



Exploring Education Students Developing Teaching Materials and Teaching Skills to Prepare for Practice

Seli Septiana Pratiwi^{1*}, Joan Hesti Gita Purwasih², Alan Sigit Fibrianto³, Desy Santi Rozakiyah⁴

^{1,2,3,4} Universitas Negeri Malang, East Java, Indonesia
*seli.pratiwi.fis@um.ac.id

Abstract. The study examines the correlation between the ability of students majoring in education to develop teaching materials and the ability to practice teaching. There is a close relationship between teaching tools and teaching practices that need to be mastered by students majoring in education. Students will be better prepared to carry out the learning process when practicing teaching if they already have readiness for teaching devices. Teaching tools that are arranged systematically encourage self-confidence and skill abilities during teaching practice. A quantitative approach in the survey method is used to measure student's ability to prepare themselves for teaching practice based on their ability to develop teaching tools. The number of research respondents was 100 people, according to the main criteria, they were students from the education department. The results are described to explain in depth the relationship between the ability to prepare student teaching materials and the ability to practice teaching. Respondents are students majoring in education who will carry out teaching practices and are carrying out teaching practices. In addition, respondents were selected based on the criteria of having taken pedagogic courses that developed student's skills in understanding the essence of teaching materials and trying to develop teaching tools. As a result, we found that in general students can develop teaching tools by utilizing non-digital and digital sources to explore the concepts of teaching tools. Furthermore, students know to measure student understanding through test and non-test assessments are part of the teaching tools.

Keywords: learning tools, student, teaching practice.

1 Introduction

Previous research has shown that the teacher's ability has a large influence on the learning process in the classroom. Teacher professional development is based on comprehensive measurements to increase the need for professional teachers [1]. Teacher professionalism assessment is used to identify the impact students receive through their learning outcomes [2]. The teacher's professionalism will also shape the character of students who have high-level thinking abilities [3]. The competencies possessed by the teacher must be complete so that they can be said to be professional teachers. The ability of professional teachers can be obtained in various ways such as taking education,

attending workshops, attending seminars, or participating in teacher competency improvement programs. The criteria for teacher professionalism are seen based on pedagogical competence, professional competence, personal competence, and social competence [4]. Accelerating the development of teacher competence, it is necessary to design a teacher training process through self-development through updating academic information, learning management skills, managing classes, and skills analysis and research [5]. Preparation to become a professional teacher begins when the teacher becomes a student majoring in education.

Students majoring in education are prepared to have sufficient knowledge to become a teacher. Through the lecture curriculum, students are facilitated to practice teaching in order to have experience as a teacher. However, the reality is that students are still not fully confident in becoming professional teachers. The knowledge possessed in fact needs to be supported by tools that support the practical process including the availability of learning tools. The main purpose of students is to be given information and given the opportunity to develop themselves so that students can continue to learn throughout life and focus on becoming a professional. The main objective of teacher professional development is lifelong learning [6]. Based on this, students need to be equipped with sufficient knowledge to become a professional, including developing learning tools and teaching practice activities. Higher education support to improve students' teaching skills will be responded positively not only by students but also by schools as laboratories. Some schools provide constructed opportunities for teaching that are used as professional development programs for professional purposes [7].

Preparing students majoring in education to become professionals needs to involve their own knowledge, skills, and qualities. Teaching practice is directed so that students can master these three competencies as a whole. Tertiary institutions facilitate students majoring in education to practice their classroom management skills and knowledge in collaboration with partner schools. Schools will facilitate students to learn directly and increase their confidence through the implementation of teaching skills in teaching practice programs. Students need to do hands-on practice to assess pedagogic knowledge and reflect on teaching practices that are useful for developing their future professional careers [8]. This professional program can improve student competence in the form of professional, social and personality competence to meet the demands of the profession in the future [9]. Therefore, students need to prepare a lesson plan that will be carried out during teaching practice. This relates to student knowledge about the components of the learning device. Students not only have knowledge but also have the ability to develop these teaching tools.

The process of compiling student teaching materials needs to pay attention to student characteristics, the material to be delivered, learning strategies, to the evaluation that will be carried out in class. Other supporting factors need to be considered, for example learning media facilities and learning resource facilities. Therefore, students who can take part in the teaching practice program are students who have been declared graduated by the university in pedagogic courses. Students who have complete learning tools are assumed to be able to carry out effective and efficient learning management, which has an impact on meaningful learning for students. Students who develop learning tools will be accompanied by lecturers and teachers. Collaboration carried out by

students, lecturers, and teachers produces learning tools that are better and match the characteristics of the students in the class they will teach. This collaboration will provide students with feedback and reflection to continue learning to develop ideal learning tools when carrying out teaching practices. This activity shows the relationship between concern and orientation error which refers to efforts to minimize goal orientation errors in the learning process [10]. This research focuses on how students in the education department prepare themselves to carry out field practice through learning tools.

Based on the effectiveness of teaching practice activities will accelerate student understanding of teaching tools. Students can take concrete steps to develop ideal devices because they are prepared to practice teaching skills directly in class. This has an impact on improving the quality of learning for students and becomes an experience for students that leads to professional aspects. This paper will discuss the relationship between learning tools and teaching practices by students majoring in education.

2 Method

This research is a study that uses a quantitative approach to the survey method. Surveys are chosen to describe quantitatively (in the form of numbers) trends, behaviors, or opinions of a population by examining a sample of that population. The results of the sample are used to make claims about the population [11]. Data were obtained through a questionnaire which was distributed to respondents who fit the research criteria. The sampling was carried out using purposive sampling with the criteria being students majoring in education, having at least 2 semesters of education, being active as students at the time the research was carried out, having completed pedagogic courses, knowing teaching tools, and having general knowledge about teaching practice programs. There were 100 research respondents consisting of students majoring in education at 3 universities in Indonesia and coming from different levels. Selection of three universities based on specific study programs in sociology education. Apart from that, universities are also selected based on the superior accreditation that the study program. Figure 1 provides information on the level of students who are research respondents. While Figure 2 shows the pedagogic courses that have been taken by the respondents.

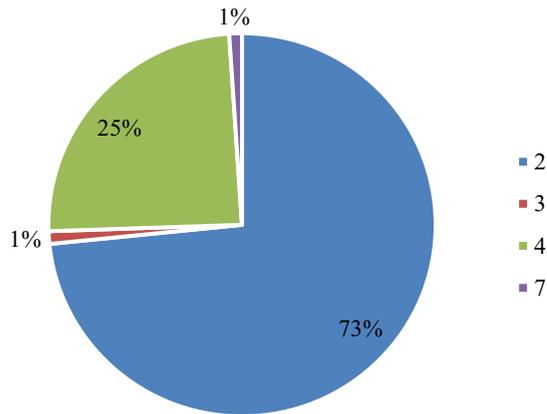


Figure 1. Student Levels

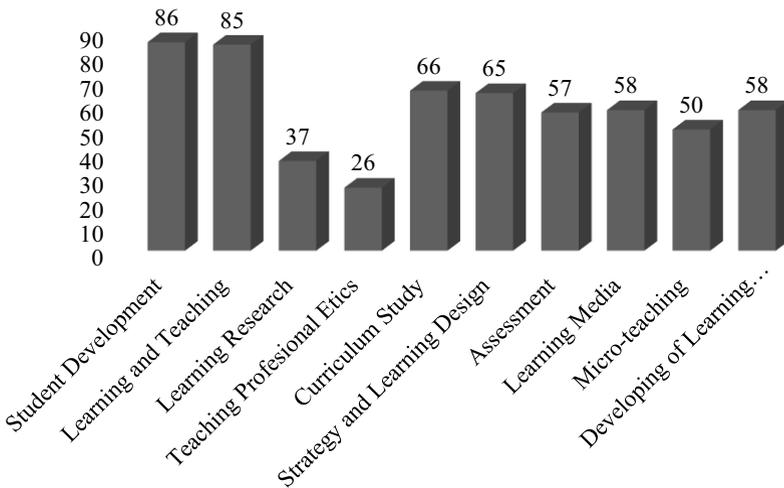


Figure 2. Subject Material

The questionnaire was prepared by dividing it according to the research variables, namely the teaching practice program as the Y variable and the preparation of the teaching devices as the X variable. The questions in the questionnaire were structured to answer the question of the relationship between the ability to prepare teaching materials and the ability to practice teaching. Questionnaires are distributed through online platforms and peer networks. We compiled a questionnaire on Google Forms to provide opportunities for education students to reflect on each question asked and facilitate wider distribution of the questionnaire. Data analysis was carried out in a descriptive

way to show trends in students' abilities when compiling learning tools that affect their teaching practice. The response results are shown through a diagram which is then described by the researcher as research data.

3 Result and Discussion

3.1 Knowledge of Students Developing Teaching Tools

Learning tools are important things for students who come from education majors to know. In preparing to become a professional teacher needs to be equipped with thorough knowledge, one of which is in-depth knowledge of learning tools. Teacher professionalism is defined as a combination of domain-specific knowledge, skills, and beliefs related to teaching [12]. Student-teacher candidates must be able to develop learning tools so that the learning process when practicing teaching can run optimally [13]. Learning devices are an important element in teaching and learning activities, which means that learning devices become tools for student-teacher candidates to carry out directed teaching practices [14]. Even so, students' knowledge of learning tools still varies depending on their involvement with the preparation and development of teaching tools. Students need to know each component of the learning device in depth and be able to organize it systematically.

Students need to know the applicable curriculum in Indonesia to adjust the teaching materials to be developed. The preparation of teaching tools refers to offline and online learning processes. Improvisation and adaptation are needed to redesign learning tools and modify learning strategies that present active, constructive, interactive, and reflective learning experiences [15]. The learning tools that are directly related to student teaching practice are syllabi or learning objectives (ATP), learning implementation plans (RPP) or Teaching Modules, and evaluation instruments. The survey results show that 55.3% of students understand the current curriculum implemented by the Indonesian government, while 43.7% state that they do not know the current curriculum in Indonesia. Lecture material presented by the university more or less contributes to students' knowledge of the curriculum and changes in learning tools following the applicable curriculum.

The survey results show that 43.6% of students know the learning tools and understand the preparation of the learning tools. On the other hand, 56.4% of respondents indicated that students did not yet know learning tools, including the preparation of learning tools. This confirms that the learning process at universities has a major impact on students to know, understand, and be able to practice the preparation of ideal learning tools according to the educational curriculum imposed by the government. Lecture curricula need to be structured so that students can study pedagogic aspects, especially learning tools in a more in-depth and sustainable manner. This will affect the preparation of courses that will be completed by students. Universities need to facilitate students' understanding of learning tools in stages not only for mastery of concepts but also for direct practice of learning device products that have been prepared during lectures.

In compiling learning tools, students need to have the ability to read an educational calendar followed by determining the annual program, semester program, syllabus or ATP, learning implementation plans, or teaching modules, and even determine the time for the assessment. The effectiveness and efficiency of the learning process are determined by the educational calendar because the program implementation schedule has been systematically structured. The survey results showed that 48.9% of students could not read and understand the function of the educational calendar. On the other hand, 34% responded that they knew and understood the function of the educational calendar, 9.6% responded that they could read and understand the educational calendar very well, and 7.4% responded that they could not read and understand the function of the educational calendar. Students need to know the educational calendar to compile a complete teaching device component.

Lectures are a determining factor for students to obtain information about learning tools and can compile teaching tools completely and correctly. In this regard, Figure 3 provides information on students' abilities to develop teaching materials after studying at the university.

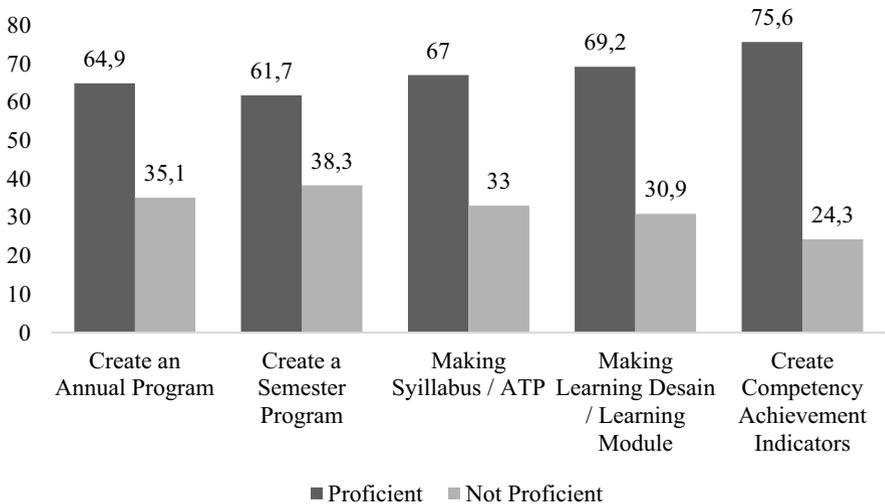


Figure 3. Student's Ability Compose Teaching Tools

Figure 3 shows that students can develop teaching tools after learning at university. Students have the skills to create annual programs, and semester programs, compile syllabi or ATP, create learning designs or teaching modules, and create competency achievement indicators. This ability needs to be deepened through courses that are presented to students majoring in education while on campus. The learning process should not prioritize mastery of concepts but the ability of students to compile various learning tools. Each component in the teaching tool needs to be taught in as much detail as possible so that students are not confused when they have to develop the teaching tool. This process provides opportunities for students to improve their abilities based on their

autonomy which refers to self-confidence and moral goals in understanding learning tools [16].

The preparation of each component of the learning device is taught separately so that students can understand more deeply the smallest components of the learning device that is compiled. In addition, students also need to be given information on the proper arrangement of teaching devices. This means that students need to know the teaching device components that need to be made first to the last device that can be made. The preparation of teaching tools requires creativity from students so when compiling teaching tools it is necessary to consider leadership, curriculum, organizational support, and the personality of the teacher who can encourage and hinder student creativity in making decisions when developing teaching tools [17]. In simple terms, teaching tools are arranged to start from an educational calendar, details of effective weeks, annual programs, semester programs, syllabus or ATP, and lesson plans or modules. Each teaching device will be interrelated so it is necessary to pay attention to the order in which the teaching device is prepared. The data shows that students have a high ability to develop teaching tools that are following applicable regulations. Therefore, universities need to facilitate these activities.

The preparation of learning tools that are correct and systematic will affect the learning plans in the classroom. During the preparation of teaching tools students also need to be given information about teaching devices to accommodate the diversity of students who will be taught, the facilities that will be used, and the support that will be found. Students need to know that teaching materials are a guide for carrying out learning in the classroom so they need to be prepared to accommodate active and innovative learning. Technology presents opportunities for students to access sources of knowledge to become professionals based on the information and content obtained [18]. Students who will do teaching practice programs are also expected to use some form of technology in class [19]. Therefore, technology that supports innovative learning needs to be included in teaching tools.

The lecture process serves to correct the preparation of teaching materials compiled by students. Collaboration with lecturers makes students progress to develop teaching tools more positively and better. Students can find out the shortcomings of the teaching tools prepared so that improvements can be made immediately. The preparation of teaching tools also needs to consider input from fellow students so that mistakes in the tools are properly accommodated based on input from various parties. Considering this, the information about teaching tools that students get during lectures will provide experience and deepen knowledge before students carry out teaching practices. Student decision-making about future careers is influenced by learning activities carried out during lectures, one of which is the experience of compiling learning tools to practice [20].

3.2 Teaching Tools for Teaching Practice

Students who carry out teaching practice programs are equipped with teaching tools so that the practice process is directed and effective. Students need to be equipped with an understanding of the steps of the activities in the learning process which are included

in the learning tools. The survey results showed that 91.5% of respondents answered that they had an understanding to practice the learning steps contained in the learning device. On the other hand, 8.5% of respondents answered that they still did not understand how to practice the learning steps in the learning device. Students obtain information during lectures and carry out simulations for teaching practice according to the teaching tools that have been prepared. Students as prospective teachers need to have good knowledge to deal with demands from schools so that they understand organizational routines, overcome classroom discipline, and handle interpersonal relationships [21]. Therefore, 84% of respondents answered that they had practiced or simulated in class based on learning tools prepared in college, while 16% of respondents answered that they had never done practice or simulation in class based on learning tools prepared in college. Specifically, the learning devices that are simulated refer to the learning design in the learning implementation plan (RPP) or teaching modules. The learning model that is implemented in learning activities requires the development of teaching devices through syllabi, lesson plans, resources, and learning media [22]. Figure 4 provides information that students can carry out preliminary activities, core activities, and closing activities according to the learning design that has been prepared.

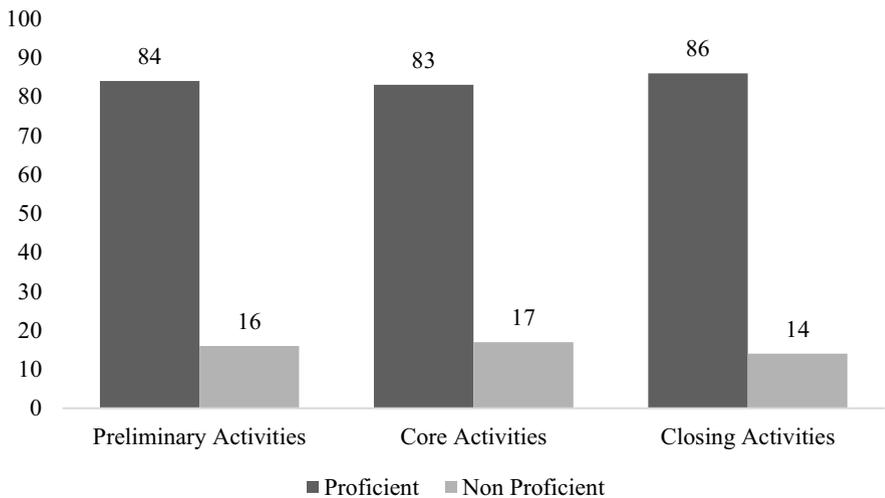


Figure 4. Teaching Practice Skills

The ability to practice the preliminary activities, core activities, and closing activities listed in the learning design shows that students have the confidence to practice if equipped with learning tools. Learning tools function to remind students to achieve learning objectives according to the learning steps listed. In addition, learning tools also function as controls over the learning process in the classroom so that it is in line with the learning objectives. Students can prepare the learning process better when practicing because they have a teaching process guide. Evaluation is needed to see the

readiness of students as prospective teachers and provide opportunities for improvement [23].

The survey results showed that 89.4% of students had the understanding to practice the core activities in the learning process, while 10.6% responded that they did not fully understand to practice the core activities in the learning process in class. Collaboration with peers and lecturers is needed to encourage students to carry out teaching practices that are in accordance with the learning design. Criticism of teaching practices based on design in learning tools will motivate students to show better performance when teaching. The teaching experience gained by students can influence their self-confidence by improving their teaching practices which are conveyed to a certain extent, but does not provide opportunities for students to make improvements without assistance [24]. Therefore, when lecturers teach pedagogic courses they not only add conceptual information but also expand students' opportunities to do hands-on practice.

Teaching practice carried out by students can be assumed as a program for direct learning and training [25]. The current development of teaching practice is not only in offline learning but also in the ability to conduct online learning. The learning tools used for the two types of learning are also different, so students need skills in compiling learning tools for online and offline learning processes. Figure 5 provides information on students' ability to practice teaching.

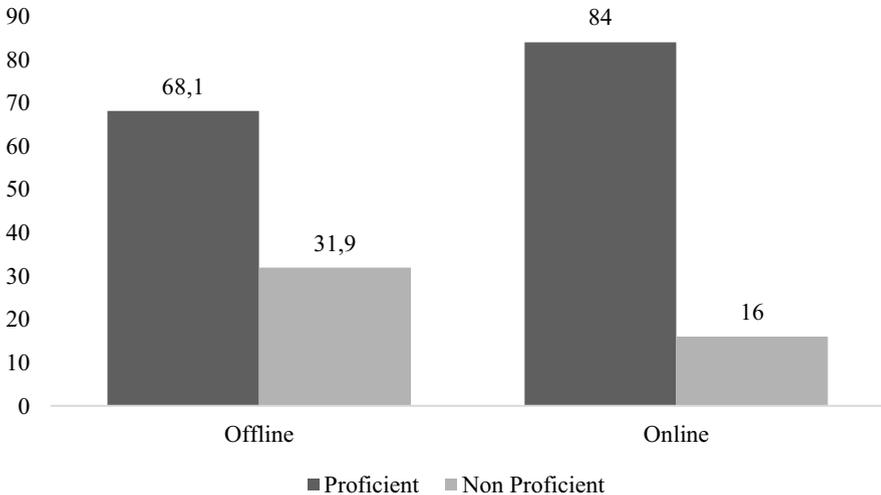


Figure 5. Students Practice Skills

The data shows that students need to be equipped with information and skills to develop learning tools for online and offline learning processes. This adjusts to changes in the learning process due to COVID-19. Teaching tools for online learning are completely transformed into new forms that involve more technology [26]. In addition, students' ability to develop online and offline learning tools needs to be complemented by the ability to practice the learning design, so lecturers need to facilitate teaching practice

activities with these two types of learning. Teaching simulations in class conducted by students will provide experience when students teach directly in teaching practice programs provided by the university. Direct practice is an opportunity for students to highlight important issues at the school level so they can prepare themselves to build social capital [27].

4 Conclusion

The study describes the relationship between the ability to prepare learning tools by students with the ability to practice teaching. Using the evidence from the survey results, it was found that students had minimal knowledge of learning tools before being given information in-class. Specifically, the learning process in lectures has a positive impact on students' development. Seeing the importance of learning tools prepared by students related to teaching practice programs. Learning tools become concrete guides for students to practice teaching so that the process occurs in a systematic and controlled manner. After gaining in-depth knowledge of the lecturer process, students have the skills to practice preliminary activities, core activities, and closing activities in the learning process in class.

References

- [1] J. A. de Vries, A. Dimosthenous, K. Schildkamp, and A. J. Visscher, "The impact on student achievement of an assessment for learning teacher professional development program," *Stud. Educ. Eval.*, vol. 74, no. April, p. 101184, 2022, doi: 10.1016/j.stueduc.2022.101184.
- [2] M. Christoforidou and L. Kyriakides, "Developing teacher assessment skills: The impact of the dynamic approach to teacher professional development," *Stud. Educ. Eval.*, vol. 70, no. May, p. 101051, 2021, doi: 10.1016/j.stueduc.2021.101051.
- [3] D. Rahayu, S. Narimo, A. Fathoni, L. E. Rahmawati, and C. Widiyarsari, "Pembentukan Karakter Siswa Berorientasi Higher Order Thinking Skills (HOTS) di Sekolah Dasar," *ELSE (Elementary Sch. Educ. Journal) J. Pendidik. dan Pembelajaran Sekol. Dasar*, vol. 4, no. 1, p. 109, 2020, doi: 10.30651/else.v4i1.4071.
- [4] S. Ifrianti, "Membangun Kompetensi Pedagogik Dan Keterampilan Dasar Mengajar Bagi Mahasiswa Melalui Lesson Study," *Terampil J. Pendidik. dan Pembelajaran Dasar*, vol. 5, no. 1, p. 1, 2018, doi: 10.24042/terampil.v5i1.2748.
- [5] J. Nasongkhla and S. Sujiva, "Teacher Competency Development: Teaching with Tablet Technology through Classroom Innovative Action Research (CIAR) Coaching Process," *Procedia - Soc. Behav. Sci.*, vol. 174, pp. 992–999, 2015, doi: 10.1016/j.sbspro.2015.01.723.
- [6] W. P. Thwe and A. Kálmán, "The regression models for lifelong learning competencies for teacher trainers," *Heliyon*, vol. 9, no. 2, 2023, doi: 10.1016/j.heliyon.2023.e13749.
- [7] A. Cirocki and T. S. C. Farrell, "Professional development of secondary school EFL teachers: Voices from Indonesia," *System*, vol. 85, p. 102111, 2019, doi: 10.1016/j.system.2019.102111.

- [8] J. Zeng, "A theoretical review of the role of teacher professional development in EFL students' learning achievement," *Heliyon*, vol. 9, no. 5, p. e15806, 2023, doi: 10.1016/j.heliyon.2023.e15806.
- [9] W. Rohmah, "Upaya Meningkatkan Pengembangan Keprofesionalisme Berkelanjutan Dalam Peningkatan Profesionalisme Guru," *Semin. Nas. Pendidik.*, pp. 10–21, 2016, [Online]. Available: <http://hdl.handle.net/11617/7267>.
- [10] S. Kilmen, "Prospective teachers' professional achievement goal orientations, their self-efficacy beliefs, and perfectionism: A mediation analysis," *Stud. Educ. Eval.*, vol. 74, no. November 2021, p. 101165, 2022, doi: 10.1016/j.stueduc.2022.101165.
- [11] J. W. Creswell, *Research Desain Pendekatan Kualitatif, Kuantitatif, dan Mixed*. Yogyakarta: Pustaka Pelajar, 2015.
- [12] I. Runge, R. Lazarides, C. Rubach, D. Richter, and K. Scheiter, "Teacher-reported instructional quality in the context of technology-enhanced teaching: The role of teachers' digital competence-related beliefs in empowering learners," *Comput. Educ.*, vol. 198, no. February, p. 104761, 2023, doi: 10.1016/j.compedu.2023.104761.
- [13] E. Rindayati, C. A. D. Putri, and R. Damariswara, "Kesulitan Calon Pendidik dalam Mengembangkan Perangkat Pembelajaran pada Kurikulum Merdeka," *PTK J. Tindakan Kelas*, vol. 3, no. 1, pp. 18–27, 2022, doi: 10.53624/ptk.v3i1.104.
- [14] S. Muhandini and B. D. Milandari, "Pengembangan Rencana Pelaksanaan Pembelajaran (RPP) Berdiferensiasi Berbasis Merdeka Belajar Pada Siswa Sekolah Dasar," *J. Ilm. Mandala Educ.*, vol. 9, no. 1, pp. 565–572, 2023, doi: 10.58258/jime.v9i1.4174/http.
- [15] H. C. Y. Ho, K. T. Poon, K. K. S. Chan, S. K. Cheung, J. A. D. Datu, and C. Y. A. Tse, "Promoting preservice teachers' psychological and pedagogical competencies for online learning and teaching: The T.E.A.C.H. program," *Comput. Educ.*, vol. 195, no. June 2022, p. 104725, 2023, doi: 10.1016/j.compedu.2023.104725.
- [16] A. J. Pereira and L. Y. Tay, "Governmental neoliberal teacher professionalism: The constrained freedom of choice for teachers' professional development," *Teach. Teach. Educ.*, vol. 125, p. 104045, 2023, doi: 10.1016/j.tate.2023.104045.
- [17] W. Han and N. A. Abdrahim, "The role of teachers' creativity in higher education: A systematic literature review and guidance for future research," *Think. Ski. Creat.*, vol. 48, no. April, p. 101302, 2023, doi: 10.1016/j.tsc.2023.101302.
- [18] K. Oddone, "The nature of teachers' professional learning through a personal learning network: Individual, social and digitally connected," *Teach. Teach. Educ. Leadersh. Prof. Dev.*, vol. 1, no. April, p. 100001, 2022, doi: 10.1016/j.tatelp.2022.100001.
- [19] E. B. Demissie, T. O. Labiso, and M. W. Thuo, "Teachers' digital competencies and technology integration in education: Insights from secondary schools in Wolaita Zone, Ethiopia," *Soc. Sci. Humanit. Open*, vol. 6, no. 1, p. 100355, 2022, doi: 10.1016/j.ssaho.2022.100355.
- [20] S. Borelli, M. Gulemetova, and M. Paredes, "Experimental impacts of teacher professional development on adolescent socio-emotional skills, achievement, and hazardous child labor: Evidence from a remedial school program in Ecuador," *Int. J. Educ. Res.*, vol. 118, no. June 2022, p. 102095, 2023, doi: 10.1016/j.ijer.2022.102095.
- [21] B. Li, Z. Li, and M. Fu, "Understanding beginning teachers' professional identity changes through job demands-resources theory," *Acta Psychol. (Amst.)*, vol. 230, no. May, p. 103760, 2022, doi: 10.1016/j.actpsy.2022.103760.

- [22] S. O. Kosassy, “Mengulas Model-Model Pengembangan Pembelajaran dan Perangkat Pembelajaran,” *J. PPKn dan Huk.*, vol. 14, no. 1, pp. 152–173, 2019, [Online]. Available: <https://e-journal.my.id/proximal/article/view/211>.
- [23] M. W. P. Thijssen, M. Rege, and O. J. Solheim, “Teacher relationship skills and student learning,” *Econ. Educ. Rev.*, vol. 89, no. May, p. 102251, 2022, doi: 10.1016/j.econedurev.2022.102251.
- [24] X. Van Ha, “Effects of a professional development program on teachers’ oral corrective feedback practices,” *System*, vol. 110, no. December 2021, 2022, doi: 10.1016/j.system.2022.102917.
- [25] M. Guise, S. Hegg, M. O’Shea, N. Stauch, and C. Hoellwarth, “Collaborative discourse during coteaching: A case study of one in-service teacher’s growth,” *Teach. Teach. Educ.*, vol. 127, p. 104096, 2023, doi: 10.1016/j.tate.2023.104096.
- [26] K. Y. Wong, T. Sulaiman, A. Ibrahim, A. G. Kunchi Mohd, O. Hassan @ Hussin, and W. M. Wan Jaafar, “Secondary school teachers psychological status and competencies in e-teaching during Covid-19,” *Heliyon*, vol. 7, no. 11, p. e08238, 2021, doi: 10.1016/j.heliyon.2021.e08238.
- [27] E. K. Demir, “The role of social capital for teacher professional learning and student achievement: A systematic literature review,” *Educ. Res. Rev.*, vol. 33, no. February 2020, p. 100391, 2021, doi: 10.1016/j.edurev.2021.100391.

Open Access This chapter is licensed under the terms of the Creative Commons Attribution-NonCommercial 4.0 International License (<http://creativecommons.org/licenses/by-nc/4.0/>), which permits any noncommercial use, sharing, adaptation, distribution and reproduction in any medium or format, as long as you give appropriate credit to the original author(s) and the source, provide a link to the Creative Commons license and indicate if changes were made.

The images or other third party material in this chapter are included in the chapter's Creative Commons license, unless indicated otherwise in a credit line to the material. If material is not included in the chapter's Creative Commons license and your intended use is not permitted by statutory regulation or exceeds the permitted use, you will need to obtain permission directly from the copyright holder.

