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INVESTIGATING THE LEARNING CONDITIONS IN THE ONLINE-BASED TEACHER-LEARNING COMMUNITIES IN INDONESIA

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Abstract
The learning community in Indonesia is snowballing among teachers. The problem is that only a few teacher-learning communities are consistence and intense in carrying out teacher-learning activities. This study aims to investigate how the learning conditions in online-based teacher-learning communities in Indonesia consistently carry out teacher-learning activities. The research design uses a qualitative approach with the case study method, and the research framework uses a qualitative e-research framework. Various data were obtained through interviews with eight teachers, documentation studies, and observation of teacher learning activities through online-based teacher-learning communities. The results show that some management of learning conditions is required to organize professional learning for teachers through online-based teacher-learning communities. Namely: 1) learning activities are inclusive and sustainable; 2) the characteristics of the learning participants are individuals who have a high initiative to re-learn; 2) the characteristics of learning topics according to the needs and problems of teachers; 3) the characteristics of the speakers are from the teachers themselves (fellow teachers); 4) learning objectives are focused on improving teachers' teaching practice skills; and 5) there is a mapping of learning barriers that are managed during the learning process.

Keywords: learning condition, learning management, online communities, professional learning

Introduction

The era of information technology opens a vast space for anyone to connect, including those who work as teachers. The availability and easy access to gadgets, internet networks, and various social media platforms among teachers make it easy for them to connect, even though they are almost not hindered by the geographical location of their domicile. The emergence of web technology tools and social media platforms allows users to assume new roles and have new behaviors when accessing the internet. Not only to search for information but also to intensely interact, collaborate, create and publish content, and facilitate learning

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opportunities from anyone, whenever and wherever they are, including teachers (Coutinho &Lisbôa, 2013; Isandespha, 2022; Trust et al., 2016).

When the teachers connected and interacted with each other using social media platforms, they gradually carried out various activities until a teacher community was formed. For example, the teacher community utilizes Telegram, WhatsApp, Facebook, and YouTube Channel groups. Teachers have actively used various online forums, through websites, personal blogs, Twitter, or Facebook, as resources for building and developing connections, sharing knowledge and practical experience, giving and receiving advice, and sharing and discussing materials and curricula (Liljekvist et al., 2017). They explore the needs of learning together, design and carry out learning activities together, and reflect together after trying to put it into practice. They can do it all without meeting face to face by communicating through their various social media platforms.

The phenomenon that has developed among teachers in building learning communities has attracted experts to conduct research, including in the context of teachers in Indonesia. Such as research on Facebook as an informal teacher-professional learning mechanism in Indonesia (Isandespha, 2022; Patahuddin & Logan, 2019), research on online and chat modes as a description or new vehicle for learning in the context of teacher professional development in Indonesia (Sari, 2012; Sari et al., 2012; Sari & Lim, 2012b, 2012a), research on community-based teacher training as a transformation of teacher development strategies in Indonesia (Sumaryanta et al., 2019).

However, the previous research has yet to study specific and in-depth learning variables, especially on the aspects of its learning conditions. Conditions become essential in learning, including professional learning that teachers carry out through the teacher-learning community they follow. In the context of effective professional learning design, the elements of conditions become an essential part of forming a learning environment that follows professional learning goals and engages participants in learning (AITSL, 2014). It is crucial to study the description of the learning conditions that exist in online-based teacher communities. Thus, the purpose of this study is to investigate the problem of how the learning conditions in online-based teacher learning communities in Indonesia consistently carry out teacher learning activities, specifically to answer the following four research questions; 1) What are the learner's characteristics in learning activities? 2) What are the characteristics of the material and speakers persons in learning activities? 3) What are the learning objectives in learning activities? 4) What are the barriers to learning activities? This research was conducted to reveal these four things so that the results will complement and clarify the scientific body of the online-based teacher-learning community published by previous researchers, especially in the context of teachers in Indonesia. Practically this research is helpful for instructional designers in designing adequate learning conditions for teacher-learning communities based on online learning activities. Practically, this research is helpful for managers of online teacher learning communities in planning and implementing learning for their member teachers to improve their competence and professionalism.

Method

The focus of this research was to investigate the learning conditions in the online teacher-based learning community in Indonesia. The research addressed four questions: (1) What were the learners' characteristics in learning activities? (2) What were the characteristics of the materials and speakers in learning activities? (3) What were the learning objectives in learning activities? (4) What were the barriers to learning activities? For this reason, a qualitative research design using the case study method was considered appropriate to answer these four research questions.

The research design used a qualitative e-research framework developed by Janet Salmons, which included the following steps: (1) aligning purpose and design, (2) taking a position as a researcher, (3) selecting extant, elicited, or enacted methods, (4) selecting ICT and milieu, (5) handling sampling and recruiting, (6) addressing ethical issues, (7) collecting the data, and (8) analyzing the data and reporting (Salmons, 2022). The respondents (Code R) were eight teachers from various levels of education in Indonesia, including primary school (Code PS), junior high school (Code JHS), and high/vocational school (Code H/VS). They served in several cities in Indonesia, such as Bantul (Yogyakarta), Bogor (West Java), Jakarta, Malang, and Batu (East Java). They had been active as members and managers of teacher communities for the previous 3 to 7 years, such as Komunitas Guru Belajar Nusantara (KGBN), Asosiasi Guru Belajar (AGB), and Sarasehan Dalam Jaringan Ikatan Guru Indonesia (Sadar IGI).

Data were collected by observing online learning activities through Live YouTube Channels and Webex Events, examining digital footprints on social media platforms such as Telegram, WhatsApp, Facebook, and YouTube Channels, and conducting semi-structured interviews both online and face-to-face. The data collection process used a naturalistic inquiry approach (Lincoln & Guba, 1985), in which each respondent was able to speak and express themselves widely and freely about their learning experiences in the communities in which they participated. Data analysis used thematic analysis by coding and analyzing relevant data, enabling the researchers to identify, analyze, and interpret patterns of meaning to answer the research questions (Creswell & Creswell, 2018). The process of ensuring data validity referred to several strategies, such as method triangulation, respondent triangulation, and triangulation of data types (Creswell & Creswell, 2018).

Findings and Discussion

Reviewing the learning components, researchers used Gagne and Briggs' learning variable classification theory (1979), rewritten by Degeng and Degeng (2018), as a theory of analysis. The classification of learning variables is modified into three, namely: 1) Learning Conditions: Factors that influence the effectiveness of the method in improving learning outcomes; 2) Learning Methods: Different ways to achieve different learning outcomes in different conditions; and 3) Learning Outcomes: All effects that can be used as indicators of the value of using learning methods in different conditions (Degeng & Degeng, 2018; Reigeluth & Merrill, 1979).

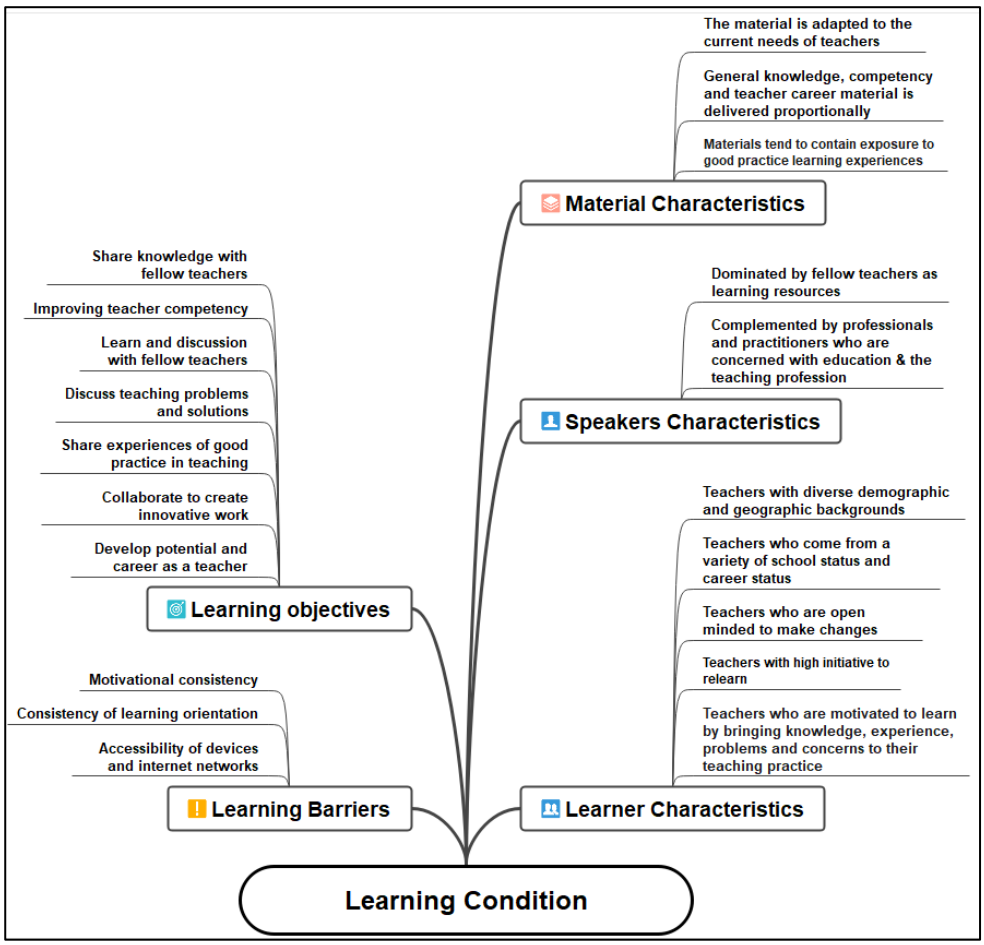


Figure 1. Summary of research data findings

The variable learning theory is used to dissect the learning components. It is devoted to the learning conditions experienced by teachers when active and engaged in learning activities in the AGB, KGBN, and Sadar IGI communities. The summary of research data findings can be seen in Figure 1. and below are the descriptions.

Learners characteristics

The results of the study show that five main characteristics in learners or community members who consistently participate in each learning activity in the teacher community that the respondents follow to increase their professionalism. Table 1 explain the themes found based on the results of the theme analysis sourced from the results of observations, interviews and searches of digital footprint documents.

Table 1. The result of the analysis learners characteristics

Themes (as the result of the analysis)	Description
different demographic	Teachers with different demographic and geographical backgrounds
Different status	Teachers who come from various school status and career status
Open minded	Teachers who are open-minded to make changes

Themes (as the result of the analysis)	Description
Initiative to learn	Teachers with high initiative to learn again
Motivated to learn	Teachers who are motivated to learn by bringing experiences, problems, and worries.

As professional learning is carried out informally, all teachers participate in various learning activities voluntarily and on their initiative. They register as community members, engage in various learning activities, and interact intensively because they need to learn and change. Not because of the assignment or request of others. For example, what was said by one of the respondents,

> *I am interested, I want to learn…. At that time, I needed a vehicle for learning; this was a learning-teacher association, and the core of the activity was learning, like wanting to update and not wanting to be left behind, so there was information related to teaching I was curious and I had to join so I could keep updating….* (R1, JHS Teacher)

Another respondent emphasized that,

> *I teach there must be changes or new things because even though my students change every year, I feel my teaching method is the same from year to year. This is what drives me to continue to innovate, the way to learn again, and not depend on learning activities from school, official invitations, or school assignments.* (R2, H/VS Teacher)

The characteristics of the learners that have been described can encourage the effectiveness of teacher learning facilitated by the teacher community that the respondents follow to increase their professionalism. This is in line with a study's conclusion that teachers' professional development programs are more effective when they participate voluntarily than forced or compulsory programs such as conscription (Scutt & Harrison, 2019). The teacher learning community that the respondents joined has facilitated a learning environment that accommodates the characteristics of teachers as participants in their learning activities. The teacher-learning community had understood the characteristics of the participants, their learning needs and behaviors, and the type of learning environment that aligned or aligned with them. Learning conditions that pay attention to the needs of students, facilitate how they learn, and facilitate what they are looking for will be essential factors in implementing professional learning programs for teachers (AITSL, 2014).

In addition, analyzing the characteristics of the participants in the professional learning program for teachers cannot be separated from positioning the teacher as an adult learner (teacher as an adult learner). As adult learners, they are assumed to be someone who: 1) have an independent self-concept and can direct their learning, 2) have had life experience which is a rich source for learning, 3) have learning needs that are closely related to changing roles socially, 4) problem-centered and interested in the immediate application of knowledge, and 5) motivated to learn by internal rather than external factors (Knowles et al., 2015). Furthermore, adult learners want something other than theoretical or hypothetical learning; they want hands-on learning related to their work and professionalism

(Knowles et al., 2015). So active, engaged, and interactive learning is the hallmark of practical, applicable, and mobile professional development (Fogarty & Pete, 2010). In the context of teacher professional development, they come to learn through experience and need to be used as a new learning resource (Darling-Hammond et al., 2017).

Material and speakers characteristics

The following components of learning conditions are the material's and source's characteristics. The research data found several characteristics of the material studied in the three teacher communities. Table 2 explain the themes found based on the results of the theme analysis sourced from the results of observations, interviews and searches of digital footprint documents.

Table 2. The result of the analysis material and speakers characteristics

Themes (as the result of the analysis)	Description
Contextual needs	The material was adapted to the current needs of teachers
Proportional diversity	General knowledge, competence, and teacher career material was delivered proportionally
Best practice	the material tended to contain good practical learning experiences

The interviews, observations, and documentation studies show that material with these three characteristics dominates the content of learning activities in the teacher-learning community in which the respondents participate. The material presented in each learning activity shows alignment with the goals to be achieved in professional learning. In addition, it is also to the context of the problem and the needs of the participating teachers. For example, as stated by one of the respondents,

> *.... the more you come here, the more you look for updated themes, what fellow teachers need.* (R3, PS Teacher)

Another respondent explained,

> *The material delivered is up to date under the situation experienced by the teacher, under the needs of the teacher, which helps increase a teacher's competence.* (R4, H/VS Teacher)

The material or content is related to the knowledge or pedagogical practice and personal or professional development that the teacher acquires through the professional learning they participate in; for this reason, alignment between content, goals, and context is essential (AITSL, 2014). In this case, Desimone emphasized that learning material or content for teachers is the most noteworthy feature in organizing a teacher's professional learning, namely focusing on the content of the material they teach and how students learn it. This leads to increased knowledge and skills of teachers, an improvement in their teaching practices, and ultimately contributes to an increase in their students' achievement (Desimone, 2009).

The characteristics of the resource persons were dominated by resource persons from fellow teachers and several professionals and practitioners who care about education and learning. For example, expressed by one respondent,

> *So learn from fellow teachers. So all students, all teachers, do not just learn directly from the experts.* (R4, H/VS Teacher)

Also emphasized by other respondents,

> *A resource person in the community does not always come from an expert, but from someone who has practiced good practices in class. When participating in learning activities, the teacher often shares stories and experiences that can be applied in class.* (R5, PS Teacher)

The same thing was also said by other respondents,

> *The sources are from us by us, and for us, I have been a speaker too, and we are all volunteers; this is what I like, we are all united, so everyone has a sense of ownership of learning activities.* (R6, H/VS Teacher)

When the material contains good practice experiences in learning and is delivered directly by fellow teachers who have practiced these good practices, this becomes a good combination for teacher learning from community members. Thus, the characteristics of the teaching materials studied in the teacher learning community followed by the respondent and the characteristics of the source following the characteristics of the teacher (students) who incidentally are adults. This is also in line with Lindeman (1926) in his book The Meaning of Adult Education, as quoted by Knowles that adults are motivated to learn because they experience needs and interests that the learning will fulfill they will follow, and experience is the richest source for adult learning (Knowles et al., 2015). As an adult, the teacher is a pragmatic learner who tends to want to learn and is curious about something that he thinks will be useful, can be applied, and helps him in solving problems that he is currently or may be facing in his work or profession (Fogarty & Pete, 2010).

Learning objectives characteristics

Learning objectives refer to the expected learning outcomes. Thus all learning efforts are directed and deployed to achieve these goals (Degeng & Degeng, 2018). On a macro level, the characteristics of learning objectives were found in the teacher learning community participated by the respondents. Table 3 explain the themes found based on the results of the theme analysis sourced from the results of observations, interviews and searches of digital footprint documents.

Table 3. The result of the analysis learning objectives characteristics

Themes (as the result of the analysis)	Description
Sharing knowledge	Sharing the knowledge of fellow teachers
Improving competence	Improving teacher competence
Learning from fellow	Gathering and learning from fellow teachers
Discussing problems	Discussing teaching problems and their solutions

Themes (as the result of the analysis)	Description
Sharing experiences	Sharing practical experiences good at teaching
Collaboration	Collaborate to produce innovative work
Career Development	Develop self-potential and career

On a micro-scale, in each learning activity, the teacher community has specific objectives according to the topic to be conveyed by the resource person. All these learning objectives focus on improving the practical ability to teach teachers.

Textually or explicitly (both macro and micro learning objectives in the teacher learning community participated by the respondents) did not include them in their learning documents, such as on activity information fliers, teaching materials, or presentation slides of resource persons. However, implicitly this is seen in every learning activity. The interviews also confirmed that every learning activity in the teacher community has clear and firm general objectives, as described above. At a minimum, in each learning activity, three components exist in each particular objective, namely components 1) conditions or 2) degree of success, or 3) learning capability to be achieved as an example of learning activities in the AGB project class. The specific learning objectives are 1) Given examples of using Renderforest, learning participants can practice using Renderforest to make learning media well, and 2) Given examples of using Renderforest, learning participants can develop a Renderforest-based learning media well.

Thus, the content of learning activities in the project class is the presentation of material accompanied by joint practice between the resource person and the learning participants and continued with consultation and guidance until the learning participants produce products or the results of learning media works. The work results are collected and uploaded on the social media of the AGB teacher community. As explained by several members of the AGB teacher community,

> *(For project classes) we usually practice right away, so we are guided to learn from the beginning, we are presented with material and then go straight to tutorials, so when there are difficulties the members answer immediately. .... Those who want to learn will be taught until they can*. (R1, JHS Teacher)

Moreover, emphasized by other members that:

> *Then there is a project class held for one month so that material delivery can be done via the WhatsApp group, Zoom Meeting or YouTube live. There, participants receive material from resource persons; then, assignments are carried out for one month. During the one month of work, participants are invited to consult with resource persons via the WhatsApp group, usually scheduled for Tuesday and Friday.* (R2, H/VS Teacher)

The conditions in learning at AGB also occur in competency and career classes at KGBN. Most of the Sadar IGI learning classes were dominated by topics regarding ICT applications for learning when they were first established. Based on the data found in the teacher learning community participated by the

respondents, the general and specific learning objectives appear to have accommodated the learning needs of teachers. For example, expressed by one respondent:

> *The goals in KGBN are very relevant for teachers and according to the needs of teachers. The concept of independent teacher learning, humanizing relationships, differentiation, learning, change/movement, and meaning for Indonesian education.* (R5, PS Teacher)

Another respondent explained,

> *…. Through KGBN, teachers can develop learning independence for teachers, improve teacher competence so that it has an optimal impact on students, build teacher collaboration and develop various teacher career roles to always contribute to Indonesian education.* (R4, H/VS Teacher)

The preceding is in line with the objectives of teacher professional development, including 1) updating individual knowledge about various advances in the material being taught and the learning process and 2) updating individual skills and approaches to developing new teaching techniques and strategies; the latest educational discoveries and research, 3) enable individuals to implement changes made to the current curriculum or other aspects of teaching practice and 4) encourage schools to develop and implement new strategies regarding curriculum and other aspects of teacher learning practice (Abakah et al., 2022; Fernandez et al., 2022; Forde & McMahon, 2019; Li et al., 2022; Tahimash et al., 2024).

Learning barriers characteristics

Table 4 explain the themes found based on the results of the theme analysis of learning bariers sourced from the results of observations, interviews and searches of digital f ootprint documents

Table 4. The result of the analysis learning objectives characteristics

Themes (as the result of the analysis)	Description
Learning motivation	Consistency of motivation
Learning orientation	Consistency of learning orientation
Accessibility	Accessibility of internet devices and networks

However, observations of various learning activities facilitated by the teacher-learning community that the respondents participated in generally proceeded consistently without being significantly hampered by these three barriers. Only a few members still show the nature of inhibiting the community in facilitating their learning activities. For example, in Sadar IGI,

> *Because I see Indonesian teachers, especially government teachers, there are still those who are pursuing certificates rather than knowledge.* (R3 PS Teacher)

Another respondent explained,

> *Only sometimes some colleagues, especially government teachers, are oriented towards promotion, for example (orientation) certificates*. (R7, JHS Teacher)

Then in AGB,

> *Groups (WhatsApp) that go in and out a lot are (groups) 2 and 3, if (group) 4 newcomers are still enthusiastic, so they are always active. Group 1 shows a strong desire to learn. This means that there are still inconsistencies between teachers* (R1, JHS Teacher).

Alternatively, what happened at KGBN,

> *There are three barriers, one is an assignment letter, the second is related to incentives, and dependence on experts, so if experts do not talk, they do not want to come, they do not come to study, that is also a barrier that seriously* (R8, H/VS Teacher).

The low consistency of motivation and learning orientation for some teachers while participating in learning activities will potentially have a low impact on their professional learning. However, several reasons could potentially cause this. One study found that the inconsistencies of participating in an online community network were participants expecting more information, wanting more technical information, feeling uncomfortable, being reluctant to change other people's minds, lacking face-to-face connections, and being uncomfortable with the fact that the community is public, and followed by many people and various characteristics (Macià & García, 2016).

The diversity of teacher characteristics in participating in learning activities is also an obstacle to learning and potential. It becomes a barrier when there are fewer active ones. This will reduce the consistency of teacher motivation to participate in learning activities. It becomes potential when those who are always active (even in small numbers and especially in large numbers) can consistently carry out learning activities in their environment and show significant results to attract other teachers to participate in learning. Besides that, it could increase the activity of other teachers who are still passive in learning activities. In practice, and this occurs naturally in a group, the willingness of individual group members to act varies at various levels, including in the context of online teacher-learning communities.

The study conducted by Prestridge concluded that in practice, teachers' actions in the online space show four categories of engagement: 1) Info-Consumers, those who read all other people's posts; 2) Info-Networkers, those who start reading and sharing posts; 3) Self-Seeking Contributors, namely those who evolve to send or reply to posts when needed, such as getting feedback or guidance.; and 4) Vocationalists, namely those who have arrived at the post or have responded to the post contributing to community networks to build and develop their profession (Prestridge, 2018). This is also in line with the results of Trust's research, which concluded that there are four characteristics of teacher actions in the online community, namely: 1) Contemplators, those who read and think about other people's posts; 2) Curators, namely those who collect and

organize ideas and information obtained from their online activities; 3) Crowdsourcers, namely parties who take the initiative to request information from online community members; and 4) Contributors, namely those who have reached the functional level of sharing, writing or responding to other people's posts (Trust, 2017).

Conclusion

The phenomenon of professional learning among teachers through online-based teacher-learning communities is interesting, especially the specific learning conditions. This has yet to be widely studied by research on online-based teacher-learning communities by previous researchers. The results show that some management of learning conditions is required to organize professional learning for teachers through online-based teacher-learning communities. Namely: 1) learning activities are inclusive and sustainable; 2) the characteristics of the learning participants are individuals who have a high initiative to re-learn; 2) the characteristics of learning topics according to the needs and problems of teachers; 3) the characteristics of the resource persons are from the teachers themselves (fellow teachers); 4) learning objectives are focused on improving teachers' teaching practice skills; and 5) there is a mapping of learning barriers that are managed during the learning process.

The results of this research provide an important implication in the context of effective professional learning design, namely conditional elements become an essential part of forming a learning environment that follows professional learning goals and involves participants in learning. These implications are becoming increasingly significant for teacher learning, whose basis is the online-based teacher-learning community. In this learning environment, learning conditions are crucial, not only for realizing effective professional learning but also for the sustainability of the online-based teacher-learning community in facilitating the professional learning of its member teachers. Learner characteristics, materials, speakers, learning objectives, and barriers that can be appropriately managed will potentially maintain the continuity of professional teacher learning through online-based teacher-learning communities. In the Indonesian context, so many online-based teacher-learning communities have been established, but only a few have survived and maintained their continuity in facilitating teacher-professional learning.

Recommendation for managers of teacher professional development both in conventional formats and through online-based teacher-learning communities, it is crucial to pay attention to the components of learning conditions and the elements contained therein, as confirmed by the findings of this study. It is also essential for instructional designers to pay attention to this for professional learning teachers. For future researchers, many exciting things still need to be explicitly studied through quantitative and qualitative approaches, such as the influence of each element of the learning conditions on the consistency of teachers in participating in the online-based teacher learning community, then the impact on their competency and professional development.

The limitation of this research is the number of sample teacher communities that have yet to reach three teacher learning communities in Indonesia. In terms of numbers, teacher-learning communities have snowballed in Indonesia. In

addition, it is limited to qualitative data, so it has yet to comprehensively describe data on teacher learning activities through online communities. This opens up opportunities for further research to conduct research with a broader sample scale and is carried out by integrating qualitative and quantitative. For example, research related to the level of motivation, level of participation, and the impact of learning activities on teachers' performance and student achievement.

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