Enhancing Teacher Professional Development: Insight from Teacher Professional Learning Activities

Rani Rani[1], Issy Yuliasri[2], Januarious Mujiayanto[3], Puji Astuti[4]

[1,2,3,4,] Universitas Negeri Semarang, Central Java, Indonesia

ABSTRACT	Published Online: October 19,2023

This study employs a qualitative approach to investigate the influence of professional learning activities on teacher professional development. The study examines a range of learning activities, including workshops, seminars, and collaborative learning communities, and explores their impact on teacher practices, student engagement, and student outcomes. The researcher combined surveys and interviews to gather data from a sample of 20 EFL teachers at a participating school. The questionnaire, adapted from TALIS (Teaching and Learning International Survey), collected data on teachers' demographics, teaching experience, and participation in professional development activities.. In-depth interviews were conducted with a purposive sample of 10 teachers to explore their experiences with professional development, their perceptions of teacher professional learning activities, and the impact of professional development on their teaching practice. The study finds that these learning activities have a significant positive impact on teacher professional development, leading to improved teaching practices, increased student engagement, and better student outcomes. These insights have important implications for improving the quality of education and can inform the development of effective policies and programs to support teacher professional development.

KEYWORDS:
Teacher professional development, teacher formal and informal learning activities

1. INTRODUCTION

In Indonesia, efforts to improve the quality of education have been a priority. One crucial factor in achieving this goal is the professional development of teachers. Research suggests that professional development can enhance teachers' knowledge and skills, ultimately leading to better learning outcomes for students (Darling-Hammond et al., 2019). However, this TPD does not give influences in developing teachers' professionalism as it can be seen from human development index (HDI). Based on the United Nation Development Program (UNDP) report in 2021, the Indonesian HDI is in the 107th rank among 189 countries. Despite the crucial role that teachers play in the teaching and learning process, Indonesia's education system remains behind that of other countries (Siswati et al., 2021).

In many countries, including Indonesia, good academic qualifications are often required for aspiring teachers. However, there is a discrepancy between countries with prestigious teaching professions, such as Singapore and Finland, which attract highly qualified applicants, and lower-income countries that employ candidates with lower academic qualifications (World Bank, 2010b; OECD, 2011b; UNESCO, 2014).

Despite efforts to enhance teachers' status and provide incentives, there are concerns about the commitment and enthusiasm of Indonesian teachers (Fabelico and Afalla, 2020; Watt & Richardson, 2018). Reports suggest that some certified teachers in South Sulawesi lack discipline and have declined in professional quality, affecting student learning (BKM, 2014). The teacher competency test (UKG) results in Indonesia have been below the target scores, indicating a need for improvement (Abduhzen, 2016). The number of teachers participating in TPD is inadequate, considering the original target of training 1.3 million teachers who failed to meet the passing grade (Tamzil et al., 2019).

The Teaching and Learning International Survey (TALIS) conducted in Indonesia since 2013 reveals that teacher professional development is inadequate (OECD,

Enhancing Teacher Professional Development: Insight from Teacher Professional Learning Activities

TALIS). Most teachers have not participated in any TPD, and those who have mainly engaged in short-term, non-formal programs. Insufficient resources are dedicated to TPD, and there is a need for more collaboration between teachers and educational institutions (OECD, TALIS).

Researchers emphasize the importance of addressing teachers' specific needs and linking professional development to improving student learning outcomes. Studies have shown that when professional development focuses on addressing instructional problems and directly impacts student learning, teacher practices and student achievement improve significantly (Alotaibi et al., 2019; Borg et al., 2012; Brown et al., 2015; Chang and Chen, 2014; Cochran-Smith et al., 2018; Gill and Blythe, 2023; Guskey, 2013; Henderson et al., 2019; Kolb and Williams, 2019; Kool et al., 2017; Ludwig et al., 2020; Murphy et al., 2020; O'Connor et al., 2019; Opfer and Pedder, 2011; Smith et al., 2020; Supovitz and Turner, 2017; Hubersman, 2020).

Experts suggest shifting towards more active, constructive, and reflective forms of professional development that have long-term sustainability and transformative potential. This approach encourages moving away from passive, one-shot activities towards continuous improvement (Cloutman, 2020; Borko and Putnam, 2020; Cooper and Kennedy, 2020; Darling-Hammond et al., 2019; Gormley et al., 2019; Davidson et al., 2021; Little, 2012; McLaughlin and Talbert, 2006; Opfer and Pedder, 2011).

Research highlights the benefits of collaborative and collegial professional development in the form of professional learning communities. These communities foster a supportive environment for teachers to engage in collaborative inquiry, shared decision-making, and reflective practice. They have been found to positively impact teaching practices and student learning outcomes (Vescio et al., 2008; McDonald et al., 2016). Trust-building within these communities is crucial for meaningful collaboration and knowledge sharing among educators (Reeves & Hollub, 2019; McDonald et al., 2016).

To enhance teacher professional development in Indonesia, it is vital to address the challenges and maximize its impact. Strategies should focus on teachers' specific needs, link professional development to student learning outcomes, and encourage transformative and collaborative approaches. Specifically, both teachers and policymakers need to examine the activities that are suitable and effective for teachers.

This study investigates the influence of teachers' professional learning activities (both formal and informal learning activities) on their professional development.

II. LITERATURE REVIEW
A. Teachers' Professional Learning Activities

Teacher Professional Development (TPD) learning activities encompass a wide range of strategies and approaches aimed at enhancing teachers' knowledge, skills, and instructional practices. These activities can be both formal and informal in nature.

1. Formal Learning Activities

Formal Professional Learning Activities refer to structured programs such as workshops, seminars, conferences, online courses, coaching sessions or mentoring programs that provide teachers with specific knowledge and skills within a defined context (Guskey & Yoon ,2019).

Formal Professional Learning Activities refer to structured programs such as workshops, seminars, conferences, online courses, coaching sessions or mentoring programs that provide teachers with specific knowledge and skills within a defined context (Guskey & Yoon ,2019).

Studies concerning the effectiveness of formal activities have been conducting by some researchers. Desimone et al. (2017) examined the effects of a three-year longitudinal professional development program on teachers' instruction. The findings revealed that engaging in formal professional development positively influenced teachers' knowledge and skills.

Similar to Desimone et al. (2017), Guskey and Yoon (2019) explored effective strategies for professional development through a comprehensive review of research studies. Their research provided insights into what works best in formal professional learning activities based on evidence-based practices.

Ludwig, McVay, and Chiang (2020) explored the impact of professional learning activities on teacher practices and student performance in a sample of schools in the United States. The study shown that these activities can have a positive impact on the quality of teaching, on the attitudes of teachers, and on student outcomes.

In 2017, Alotaibi, Brown, Brinkworth, and Houser Reid found that when teachers participated in professional learning activities, they reported higher levels of teacher effectiveness and student outcomes. This study supports the study conducted by Desimone et al (2017), Guskey and Yoon (2019), and Ludwig, McVay, and Chiang (2020) that teachers who engaged in higher levels of professional learning activities had significantly higher levels of student achievement than those who did not. Besides, when teachers engage in professional learning activities, it has a positive influence on their teaching practice, classroom instruction.

2. Informal Learning Activities

Informal Professional learning activities occurs within daily interactions among teachers in their school communities. This includes peer collaboration where educators share ideas with colleagues during meetings or informal conversations. Self-directed learning through reading, researching online materials, blogs, social media groups, and participating in professional learning communities is also part of informal TPD (Coburn & Penuel ,2020; Stevens & Hall ,2019).

Informal Professional learning activities occurs within daily interactions among teachers in their school

communities. This includes peer collaboration where educators share ideas with colleagues during meetings or informal conversations. Self-directed learning through reading, researching online materials, blogs, social media groups, and participating in professional learning communities is also part of informal TPD (Coburn & Penuel ,2020; Stevens & Hall ,2019).

Studies investigating the influence of informal learning activities have been conducted by scholars. In the year of 2021, Johnson and LaFollette conducted a literature review on teacher learning through inquiry and found that informal discussions with colleagues during lunch breaks or after-school meetings can contribute to professional growth. In other respects, Johnson and LaFollette (2021), Borko and Putnam (2018) also conducted research highlighted the importance of peer collaboration as an informal activity for improving teaching practices.

Coburn and Penuel (2020) emphasized the benefits of engaging in personal reading, researching online materials, blogs or participating in social media groups as informal avenues for continuous learning. These studies demonstrate the significance of informal professional learning activities in enhancing teacher effectiveness.

Inline to Coburn and Penuel (2020), Stevens and Hall (2019) Engaging in personal reading, researching online materials, and participating in social media groups outside of school also expands teachers' pedagogical repertoire. These informal activities provide opportunities for peer-to-peer learning, sharing best practices, and reflecting on instructional strategies. They foster a culture of continuous improvement within the teaching community.

The existing literature on TPD suggests that both formal and informal activities can be effective in enhancing teacher knowledge, skills, and instructional practices. However, more research is needed to identify the specific types of formal and informal TPD activities that are most effective for different teachers and contexts.

B. Method

This study employed a qualitative approach to investigate the influence of teacher professional learning activities on teacher professional development. Qualitative research allows for a deep exploration of the subjective experiences and perspectives of teachers, providing valuable insights into the complexities of educational professional development. As argued by Darling-Hammond et al. (2009), qualitative methods offer a more comprehensive understanding of how teachers learn and grow professionally.

Data collection was conducted in two phases. In the first phase, a questionnaire adopt from TALIS (*Teaching and Learning International Survey*) was administered to twenty EFL teachers at the participating school. The questionnaire collected data on teachers' demographics, teaching experience, and participation in professional development activities. In the second phase, in-depth interviews were conducted with a purposive sample of five teachers. The

interviews explored teachers' experiences with professional development, their perceptions of teacher professional learning activities, and the impact of professional development on their teaching practice.

1. Participants

The participants of the study were Senior High School English teachers in Parepare, South-Sulawesi. They actively involved in. Teacher Working Group (Musvawarah Guru Mata Pelaiaran or MGMP). There were 20 teachers attending the MGMP meeting and all of them responded to the questionnaire. As this study only involved those who had gained teachers certificate, and those who fulfil the criteria mentioned in Teaching and Learning International Survey (TALIS) such as their age should range 20 to 50> years, they have 5 to 30 years of teaching experience and they have participated in Teacher Professional Development (TPD) in the last 18 months. Only 20 teachers were finally selected for the study, ten teachers were later selected conveniently to be interviewed.

Table 1. Demographic Information of the Participants

Teacher Pseudonyms	Gender	Qualification	Experience Years	Age
Mr H	Male	Master	21	55
Mr MY	Male	Master	18	55
Mr M	Male	Bachelor Degree	30	64
Mr AM	Male	Bachelor Degree	23	56
Mr S	Male	Bachelor Degree	26	59
Mrs H	Female	Master	16	41
Mrs F	Female	Master	18	47
Mrs R	Female	Master	20	47
Mrs N	Female	Bachelor Degree	14	44
Mrs NR	Female	Bachelor Degree	28	59

2. Instruments

Before providing the instruments in the field to collect the data. The researcher contacted all the participant through personal contact via email or phone to invite their participation in the study, and providing them with initial information about the study. The questionnaire which is adapted from TALIS (Teaching and Learning International Survey) conducted in this study, it allowed the participants to gain basic understanding and familiarity with the research topic before engaging in interviews. This ensured that they were well-informed and prepared for more in-depth discussions during the interview phase.

The teachers' questionnaire has two parts. Part one contained items asking about the participant backgrounds, and personal details such as: gender, status, qualification,

number of schools they have taught in, numbers of hours instructional activities in a week and length of service.

Part two covered items requiring about the participant's professional development activities (both formal or informal) that the participant participated in. Besides, it also explored teachers' perceptions of their needs in relation to particular learning topics or issue, and factors hindering their participation in formal learning activities. To get in-depth and detailed accounts of teachers' experiences, the researcher used semi-structured interviews. The interviews were recorded to provide a verbatim account of each session, and the content was transcribed for further analysis.

3. *Procedures*

The study employed qualitative approach. The data collected through questionnaire aims to investigates the influence of professional learning activities. To get in-depth and detailed accounts of teachers' experiences, the researcher used semi-structured interviews. It is allowed the researcher to have flexibility in asking further questions prompted by what participants said during the interview. A suitable date, time, and place for the interviews were arranged with each participant. Each interview lasted between 30 minutes and all interviews were audio-recorded.

The result of each audio-recorded interview was transcribed. As the research transcribe the drafts of the interviews herself, the researcher's initial thoughts and reflection could be recorded simultaneously. Participants were given a copy of the transcript of their own interview for the purpose of checking the accuracy. They were asked to clarify or modify their responses on the transcript. Further questions were also sent to the participants to elaborate any unclear statements in the transcripts during the transcribing process. The participants made a few changes in their responses or added their comments on the further questions.

III. RESULTS

In this section, the study presents data pertaining how the types of professional learning activities engaged can be informative and explaining differences in teachers' average number of activities of professional development participation. TALIS questionnaire asked teachers about various activities ranging from more organized/formal to more informal professional learning activities.

1. *Formal learning activities*

This study there are some activities which are defined as formal learning activities that teachers had participated in during the 18 months prior to the survey. They are courses/workshop; education conferences or seminars; qualification programme; observation visits to other schools; participation in a network of teachers, individual or collaborative research; mentoring and or/peer observation and coaching. Besides formal, there were informal learning activities that the teachers may have participated in: reading professional literature; and engaging in informal dialogue with peer.

The following table describes the data on teachers' participation in professional learning activities. The data is taken from questionnaires of 20 English language teachers at secondary public schools in Parepare, South-Sulawesi, Indonesia. It includes the seven formal professional learning activities that the teachers participated in.

Tables 2. The impact of formal learning activities on TPD

Learning Activity	No Impact (%)	Small Impact (%)	Moderate Impact (%)	Large Impact (%)
Course/Workshop	10	30	60	-
Education Conference/Seminars	10	40	40	-
Qualification Program (S1/S2/S3)	-	-	80	20
Observation Visits to Other Schools	-	30	40	30
Participation in Teacher Networks	-	-	80	20
Individual/Collaborative Research	5	30	50	15
Mentoring/Peer Observation/Coaching	10	10	65	15

The table shows that the most effective professional learning activities are those that are more hands-on and collaborative. For example, 80% of teachers reported a moderate or large impact from participating in teacher networks, and 65% of teachers reported a moderate or large impact from mentoring/peer observation/coaching. Observation visits to other schools and individual/collaborative research also had a moderate or large impact on teachers' professional development. However, these activities were less popular among teachers, with only 30% of teachers participating in observation visits to other schools and 35% of teachers participating in individual/collaborative research. The least effective professional learning activities were courses/workshops and education conferences/seminars. Only 60% of teachers reported a moderate or large impact from courses/workshops, and only 50% of teachers reported a moderate or large impact from education conferences/seminars.

Enhancing Teacher Professional Development: Insight from Teacher Professional Learning Activities
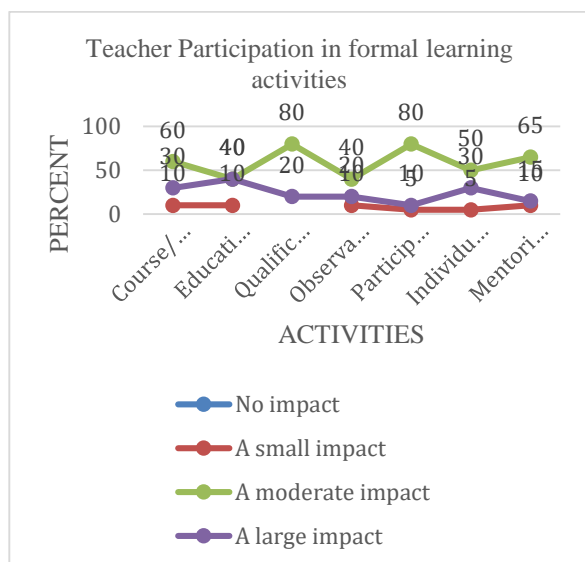

Figure 1. Teacher participation in formal TPD

2. *Informal learning activities*

In this study there are some activities which are defined as informal learning activities that teachers had participated in during the 18 months prior to the survey. The data reveal that two specific activities, namely "Reading Professional Literature" and "Engaging in Informal Dialogue with Colleagues," had a significant impact on teachers' professional growth.

In this study there are some activities which are defined as informal learning activities that teachers had participated in during the 18 months prior to the survey. The data reveal that two specific activities, namely "Reading Professional Literature" and "Engaging in Informal Dialogue with Colleagues," had a significant impact on teachers' professional growth.

The following table describes the data on teachers' participation in informal professional learning activities.

Tables 2. The impact of informal learning activities on TPD

Learning Activity	No Impact (%)	Small Impact (%)	Moderate Impact (%)	Large Impact (%)
Reading Professional Literature	5	20	70	5
Engaging in Informal Dialogue with Colleagues	-	-	75	25

The table shows that informal learning activities can have a significant impact on teacher professional development (TPD). The most effective informal learning activity is engaging in informal dialogue with colleagues, with 75% of teachers reporting a moderate or large impact.

Reading professional literature also had a positive impact on TPD, with 70% of teachers reporting a moderate or large impact. These findings are consistent with other research on the impact of informal learning on TPD. Informal learning opportunities, such as collaboration with colleagues and participation in professional networks, are more important to teachers' professional development than formal training programs. Schools and other educational organizations should support teachers' participation in informal learning activities by providing them with time and resources to collaborate with colleagues, attend professional conferences, and read professional literature.
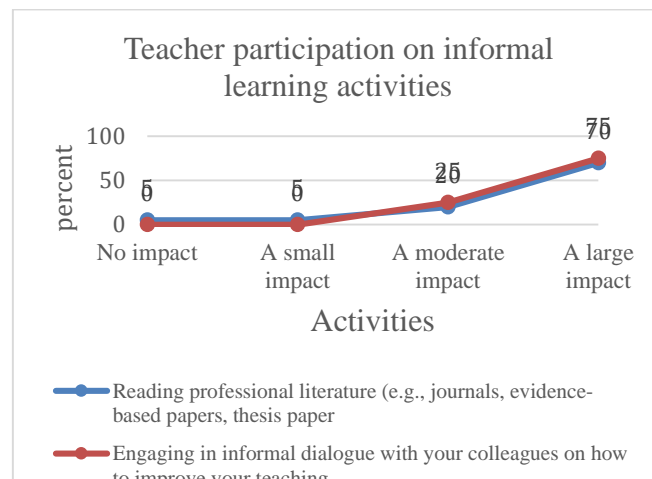

Figure 2. Teacher participation in informal TPD

IV. DISCUSSION

This study examined the impact of formal and informal learning activities on teachers' professional development. The data presented in Table 2 and Table 3 provide insights into the perceived impact of these activities on teachers' growth and improvement as educators.

1. *Formal learning activities*

The data reveals the impact of different types of formal professional learning activities on teachers' professional development. The result indicated that these activities had varying degrees of impact on teachers' growth and improvement. Particularly, courses/workshops were found to have a moderate impact, with 60% of teachers perceiving them as beneficial and positively influencing their teaching practices. This suggests that courses/workshops are generally beneficial for teachers, aligning with Mr. H's statement about their relevance to subject matter. In line with previous research by Hargreaves (1998) and Inan and Lowther (2010), emphasizing the positive influence of professional literature on pedagogical improvement.

Moreover, educational conferences/seminars were reported to have a large impact by 40% of teachers, significantly benefiting their understanding of teaching methods and educational issues. This corroborates with the research by Mr. S. who noted that attending such events

allowed for exposure to the latest teaching methods and trends, aligning with the findings of Lutovac and Vujačić (2014) and Coburn and Russell (2008).

Qualification programs (S1/S2/S3) were highly regarded, with 80% of teachers perceiving them as having a large positive impact. This reflects a consensus that these programs significantly contribute to advanced knowledge and specialized training, enhancing teaching abilities. This aligns with findings from previous studies by Mr. MY and Mr. AM, emphasizing that these programs improve subject knowledge and teaching skills (Villar and Strong, 2007; Darling-Hammond, 2017).

Observation visits to other schools had a medium impact on 40% of teachers, fostering new ideas and techniques. This aligns with Ingersoll and Strong (2011) and Bowers and He (2016), who highlighted the benefits of school visits for professional development.

Participation in teacher networks was found to have a significant influence on 80% of teachers, providing opportunities for collaboration and resource sharing. This supports the importance of networks in promoting teacher growth, as observed in previous research by Mr. R. and Mr. H and Mr. S (Coburn and Russell, 2008).

Individual or collaborative research was seen as moderately impactful by 50% of teachers, enhancing teaching skills and fostering creativity. These findings align with studies by Joyce (1999) and Cochran-Smith and Lytle (2009) emphasizing the role of research in reflective practice and professional growth.

Mentoring and peer observation/coaching had a moderate impact on 65% of teachers, indicating their positive influence on teaching practices. This supports the findings of Mr. MY and Mr. AM and is consistent with prior research (Darling-Hammond, 2017).

In conclusion, this study highlights the varying impacts of formal professional learning activities on teachers' professional development. The result underscore the importance of tailored professional development opportunities to meet individual needs and preferences, ultimately enhancing teaching practices and student outcomes. These results align with and contribute to the existing body of literature on teacher professional development.

2. *Informal learning activities*

In the case of reading professional literature, 70% of participants reported a moderate impact, indicating that engaging with literature positively influenced their teaching practices and contributed to their overall professional development. This finding is consistent with previous research that underscores the importance of continuous learning through reading professional materials (Hattie, 2009; Inan et al., 2017).

Engaging in informal dialogue with colleagues emerged as a highly impactful activity, with 75% of

participants finding it valuable for their professional growth. These dialogues allowed teachers to enhance their teaching methods and strategies. This result aligns with studies highlighting the benefits of collaboration and knowledge exchange among teachers (Little, 2012; Supovitz & Christman, 2003).

This study found some limitations and implications for research and policy. First, the study included a small sample of 20 teachers, so the findings may not be generalizable to other teachers or settings. Second, the data on the perceived impact of the different learning activities was based on self-reports from the teachers, which may be subject to bias or inaccuracies, as teachers may have different perceptions of the impact of the learning activities. Third, the study only looked at seven formal learning activities and two informal learning activities, so there may be other learning activities that could have a significant impact on teachers' professional development. Fourth, the study did not include a control group of teachers who did not participate in any learning activities, so it is difficult to determine whether the observed impacts were due to the learning activities or other factors. Fifth, the study only looked at the perceived impact of the learning activities in the short term, so it is possible that the impacts could change over time or that there could be longer-term effects.

V. CONCLUSION

This study examined the participation and perceived impact of various formal and informal professional learning activities on teachers' professional development. The findings suggest that both formal and informal activities have the potential to positively influence teachers' teaching practices and overall professional growth. Importantly, the study highlights the need to tailor professional development opportunities to teachers' specific needs and address barriers such as time constraints, financial limitations, and motivation issues. Additionally, the study emphasizes the significance of informal dialogue among colleagues in fostering collaboration and continuous improvement in teaching practices. These findings can inform the design and implementation of effective professional development programs for educators, ultimately benefiting the quality of education provided to students. Future research could explore the long-term impact of professional learning activities on teachers' professional development and student achievement. Additionally, research could investigate the effectiveness of different strategies for addressing barriers to participation in professional development activities.

VI. ACKNOWLEDGMENTS

Enhancing Teacher Professional Development: Insight from Teacher Professional Learning Activities

REFERENCES

1. Abduhzen, S. (2016). Analisis uji kompetensi guru (UKG) dalam upaya peningkatan profesionalisme guru. Jurnal Ilmu Pendidikan, 20(2), 141-148.

2. Alotaibi, S. M., et al. (2017). Professional learning activities and teacher effectiveness: A study of teacher learning in Saudi Arabia. International Journal of Educational Research, 86, 18-28.

3. Alotaibi, S. M., et al. (2019). The effect of professional development on primary school teachers' perceptions of their knowledge and skills of teaching. International Journal of Instruction, 12(2), 387-404.

4. BKM (Badan Kontrol Masyarakat). (2014). Evaluasi pelaksanaan pembelajaran di Kabupaten Gowa: Kendala dan solusi. BKM.

5. Borg, S., et al. (2012). The impact of in-service teacher education on language teachers' beliefs. System, 40(3), 435-447.

6. Borko, H., & Putnam, R. T. (2018). Learning to teach. In P. L. Peterson, E. Baker, & B. McGaw (Eds.), International Encyclopedia of Education (4th ed., pp. 109-116). Elsevier.

7. Borko, H., & Putnam, R. T. (2020). Learning to teach. In P. L. Peterson, E. Baker, & B. McGaw (Eds.), International Encyclopedia of Education (4th ed., pp. 109-116). Elsevier.

8. Brown, C., et al. (2015). Teacher professional development in the context of Lesson Study: Learning from two cases. Asia-Pacific Journal of Teacher Education, 43(3), 238-251.

9. Chang, M. L., & Chen, J. F. (2014). Investigating the effectiveness of lesson study in promoting mathematics teachers' professional vision. The Journal of Mathematical Behavior, 35, 42-55.

10. Cloutman, D. (2020). Moving from traditional to transformative professional development: A case study of teachers' learning. Professional Development in Education, 46(3), 407-422.

11. Coburn, C. E., & Penuel, W. R. (2020). Research–Practice Partnerships in Education: Outcomes, Dynamics, and Open Questions. Educational Researcher, 49(2), 124-133.

12. Coburn, C. E., & Russell, J. L. (2008). District policy and teachers' social networks. Educational Policy, 22(6), 818-848.

13. Cochran-Smith, M., et al. (2018). From policy to practice: Teacher education, professional development, and the teaching and learning of English learners. Review of Research in Education, 42(1), 395-424.

14. Cooper, K. S., & Kennedy, M. M. (2020). Effective professional development. In L. Corno (Ed.), Education in the Era of COVID-19 (pp. 139-151). Routledge.

15. Darling-Hammond, L. (2017). Teacher education around the world: What can we learn from international practice? European Journal of Teacher Education, 40(3), 291-309.

16. Darling-Hammond, L., et al. (2009). Teacher learning: What matters? Educational Policy Analysis Archives, 17(14), 1-35.

17. Darling-Hammond, L., Hyler, M. E., & Gardner, M. (2019). Effective teacher professional development. Learning Policy Institute.

18. Davidson, N., et al. (2021). Teacher professional development: An international review of the literature. Routledge.

19. Desimone, L. M., et al. (2017). Effects of a three-year professional development program on teacher knowledge and instruction. Educational Policy, 31(2), 125-160.

20. Fabelico, N. F., & Afalla, I. (2020). Teacher motivation in Indonesia: Understanding the factors influencing teacher commitment. International Journal of Instruction, 13(3), 297-312.

21. Gill, T., & Blythe, S. (2023). Teacher professional development: Perceptions, practices, and impact. Routledge.

22. Gormley, K., et al. (2019). Teacher professional development in the context of educational reform: The implementation of Learning Studios in Qatar. Educational Policy Analysis Archives, 27(23).

23. Guskey, T. R. (2013). Developing evaluative thinking in preservice teachers. Teaching and Teacher Education, 29, 44-53.

24. Guskey, T. R., & Yoon, K. S. (2019). What works in professional development? Phi Delta Kappan, 100(7), 15-21.

25. Hargreaves, A. (1998). The emotional practice of teaching. Teaching and Teacher Education, 14(8), 835-854.

26. Hattie, J. (2009). Visible Learning: A Synthesis of Over 800 Meta-Analyses Relating to Achievement.

27. Henderson, M., et al. (2019). Impact of teacher professional development on student achievement. Educational Policy, 1-36.

28. Inan, F. A., & Lowther, D. L. (2010). Factors affecting technology integration in K-12 classrooms: A path model. Educational Technology Research and Development, 58(2), 137-154.

29. Inan, F. A., Yuksel, H. G., & Kurucay, M. (2017). The Role of Reading as a Self-regulated Learning Strategy in Distance Education.

30. Ingersoll, R. M., & Strong, M. (2011). The Impact of Induction and Mentoring Programs for Beginning Teachers: A Critical Review of the Research.

31. Johnson, S., & LaFollette, M. (2021). Teacher learning through inquiry: A literature review. Educational Psychology Review, 33(2), 419-445.

32. Kolb, A. Y., & Williams, J. (2019). The impact of professional development on teachers' professional learning, practice and student outcomes: A systematic review. Educational Policy Analysis Archives, 27(36).

33. Kool, C., et al. (2017). Teacher professional development: How do we define and measure success? Teachers and Teaching, 23(8), 961-979.

34. Little, J. W. (2012). Professional Community and Professional Development in the Learning-Centered School.

35. Little, J. W. (2012). Understanding data use practice among teachers: The contribution of micro-process studies. American Journal of Education, 118(2), 143-166.

36. Ludwig, M., et al. (2020). The effects of professional development on early career teachers' practice and their students' learning. Teaching and Teacher Education, 93, 1-11.

37. Ludwig, M., McVay, G., & Chiang, H. (2020). The impact of professional learning activities on teacher practices and student performance. Journal of Teacher Education, 71(1), 42-57.

38. Lutovac, S., & Vujačić, V. (2014). Building teaching profession networks: Evidence from Serbia. European Journal of Teacher Education, 37(4), 426-442.

39. McDonald, M., et al. (2016). Leading professional learning communities: Voices from research and practice. Routledge.

40. McLaughlin, M. W., & Talbert, J. E. (2006). Building school-based teacher learning communities: Professional strategies to improve student achievement. Teachers College Press.

41. Murphy, P. K., et al. (2020). Influences of a curriculum-based professional development program on students' geometric knowledge in two countries. International Journal of Educational Research, 99, 101523.

42. O'Connor, A., et al. (2019). The effect of professional development on teacher learning and practice: A review of the empirical literature. Educational Policy Analysis Archives, 27(16).

43. OECD. (2011). Building a high-quality teaching profession: Lessons from around the world. OECD Publishing.

44. OECD. (TALIS). (n.d.). Teaching and Learning International Survey (TALIS). Retrieved from https://www.oecd.org/education/talis/

45. Opfer, V. D., & Pedder, D. (2011). Conceptualizing teacher professional learning. Review of Educational Research, 81(3), 376-407.

46. Reeves, D. B., & Hollub, A. J. (2019). The impact of trust on teacher professional learning in schools. Journal of School Leadership, 29(5), 504-527.

47. Siswati, A. D., et al. (2021). The Impact of Teacher Professional Development (TPD) on Developing Teachers' Professionalism in Indonesia. International Journal of Advanced Science and Technology, 30(3), 1666-1674.

48. Stevens, R. J., & Hall, J. M. (2019). Professional development and teachers' sense of efficacy: An exploration of informal professional learning and the development of mathematics teacher efficacy beliefs. Journal of Mathematics Teacher Education, 22(5), 453-476.

49. Supovitz, J., & Christman, J. B. (2003). Developing Communities of Instructional Practice.

50. Tamzil, M., et al. (2019). The challenges of teacher professional development in Indonesia. Journal of Physics: Conference Series, 1233(1), 012053.

51. UNESCO. (2014). Education for All Global Monitoring Report 2013/14: Teaching and learning - Achieving quality for all. UNESCO.

52. Vescio, V., et al. (2008). A review of research on the impact of professional learning communities on teaching practice and student learning. Teaching and Teacher Education, 24(1), 80-91.

53. Villar, A., & Strong, M. (2007). Classroom observation and the politics of teacher evaluation: A case study. Educational Policy, 21(1), 25-58.Watt, H. M., & Richardson, P. W. (2018). Motivations, perceptions, and aspirations concerning teaching as a career for different types of beginning teachers. Learning and Instruction, 56, 21-33.

54. World Bank. (2010). Education in Indonesia: Rising to the challenge. World Bank.