adjusting delivery methods. This may occur because scaffolding is easier and more practical to use when preparation time is limited.

Second, the strategy of adapting materials to learners' needs is closely related to the challenges identified in selecting and adapting teaching materials. The findings on challenges showed that student teachers experienced moderate difficulty in selecting and adapting materials appropriately. In response, they employed adaptation strategies such as modifying textbook content and differentiating materials across classes. This aligns with Tomlinson (2023), who emphasizes that materials should be adapted to suit learners' needs and contexts. This finding also aligns with a previous study conducted by Alif et al. (2025), which found that adapting materials is a key to providing appropriate materials based on students' diverse learning styles, making the materials less monotonous and more effective. However, the findings suggest that student teachers' adaptation practices are often practical and situational, rather than fully grounded in systematic principles.

Third, collaborative support emerges as a key strategy in addressing both procedural and contextual challenges. According to Johnson (2009), collaboration between teachers, including mentoring relationships and peer interactions, supports professional development by providing opportunities for reflection, feedback, and collaborative problem-solving. This finding is in line with a previous study conducted by Novitasari and Murtafi'ah (2022), which reported that collaborative support from mentor teachers and peers during the teaching practicum can help student teachers to cope with challenges.

As identified before, student teachers experienced constraints related to time and instructional demands during PLK. In response, they relied heavily on mentor teachers for guidance, validation, and decision-making in material development. This indicates that collaboration functions as a support mechanism that helps student teachers compensate for their limited experience and confidence. This finding supports the perspective that professional learning is socially mediated, where guidance from more experienced teachers plays a crucial role in shaping novice teachers' practices.

Fourth, the emergence of technology-assisted material development can be linked to both time constraints and procedural challenges identified in the previous findings. The use of digital tools, such as AI, suggests that student teachers seek more efficient ways to generate teaching materials under limited time conditions. However, their practice of revising and adapting the generated content indicates that technology is used as a supportive shortcut, rather than replacing pedagogical decision-making. This reflects an adaptive strategy to manage workload while still maintaining instructional quality.

Overall, the findings demonstrate that student teachers' strategies are not independent of their challenges; rather, they are direct responses to the constraints they encounter. While theoretical models of materials development, as proposed by Richards (2001), emphasize systematic planning, needs analysis, and evaluation, the actual practices of student teachers tend to be more flexible, adaptive, and context-driven. This indicates a gap between theoretical expectations and classroom realities, where student teachers prioritize practical solutions to immediate teaching demands.

These findings suggest that during the teaching practicum, materials development becomes a dynamic and negotiated process, shaped by both internal factors (knowledge and skills) and external factors (time, context, and support). Therefore, understanding student teachers' strategies requires not only examining what they do, but also why they do it, particularly in relation to the challenges they face. This finding highlights the need for teacher education programs to better prepare student teachers not only with theoretical knowledge of materials development but also with practical strategies for adapting such knowledge to real classroom constraints.

Student Teachers' Support Needs in Developing Teaching Materials

The findings on student teachers' support needs indicate that the development of teaching materials during the teaching practicum (PLK) is not solely an individual process, but is highly dependent on the availability of external support systems, particularly in terms of resources and professional guidance. These findings are closely connected to the challenges identified earlier and the strategies employed in the previous results.

First, the high level of need for access to resources and facilities (M = 3.42) reflects the practical challenges faced by student teachers in developing effective teaching materials. According to Tomlinson (2012), access to diverse and appropriate materials is crucial for teachers designing effective and contextually responsive instruction.

As identified in the finding on challenges, although resource-related challenges were categorized as relatively low in the questionnaire, the interview findings suggest that the quality and variety of resources remain important concerns. Student teachers emphasized the need for more engaging and diverse materials, such as visual and contextualized content, indicating that access alone is not sufficient; rather, the appropriateness and adaptability of resources are crucial. This aligns with Tomlinson's (2023) view that effective teaching materials should be meaningful, engaging, and relevant to learners' needs. Therefore, the need for better resources can be understood as an effort to improve the quality of materials rather than merely their availability. This finding is also supported by a relevant study from Ikogho & Onohariqho (2025), which reports that limited access to resources was one of the logistical challenges for student teachers during teaching practicum.

Second, the strong reliance on mentor teacher support highlights the importance of guided learning in the practicum context. Student teachers reported that mentor teachers played a key role in reviewing, approving, and guiding the development of teaching materials. This finding can be interpreted through the perspective of Vygotsky (1978), particularly the concept of the Zone of Proximal Development (ZPD), where learning occurs through interaction with more knowledgeable others. In this context, mentor teachers function as facilitators who support student teachers in bridging the gap between theoretical knowledge and practical application. This also aligns with the findings on student teachers' strategies, where collaborative support was identified as a dominant strategy, indicating that student teachers actively seek guidance to compensate for their limited experience and procedural knowledge.

Third, although direct feedback and reflective supervision were identified as important in the theoretical framework, they were not strongly emphasized in the interview findings. Instead, student teachers reported limited interaction with university supervisors, suggesting that formal supervision was not fully optimized. This finding reveals a gap between the expected role of reflective supervision in teacher education and its actual implementation in the practicum context. According to Richards and Farrell (2011), feedback and reflection are essential components of teacher development, as they enable teachers to evaluate and improve their instructional practices. A relevant study by Ikogho & Onohariqho (2025) highlighted gaps in support during teaching practicum from supervisors. However, relatively limited emphasis of such support in this study indicates that student teachers may rely more on immediate and practical support, such as guidance from mentor teachers, rather than structured reflective processes.

When viewed in relation to finding on student teachers' challenges and strategies, these findings suggest a clear pattern. The moderate challenges experienced by student teachers, particularly in procedural knowledge and time management, lead them to adopt adaptive strategies, such as instructional scaffolding, material adaptation, and collaboration. However, these strategies alone are not sufficient to fully address the challenges, which explains the strong

need for external support, especially from mentor teachers and accessible resources. In other words, support functions as a mediating factor that enables student teachers to implement their strategies more effectively in real classroom situations.

Overall, the findings indicate that support needs in materials development are context-dependent and practice-oriented, extending beyond the initial theoretical framework. While theory emphasizes structured support systems, including supervision and reflection, the reality of the practicum shows that student teachers prioritize accessible, immediate, and contextually relevant support. This suggests that teacher education programs need to strengthen the integration between theoretical training and practical support systems to better prepare student teachers for the complexities of classroom practice.

4. CONCLUSION

This study aimed to analyse student teachers' challenges, coping strategies, and support needs in developing teaching materials during teaching practicum (PLK). Based on the findings from both the questionnaire and semi-structured interviews, several important conclusions can be drawn.

First, student teachers experienced moderate challenges in developing teaching materials. The main difficulties were related to procedural aspects, particularly in conducting needs analysis, selecting and adapting materials, and evaluating developed materials. In addition, time constraints during the practicum also emerged as a significant challenge due to multiple responsibilities. In contrast, challenges related to motivation and access to resources were found to be relatively low. However, interview findings revealed that resource-related issues still influenced the quality and effectiveness of material development in practice. Second, student teachers employed a range of effective coping strategies, which were generally categorized at a high level. These strategies included collaborating with mentor teachers, adapting materials to learners' needs, applying instructional scaffolding, and utilizing technology such as AI tools. These strategies indicate that student teachers actively attempted to overcome their challenges by adjusting materials, supporting student understanding, and seeking guidance from more experienced teachers.

Third, the findings show that student teachers have high support needs, particularly in terms of access to high-quality resources and mentor teacher guidance. While mentor teachers were identified as the primary source of support, the role of university supervisors in providing direct feedback and reflective supervision was perceived as limited. This suggests that student teachers rely more on immediate and practical support available in the school environment. Overall, the findings indicate that support systems play a crucial role in helping student teachers bridge the gap between theoretical knowledge and classroom practice.

In general, this study highlights that developing teaching materials during teaching practicum is a complex and context-dependent process, influenced by the interaction between challenges, strategies, and support needs.

Future studies are recommended to explore material development in different educational levels or subject areas to gain a broader understanding of the issue. Researchers may also consider using a larger sample size or employing different research designs, such as experimental or longitudinal studies, to further investigate the effectiveness of strategies and support systems in improving material development skills.

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