

**Effectiveness of Professional Development Programs in Indonesia: A Survey
of Educators' Perspectives on Training and Support**

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ABSTRACT

This study examines the effectiveness of professional development (PD) programs in Indonesia from educators' perspectives, focusing on training quality, content relevance, implementation, and follow-up support. Using a descriptive quantitative research design, data were collected from 47 teachers across eight junior and senior high schools in Sorong City through a structured questionnaire. The results indicate that PD programs are highly beneficial in enhancing teachers' knowledge, introducing innovative teaching strategies, and improving student learning outcomes. Key factors influencing effectiveness include engaging and interactive training formats, knowledgeable facilitators, and collaborative opportunities among educators. Teachers also reported increased confidence in their teaching abilities and observed positive changes in student engagement. However, challenges such as scheduling constraints by limiting time for deep learning, causing cognitive overload, and reducing opportunities for follow-up and reflection. Also, the need for sustained institutional support were noted. The study concludes that PD programs significantly contribute to teacher effectiveness and professional growth. To optimize their impact, continuous mentorship, flexible program structures, and alignment with real classroom challenges should be prioritized.

Keywords: Effectiveness; Professional Development; Educators' Perspectives; Training and Support

INTRODUCTION

Fast-changing education needs mean teachers everywhere must constantly learn new skills, use original teaching methods and adjust to different student needs. Indonesian educators face many challenges. These challenges increase because of an important curriculum overhaul, frequent changes in government policies and the growing demand for at least some integration of digital tools into their teaching. Many professional development (PD) programs now act as an important foundation for improving at least several teacher competencies, increasing positive educational outcomes for many students and encouraging continuous learning for many educators (Timperley, 2015). Although Indonesia has invested large resources in professional development programs, a meaningful discussion continues regarding their efficacy as well as the degree to which they satisfy the requirements of educators (Armin, 2020). To promote teacher preparedness and instructional quality, a large body of research highlights the need for effective PD. Hammond et al. (2014) found that structured, context-relevant, and well-supported comprehensive PD initiatives positively impact teacher performance and student learning outcomes. There is a need for these programs to develop beyond the surface level to support teachers in reflective practice; cultivating a culture of collaboration; and ongoing improvement (Borko, 2019). For instance, Kennedy's (2016) report noted that PD was only effective in its potential when it provided extended and coherent support that is relevant to the teachers' lived experiences in the classroom.

These components of effective PD programs are widely acknowledged and recognized in diverse educational contexts, yet little research has examined whether they are relevant, and if so, how they operate and impact the Indonesian educational system, with its local cultural and institutional environment. The relationship between policy-driven professional development (PD) goals and real classroom challenges relies on how well these goals translate into practical, teacher-centered strategies. While policies often outline broad objectives like improving student outcomes or integrating technology, PD programs must ensure these goals align with teachers' daily realities. This requires training that directly addresses classroom challenges such as managing diverse learners or enhancing student engagement, while offering actionable strategies teachers can immediately implement. Involving educators in designing PD ensures the training reflects their needs, making policy goals feel relevant and achievable. Moreover, ongoing support, collaboration, and reflection help teachers refine their practices over time, turning policy aspirations into lasting, meaningful improvements in teaching and learning.

There are different theoretical frameworks or models that can be used to generate the 'knowledge base' that helps people understand PD and one of the most important models is Guskey's (2002) Model of PD Evaluation, outlining a five level model for PD evaluation from participant reaction to student outcomes. This model emphasizes that PD must be not just interactive, but genuinely relevant to daily

teaching, able to foster skills that educators can apply in the immediate real-world setting. Moreover, the Essential Features of PD delineated by Desimone (2009) highlight the elements of coherence, content, active participation, and a collective design feature. Although these models provide important insights, teachers' needs in relation to PD—to what extent Indonesian PD programs align with these frameworks has not yet been significantly explored—particularly in terms of teacher-level support and practicality (Armin, 2020). This gap highlights the necessity for a contextualized inquiry in Indonesia to investigate the effects of PD, tailored around challenges faced by educators.

This highlights the Indonesian government's response in acknowledging that ongoing improvement for teachers is an area for continued focus (Kementerian Pendidikan dan Kebudayaan, 2018) and with this, continuing to promote teacher certification, training workshops, and collaborating with a number of international educational organizations. However, evidence of the effect of such policies on the satisfaction and the application of teachers' skills is mixed. The reality, as Tias & Tongjean (2022) pointed out, is that many teachers found the training content detached from their practical classroom experiences, resulting in a mere inability to effectively apply the newly learned skills. Likewise, Armin (2020) reported that despite teachers appreciating opportunities for PD, a contextual disconnect and absence of supportive structures, such as a mentoring system, proved critical barriers to enactment. There seems to be a gap between policy driven PD goals and the real needs and experiences of teachers (avoiding a box-ticking exercise, so to speak).

For Indonesian teachers, PD is richly made up of workshops, seminars, and certification programs. While these one-offs have some merit, research suggests that they often fail to provide the repeated exposure, reflection, or follow-up support to be impactful over the long term (Muijs et al., 2014). These activities in the follow up materialised as important to embed new practices into teachers' daily lives, reflecting Guskey (2002) and Desimone's (2009) frameworks, with evidence of sustained follow up and mentoring. Effective PD programs not only include ongoing support structures (Timperley & Alton-Lee, 2008), they also comprise learning communities that continuously reinforce and refresh new skills (Timperley, 2019). In contrast, Indonesian PD programs often adopt short-term training models that might not allow teachers enough time to internalize and subsequently consistently implement new knowledge (Hamied, 2017) Through mapping Indonesian educators' perspectives regarding the support and sustainability of PD programs, this paper aims to highlight particular areas for policy improvement. Also, different characteristics of Indonesia's educational environment affect the PD quality. Challenges to designing and delivering PD programs include the diversity of classroom settings, regional discrepancies in resources, and different levels of access to technology (Rahman et al., 2019). Some teachers in urban schools have access to digital tools with the teacher network, while their counterparts do not in terms of logistics and other constrained resources (Gaikhirst, et al., 2016). Although previous studies have identified these disparities,

limited research has explored how these factors shape teachers' PD experiences in different Indonesian contexts. By surveying teachers from diverse geographical settings and institutional contexts, this study begins to fill such a gap by contributing a broader understanding of how PD programs may better serve a more diverse educational landscape.

LITERATURE REVIEW

Defining Professional Development

Over the last ten years, the range of PD has grown beyond traditional workshops and seminars to include more dynamic forms, such as online learning communities, peer collaboration, and individualized coaching (Darling-Hammond, Hyler, & Gardner, 2017). These programs intend to equip educators with the skills necessary to address evolving educational demands, including integrating technology, fostering student-centred classrooms, and implementing updated curriculum standards (Evans & Benefield, 2020). In Indonesia, PD initiatives have been important in supporting teachers through major policy shifts, such as the implementation of the 2013 curriculum, which emphasizes critical thinking, problem-solving, and student engagement (Kementerian Pendidikan dan Kebudayaan, 2018). Meaningful professional development (PD) activities are often designed around key theoretical constructs that identify fundamental components for improving teacher learning, which translates to better student performance. Guskey (2002), for example, developed a five-level model for the evaluation of PD while Desimone (2009) described a framework of Core Features that have been cited in relation to PD research. Guskey's model offers a multi-level framework for evaluating PD, addressing PD effectiveness across five levels: participants' reactions, participants' learning, organization support and change, participants' use of new knowledge and skills, and student learning outcomes. This model, however, emphasizes that PD cannot stop at immediate gratification, but should lead to change that is sustainable and visible in the practices of teachers and student outcomes (Guskey, 2002). PD has greater success when it includes content that connects to teachers' instructional objectives, encourages hands-on learning experiences, draws connections to teachers past experiences and knowledge, and requires sustained engagement over time (Desimone 2009).

Previous Research on PD Effectiveness

Research shows that high-quality PD leads to improvement in teachers being better prepared, their instruction being of a higher quality, and student outcomes improving. According to Darling-Hammond et al. (2017), comprehensive and well-structured PD programs can lead to significant gains in teacher performance, if they meet the needs of both the teachers involved and the student schools that they teach in. In the same way, Kennedy (2016) found that PD that is content focussed, coherent and sustained results in greater changes in teaching practice and comes with greater teacher satisfaction. This is especially true for developing

countries, where PD must fit local educational developmental demands in order to be successful (Timperley, 2019). Studies in Indonesia have increased the literature on PD effectiveness, but studies remain limited. For instance, Iswahyudi and Susilowati (2020) surveyed Indonesian teachers and concluded that PD programs frequently do not sufficiently take into account needs specific to the classroom, such as large class sizes, diverse learners, and technology integration. These limitations can lead to the lack of relevance and applicability of PD content, making teachers feel unsupported in implementing new strategies. Factor influencing the effectiveness of PD is the support that teachers receive during and after their training. Darling-Hammond et al. (2017) stresses that successful PD programs must incorporate support through mentorship, peer collaboration and ongoing feedback to facilitate the integration of new knowledge into everyday practice for teachers. In the Indonesian context, however, research indicates a lack of such support structures for PD programs, meaning the teachers often work without the guidance to embed those changes (Hamied, 2017). These findings indicate that while teachers are motivated to improve practices, lack of follow-up support hinders the sustainability of the impact of PD programs.

Challenges in PD

Research has identified some common barriers, such as insufficient tailoring of the approach, lack of follow-up, and funding- and time-related constraints (Evans & Benefield, 2020). PD programs in Indonesia are often delivered in a one-fits-all manner, which may not meet the diverse needs of teachers in different areas and schools. Rahman et al. (2019) realising that access to PD become a challenge for Indonesian teachers, especially for those who teach in the remote area. Arifianto et al. (2019) explain that geographical isolation and infrastructure become a challenge for rural teacher in having access to PD as a result in creating imbalances between teachers and students. Additionally, although teachers in urban regions tend to have more resources, they also struggle with a lack of follow-up, mentorship, and structured support to reinforce PD training (Rahman et al., 2019). Another top challenge that poses hindrance in the Indonesian PD landscape is the funding constraint. In recent years, the government has made an effort to allocate more money for PD, but budget constraints have continued to limit the quality and availability of PD programs, particularly in remote areas (Kementerian Pendidikan dan Kebudayaan, 2018). Many teachers do not have continuous support and follow-up activities that are important to reinforce such skills and ensure teachers will implement new practices correctly. Muijs et al. (2014) noted that teachers in less-well-resourced schools often find it difficult to implement new practices because they are not funded to have the materials they need, which further limits the impact of PD.

Implications of PD Challenges for Indonesian Teachers

The difficulties of PD in Indonesia have real consequences when it comes to teachers' instruction, job satisfaction, and professional development. The same can

be said for pedagogical-based theories which would seem impossible for teachers to implement into their classrooms in a real manner without proper PD (Hamied, 2017). The situation is further aggravated by the absence of concise support and resources to sustain the teachers as they grapple to meet the high expectations with inadequate guidance. This problem is especially important in Indonesia, where teachers are being called to accommodate to modern instructional practices (that demand for training and support over time) such as technology integration and differentiated instruction (Rahman et al., 2019). The narrow relevance of PD also has larger consequences for student achievement. If teachers are not able to implement effective practices of instruction, that may have negative implications for student engagement and performance. It is at the hands of teachers who are always learning, flexible and responsive to the pedagogies available to them that students will thrive (Timperley, 2019).

METHOD

Design and Samples

This study employs a quantitative descriptive design to examine the effectiveness of professional development programs in Indonesia, focusing on educators' perspectives on training and support. A survey method was chosen to gather data efficiently from a sample of educators across various educational institutions. The population of this study includes educators who have participated in professional development programs in Indonesia. A total of 47 respondents consisting of 8 junior and senior high schools, namely, SMP Negeri 1 Kota Sorong, SMP Negeri 3 Kota Sorong, SMP Negeri 6 Kota Sorong, SMP Negeri 7 Kota Sorong, SMP YPK Oikumene, SMA Negeri 2 Kota Sorong, SMA Negeri 3 Kota Sorong, and SMK Negeri 1 Kota Sorong were selected as samples using convenience sampling technique, which allows to include participants who are easily accessible and willing to participate in this study.

Instruments and Procedures

The primary data collection instrument used in this study was a structured questionnaire. The questionnaire was designed to assess educators' perspectives on the quality of the training provided, the relevance of the content to their teaching needs, the support system provided during and after the training, and the overall effectiveness of the programs. The questionnaire's internal consistency was measured using Cronbach's Alpha. A pilot test with 10 educators yielded a reliability coefficient of 0.60, indicating good reliability. Participants were informed about the purpose of the study and assured of confidentiality and the questionnaire was distributed using Google Forms.

Data Analysis

The collected data were analysed using descriptive statistics. Descriptive statistics, such as frequencies and percentages were used to describe the distribution of responses for each item while the mean was used to determine the central tendency and variability of participants' perceptions. Researchers also use Cronbach's Alpha to assess the reliability of the questionnaire. The analysis was conducted using statistical software to ensure accuracy and efficiency. The results were presented in the form of tables, charts, and graphs to facilitate interpretation and discussion.

RESULT AND DISCUSSION

To determine the effectiveness of the professional development programs, the researcher created and divided the questionnaire into five sections, such as; content and relevance of professional development, implementation and format of professional development, support and follow-up, results and impact on work practice, and general satisfaction. The questionnaire was written in Indonesian and designed with a range of Likert Scales and descriptors such as strongly agree (5), agree (4), neutral (3), disagree (2), and strongly disagree (1). Based on the 47 respondents from 8 schools in Sorong, shows some key differences. Junior high school teachers (SMP) generally rated the relevance of PD content higher, particularly in addressing classroom challenges and introducing innovative teaching methods. This suggests that PD programs align more closely with their specific needs, perhaps due to the more foundational nature of their subjects. Meanwhile, senior high school teachers (SMA/SMK) showed stronger agreement in areas related to follow-up support and professional growth, indicating they benefit more from ongoing mentorship and collaboration. However, both groups expressed a desire for more flexible scheduling and hands-on activities. These insights suggest tailoring PD delivery to the different classroom realities and career stages of junior and senior high school educators could enhance overall effectiveness. The results of the questionnaire are presented in the following frequency tables.

Table 1. Frequency of respondents' answers regarding the content and relevance of professional development.

NO	Content and Relevance of Professional Development	N	SA (5)		A (4)		N (3)		DA (2)		SDA (1)		Mean
			F	%	F	%	F	%	F	%	F	%	
1	The content of the professional development program is	47	17	36,17	28	59,57	2	4,25	-	-	-	-	4,32

	relevant to the subject area I teach.												
2	The professional development program helped me improve my understanding of subject-specific teaching strategies.	47	18	38,29	27	57,44	2	4,25	-	-	-	-	4,34
3	The professional development program addresses challenges that I often face in the classroom.	47	16	29,78	27	63,82	4	6,38	-	-	-	-	4,23
4	The topics covered in the professional development program are current and in line with educational standards.	47	10	21,27	35	74,46	2	4,25	-	-	-	-	4,17
5	The professional development program encourages innovative teaching methods that can be implemented in my classroom.	47	18	38,29	29	61,70	1	2,12	-	-	-	-	4,34

The data in Table 1 presents educators' perceptions of the relevance and effectiveness of professional development programs. The majority of respondents (59.57%) agreed that the content of the program is relevant to their subject area, with a mean score of 4.32. Similarly, 57.44% of participants felt that the program improved their understanding of subject-specific teaching strategies (mean = 4.34). Additionally, 63.82% believed that the program effectively addressed classroom challenges (mean = 4.23). A significant number (74.46%) also agreed that the topics covered align with current educational standards (mean = 4.17). Lastly, 61.70% found that the program encouraged innovative teaching methods applicable in their classrooms, yielding the highest mean score of 4.34. Overall, the findings suggest that the professional development programs are well-received and considered beneficial by educators.

Table 2. Frequency of respondents' answers regarding professional development implementation and format

No	Professional Development Implementation and Format	N	SA (5)		A (4)		N (3)		DA (2)		SD A (1)		Mean
			F	%	F	%	F	%	F	%	F	%	
1	Professional development sessions are delivered in an engaging and interactive format.	47	12	25,53	33	70,21	2	4,25	-	-	-	-	4,23
2	The trainer/facilitator demonstrates strong knowledge and expertise.	47	13	27,65	33	70,21	1	2,12	-	-	-	-	4,26
3	The Professional Development program includes opportunities for hands-on activities.	47	11	23,40	24	51,06	12	25,53	-	-	-	-	3,98

4	The professional development program is delivered in a flexible format that fits my schedule.	47	8	17,02	27	57,44	12	25,53	-	-	-	-	3,91
5	The use of technology and multimedia in professional development enhances my learning experience.	47	7	14,89	31	65,95	9	19,14	-	-	-	-	3,96

The data in Table 2. illustrates educators' perceptions of the implementation and format of professional development programs. The majority (70.21%) agreed that the sessions are engaging and interactive, with a mean score of 4.23. A similar percentage (70.21%) also found that the trainers demonstrated strong knowledge and expertise, yielding the highest mean score of 4.26. However, only 51.06% agreed that the program included hands-on activities, while 25.53% remained neutral (mean = 3.98). Additionally, while 57.44% felt that the program was delivered in a flexible format, a significant 25.53% were neutral, resulting in a slightly lower mean score of 3.91. Lastly, 65.95% of respondents agreed that technology and multimedia enhanced their learning experience (mean = 3.96). Overall, while the professional development programs are generally well-received, there is room for improvement in offering more hands-on activities and flexibility.

Table 3. Frequency of respondents' answers regarding support and follow-up.

No	Support and Follow-up	N	SA (5)		A (4)		N (3)		DA (2)		SD A (1)		Mean
			F	%	F	%	F	%	F	%	F	%	
1	I received adequate support for implementing new strategies	47	11	23,40	32	68,08	4	8,51	-	-	-	-	4,15

	after the Professional Development Program.												
2	The Program included follow-up sessions to address implementation challenges	47	12	25,53	35	74,46	2	4,25	-	-	-	-	4,23
3	There were collaboration opportunities and peer feedback during the Professional Development Program.	47	18	38,29	28	59,57	1	2,12	-	-	-	-	4,34
4	I can contact my Professional Development coach or mentor for further support if needed.	47	8	17,02	36	76,59	3	6,38	-	-	-	-	4,09
5	The school administration supports	47	11	23,40	35	74,46	1	2,12	-	-	-	-	4,21

	me in implemen ting the changes recomme nded for profession al developm ent.												
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The data in Table 3. highlights educators' perceptions of the support and follow-up provided after professional development programs. The majority (68.08%) agreed that they received adequate support in implementing new strategies, with a mean score of 4.15. Follow-up sessions to address implementation challenges were well-received, with 74.46% of respondents agreeing and a mean score of 4.23. Collaboration and peer feedback opportunities were also positively rated, with 59.57% agreeing and a mean score of 4.34, the highest in this section. Additionally, 76.59% of respondents felt they could contact their professional development coach or mentor for further support (mean = 4.09). Lastly, 74.46% agreed that school administration supported them in implementing recommended changes (mean = 4.21). Overall, the findings indicate that while support and follow-up mechanisms are generally strong, continued emphasis on mentorship and collaboration can further enhance professional development outcomes.

Table 4. Frequency of respondents' answers regarding results and impact on work practice.

No	Results and Impact on Teaching Practice	N	SA (5)		A (4)		N (3)		DA (2)		SD A (1)		Mean
			F	%	F	%	F	%	F	%	F	%	
1	I feel more confident in my teaching skills professional development program.	47	14	29,78	30	63,82	3	6,38	-	-	-	-	4,23

2	The professional development program has significantly improved my teaching practice in the classroom.	47	16	34,04	30	63,82	1	2,12	-	-	-	-	4,32
3	I have seen positive changes in student engagement since implementing strategies from the Professional development program.	47	17	36,17	28	59,57	2	4,25	-	-	-	-	4,32
4	The professional development program has had a positive impact on my professional development and career.	47	1	2,12	33	70,12	13	27,65	-	-	-	-	4,23
5	Overall, the Professional Development program met my expectations and improved my effectiveness as a teacher.	47	11	23,40	21	44,68	15	31,91	-	-	-	-	3,96

The data in Table 4. reflects educators' perceptions of the results and impact of professional development programs on their teaching practices. A majority (63.82%) agreed that they feel more confident in their teaching skills after participating in the program, with a mean score of 4.23. Additionally, 63.82% also believed that the program significantly improved their teaching practices, yielding a mean score of 4.32. Positive changes in student engagement were also observed, with 59.57% agreeing and a mean score of 4.32. While 70.12% of respondents acknowledged the program's positive impact on their professional growth and career development (mean = 4.23), a slightly lower agreement was recorded regarding whether the program fully met their expectations and improved their teaching effectiveness, with only 44.68% agreeing and a mean score of 3.96. Overall, the findings suggest that the program has a strong positive impact on educators' confidence, teaching strategies, and student engagement, though some participants feel there is room for improvement in meeting their overall expectations.

Table 5. Frequency of respondents' answers regarding general satisfaction

NO	General Satisfaction	N	SA (5)		A (4)		N (3)		DA (2)		SD A (1)		Mean
			F	%	F	%	F	%	F	%	F	%	
1	I am satisfied with the quality of the professional development program in which I participate.	47	14	29,78	30	63,82	3	6,38	-	-	-	-	4,21
2	I believe the Professional Development program has a positive impact on student learning.	47	17	36,17	29	61,70	1	2,12	-	-	-	-	4,34
3	I would recommend the Professional development program I participated into other teachers.	47	14	29,78	30	63,82	3	6,38	-	-	-	-	4,23

4	I believe ongoing Professional development is important for my success as an educator.	47	14	29,78	32	68,08	1	2,12	-	-	-	-	4,28
5	I am interested in participating in more Professional development programs in the future.	47	11	23,40	34	72,34	2	4,25	-	-	-	-	4,19

The data in Table 5. reflects educators' general satisfaction with professional development programs. A significant majority (63.82%) expressed satisfaction with the program's quality, yielding a mean score of 4.21. Additionally, 61.70% of respondents believed that the program positively impacted student learning, resulting in the highest mean score of 4.34. The willingness to recommend the program to other teachers was also high, with 63.82% in agreement and a mean score of 4.23. Moreover, 68.08% acknowledged the importance of ongoing professional development for their success as educators (mean = 4.28). Lastly, 72.34% indicated interest in participating in more professional development programs in the future (mean = 4.19). Overall, these findings suggest that educators value professional development programs and recognize their impact, with strong interest in continued participation and recommendations for their peers.

Researchers then used SPSS (Statistical Product and Service Solutions) to obtain Cronbach's alpha search reliability values from 5 categories with each category containing 5 statements and symbolized by X and Y for each statement. According to (Taber, 2017), Cronbach's alpha is a statistic commonly quoted by authors to demonstrate that tests and scales that have been constructed or adopted for research projects are fit for purpose. Cronbach's alpha value indicates that values below 0.50 indicate low reliability, values below 0.50 indicate moderate reliability and values above 0.70 indicate moderate reliability. Moderate reliability, values above 0.70 indicate sufficient reliability, values above 0.80 indicate strong reliability and values above 0.80 indicate strong reliability. Sufficient, values above 0.80 indicate strong reliability and values above 0.90 indicate good reliability. Above 0.90 indicates perfect reliability. According to Ghazali, 2016 (Rokhmad Slamet & Sri Wahyuningsih, 2022) A lower alpha value indicates that the item is more unreliable. The research tool is considered reliable if the Cronbach's Alpha value is more than 0.60. Therefore, the decision-making criteria for the reliability test are as follows: Cronbach's alpha value of more than 0.60 indicates that the question items in the questionnaire are reliable while a Cronbach's alpha value of less than 0.60 indicates that the question items in the questionnaire are unreliable (not reliable).

Table 6. Reliability test results of content and relevance of professional development

Reliability Statistics	
Cronbach's Alpha	N of Items
,912	5

Item-Total Statistics				
	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
X1	17,09	3,384	,802	,886
X2	17,06	3,452	,748	,898
X3	17,17	3,362	,807	,885
X4	17,23	3,748	,727	,902
X5	17,06	3,496	,801	,887

Table 6. shows that the alpha value of the content and relevance of the professional development category consisting of 5 statements denoted by X1, X2, X3, X4, and X5 is 0.912 with the reliability coefficient stage being accepted.

Table 7. Reliability test results of professional development implementation and format

Reliability Statistics	
Cronbach's Alpha	N of Items
,650	5

Item-Total Statistics				
	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
X6	16,11	2,967	,261	,654
X7	16,09	3,210	,099	,710
X8	16,36	2,149	,469	,565
X9	16,43	2,119	,564	,509
X10	16,38	2,154	,649	,472

Table 7 shows that the alpha value of the professional development implementation and format category consisting of 5 Statements denoted by X6, X7, X8, X9, and X10 is 0.650 with the reliability coefficient stage being accepted.

Table 8. Reliability test results of support and follow-up

Reliability Statistics	
Cronbach's Alpha	N of Items
,858	5

Item-Total Statistics				
	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
X11	16,87	2,592	,733	,813
X12	16,79	2,693	,722	,816
X13	16,68	2,613	,775	,802
X14	16,94	3,191	,485	,872
X15	16,81	2,810	,661	,832

Table 8 above shows that the alpha value of the reliability test results of support and follow-up category consisting of 5 statements denoted by X11, X12, X13, X14, and x15 is 0.858 with the reliability coefficient stage being accepted.

Table 9. Reliability test results of result and impact on teaching practice

Reliability Statistics	
Cronbach's Alpha	N of Items
,802	5

Item-Total Statistics				
	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
Y1	16,83	3,101	,703	,728
Y2	16,74	3,020	,846	,691
Y3	16,74	2,890	,847	,682
Y4	16,83	3,492	,608	,763
Y5	17,11	3,619	,194	,923

Table 9 shows that the alpha value of the reliability test results and impact on teaching practice category consisting of 5 statements denoted by Y1, Y2, Y3, Y4, and Y5 is 0.802 with the reliability coefficient stage being accepted.

Table 10. Reliability test results of general satisfaction

Reliability Statistics				
Cronbach's Alpha		N of Items		
,846		5		

Item-Total Statistics				
	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
Y6	17,04	2,781	,656	,816
Y7	16,91	2,775	,783	,780
Y8	17,02	2,673	,778	,779
Y9	16,98	2,978	,690	,806
Y10	17,06	3,452	,388	,878

Table 10. shows that the alpha value of the reliability test results of general satisfaction category which consists of 5 statements denoted by Y6, Y7, Y8, Y9, and Y10 is 0.846 with the reliability coefficient stage being accepted.

CONCLUSION

The findings of this study indicate that professional development (PD) programs in Indonesia are perceived as highly effective by educators. The majority of teachers agree that these programs enhance their subject knowledge, introduce innovative teaching methods, and provide strategies to address classroom challenges. Moreover, teachers acknowledge the role of PD in improving student engagement and learning outcomes. The study also highlights key factors contributing to PD effectiveness, including relevant content, interactive training formats, and strong facilitator expertise. Furthermore, support and follow-up mechanisms, such as mentoring and peer collaboration, significantly enhance teachers' ability to apply new strategies. However, some challenges remain, particularly regarding the flexibility of program schedules and the need for sustained institutional support.

Overall, the results suggest that continuous and well-structured PD programs positively impact educators' professional growth, confidence, and teaching effectiveness. For long-term improvements, policymakers should focus on ensuring accessibility, contextual relevance, and ongoing mentorship to maximize the benefits of professional development initiatives. Programs should prioritize flexibility and practicality to better align with teachers' classroom realities. Incorporating more hands-on, subject-specific activities, especially for senior high school teachers who prefer practical strategies, ensures the training translates directly into classroom practices. Additionally, strengthening follow-up mechanisms, like peer mentoring, collaborative reflection sessions, and on-demand

access to PD coaches, can support both junior and senior high school teachers in overcoming implementation challenges. Regular feedback loops should also be built into the process, allowing educators to share insights, suggest adjustments, and ensure PD remains relevant and responsive to their evolving needs. This approach fosters a culture of continuous improvement, empowering teachers to apply innovative strategies confidently and improve student outcomes.

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