



Teachers' willingness to change in adapting to Online learning during the covid-19 pandemic

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ABSTRACT

This study aimed to highlight the view of educators on the teachers' willingness to change in adapting to online learning due to the Coronavirus disease 19 (COVID -19) pandemic. The sudden shifting required readiness to facilitate both synchronous and asynchronous learning interactions. The results of previous studies on the dissatisfaction with the online learning quality during the pandemic triggered this study. Teachers preferred to use task-based learning and resisted incorporating technology in the learning process. The limited literature provided a study gap investigated in the present study. Therefore, the real-time virtual focus group discussions were carried out to obtain viewpoints about teachers' willingness to change in which 31 participants, including teachers, principals, and supervisors, shared their viewpoints. Moreover, dynamic discussions were conducted through brainstorming using Mentimeter, collecting viewpoints via zoom poll, and discussion engagements in the primary and breakout rooms. Content analysis revealed three categories: willingness to learn, try, and be open. The result provided novelty essential as a new perspective and proposed possible solutions to address the problems shifting from regular to online learning in Indonesia. Finally, this study recommends future investigation of teachers' willingness to change as a new concept of professional development in establishing quality learning.

Keywords: focus group discussion, online learning, willingness to change

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INTRODUCTION

The Coronavirus disease (COVID-19) outbreak led to dramatic and quick changes in various sectors, including educational organizations, which experienced broad, sudden, and dramatic digital transformation (Lorenza & Carter, 2021). The sudden digital change happened in educational organizations (Azorín, 2020), creating chaos and shaking the education structure (Hargreaves & Fullan, 2020). In general, the change in the education service system contributed largely to school adjustment (Donohue & Miller, 2020). The school principals and teachers needed to lead sudden and unexpected digital transformations for learning to be practical and possible (Harris, 2020).

For almost two years, most schools were inactive because classroom activities were replaced with online educational platforms (König, Jäger-Biela, & Glutsch, 2020). Before the pandemic, there was a comprehensive discussion among education experts concerning online learning worldwide, though the public did not appreciate it. Online learning was easily accessible, affordable (Dhawan, 2020), and necessary during this pandemic. Most schools and teachers were forced to be creative and innovative in delivering student-centered online learning, which was more goal-oriented (Zhao, 2020; Zhao, Wehmeyer, Basham, & Hansen, 2019). The pandemic

should have inspired creativity and innovativeness to facilitate online/distance education. Consequently, teachers require professional competence and willingness to manifest creative and innovative online/distance learning. However, this became a significant problem in learning during the pandemic (Caena & Punie, 2019; Caena & Redecker, 2019; Caena & Stringher, 2020).

Online learning increased the need for teachers to be technologically competent (König et al., 2020; Kuhfeld et al., 2020; Roll & Ifenthaler, 2021). The efforts to use electronic media, various applications, and learning management systems are essential in online learning. In general, teachers are expected to learn and operate new things (Garad, Al-Ansi, & Qamari, 2021). Building an online learning system was taught in schools in the early months of the COVID-19, and teachers were promoted to use it (Meylasari & Qamari, 2017). Various asynchronous learning, such as a Learning Management System (LMS), Google, or Teams Classrooms, were promoted. Furthermore, teachers learned how to use Google Meet, Zoom Meeting, MS. Teams, and Webex to facilitate synchronous learning. However, they took longer to adapt to the new system and complained much about its difficulties. Learning was monotonous, mundane, and not engaging because teachers were taskmasters and not facilitators (Rahmatika, Yusuf, & Agung, 2021; Zimmer & Matthews, 2022).

Teachers' creativity supported active online learning in choosing and using media. Several online games, including Quizzes, Kahoot, and Mentimeter, were used to bond the class. Moreover, learning collaboration was facilitated through Spreadsheets, Google Jam Board, and Google Docs. Social media platforms, such as WhatsApp, Messenger, Telegram, Instagram, and YouTube, were used to engage students during learning (Anasi, 2018; Jomezai et al., 2021; Van Den Beemt, Thurlings, & Willems, 2020).

The spread of COVID-19 could be controlled by shifting from physical to online learning using innovative solutions (Liguori, Winkler, Zane, Muldoon, & Winkel, 2021); however, it has become a crucial problem among teachers. The challenge of unusual learning patterns forced teachers to rack their brains to change face-to-face learning into an online-based learning (Fussell & Truong, 2021; Jnr & Noel, 2021). Another challenge was enhancing the ability of teachers to utilize technology in teaching and learning activities (Bokayev, Torebekova, Davletbayeva, & Zhakypova, 2021; Churi et al., 2021; Nambiar, 2020). Many teachers were stuttering in information technology, so they could not carry out enjoyable, engaging, and challenging learning. Student and parental dissatisfaction with online learning were widespread, causing unrest (Gopal, Singh, & Aggarwal, 2021; Lemay, Bazelais, & Doleck, 2021). Many students and parents complained that online learning was not qualified because teachers only gave assignments. As a result, learning failed to involve active students. Learning became boring; moreover, the lack of interaction between teachers and students caused character building to be constrained (Firmansyah et al., 2021; Tarchi, Brante, Jokar, & Manzari, 2022).

The evaluation results of online learning in Jordan showed dissatisfaction, including the management of learning by teachers and students' psychological problems (Maqableh & Alia, 2021). A similar evaluation conducted in Indonesia showed that teacher competence in adapting to online learning was low (Herawati & Priyanto, 2021) because teachers were reluctant to change. Learning was monotonous, mundane, and not engaging because teachers were taskmasters and not facilitators (Rahmatika et al, 2021; Zimmer & Matthews, 2022). The willingness of teachers to adopt technology was a significant area to explore and study. The willingness of teachers to use technology in the best way was a must so that teachers could carry out quality learning. Therefore, the willingness to accept change and adopt technology is a fundamental behavior to explore (Scherer, Howard, Tondeur, & Siddiq, 2021; Sharma & Srivastava, 2019; Zeid, Assadi, & Murad, 2017). Willingness and quick adaptation to changes by teachers result in sustainable and quality learning (Wang, Tang, Shen, Wang, & Lo, 2021; Yang et al., 2020; Zhang, Chen, & Wang, 2020). Teacher behavior in the form of a willingness to change in the face of shifting learning patterns from offline to online is an important thing to investigate.

This study investigates the determinants of the teacher's willingness to change in adapting learning changes from regular to online. This study explores the educators' views concerning the emergent predictors of teachers' willingness to change during educational transformation. This

study provides solutions to improve teacher professional development by increasing the willingness to adapt to online learning to create quality learning. Thus, by understanding the predictors of teachers' willingness to change, educational institutions can assist teachers in accomplishing their professional duty efficiently by incorporating technology into the learning process.

METHOD

Design

This study used focus group discussion through an online setting to identify and explore the viewpoints of the educational practitioners about teachers' willingness to change (Gunawan, Suranti, & Fathoroni, 2020; Lauri, 2019). The real-time focus group discussion used online environments, including zoom meetings with the main room, breakout, chat rooms, google forms, and other online platforms. It was considered the best and safest way during the COVID-19 pandemic. Moreover, this method was comfortable, with all the participants sharing a virtual room (Sweet, 2001).

The real-time virtual focus group discussion in this study was conducted chronologically as the previous researchers did (Guest, Namey, & McKenna, 2017; Tracy, 2019). To get the good discussion results, 31 respondents were recruited precisely, including several elements: teachers, school principals, and school supervisors. All the participants were appointed to obtain a clear pattern (Guest et al., 2017). The participants were divided into five groups, including 1) Group A: 7 teachers, 2) Group B: 6 teachers, 3) Group C: 6 teachers, 4) Group D: 5 school principals, and 5) Group E: 7 supervisors. After identifying the study objectives, questions were arranged to guide the discussion. Appointment with a facilitator, observers, a zoom host, and a secretary was carried out in good coordination so that the focus group discussion runs well design.

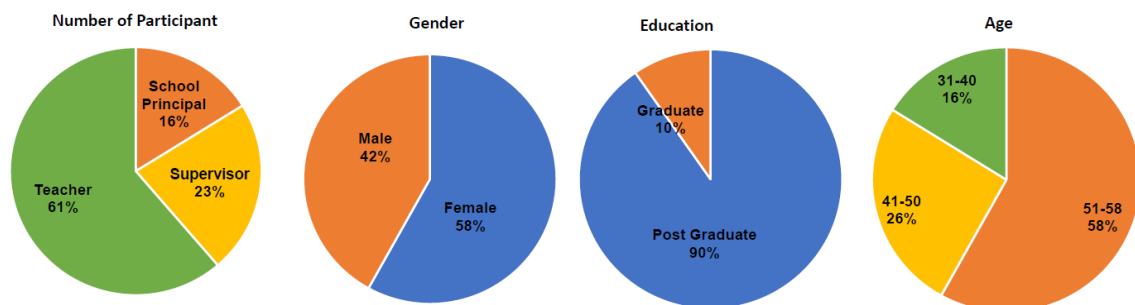


Figure 1. Participants Profile

The facilitators, observers, and respondents were invited electronically two weeks before the focus group discussion conducted. Electronic questionnaires were distributed to verify the participants met the requirement. The invitation mentioned the date, time, zoom meeting address, username, and password. Respondents were also asked to sign an agreement to attend and a statement that they had the necessary technological equipment and the availability of internet access. If there were problems, respondents were asked to contact the technical team who are ready to help. Moreover, communication was built using WhatsApp to allocate written material from the facilitator and announce the agenda. The real-time focus group discussions were held on Wednesday, 10 March 2021, from 08.00 - 11.30 am.

The discussions during the zoom meeting were divided into three sessions: the first plenary session, the breakout room, and the second plenary session. Mentimeter and zoom poll were used to liven the discussion atmosphere and collect responses before the main discussion to enlighten, engage, and interact with all participants. Specifically, Mentimeter was used to ensure everyone followed and participated evenly in online meetings (Iona, 2018; Moorhouse & Kohnke, 2020; Valley & Gibson, 2018). These applications were widely utilized in simple online surveys during learning or training. Direct exploration of participants' opinions led to an interactive presentation. The participants could engage in fun and interactive brainstorming using Mentimeter because it

was easily accessible and effective in presentation and helped begin a fun focus group discussion (Iona, 2018). The steps of the focus group discussion in this study are visualized in Figure 2.

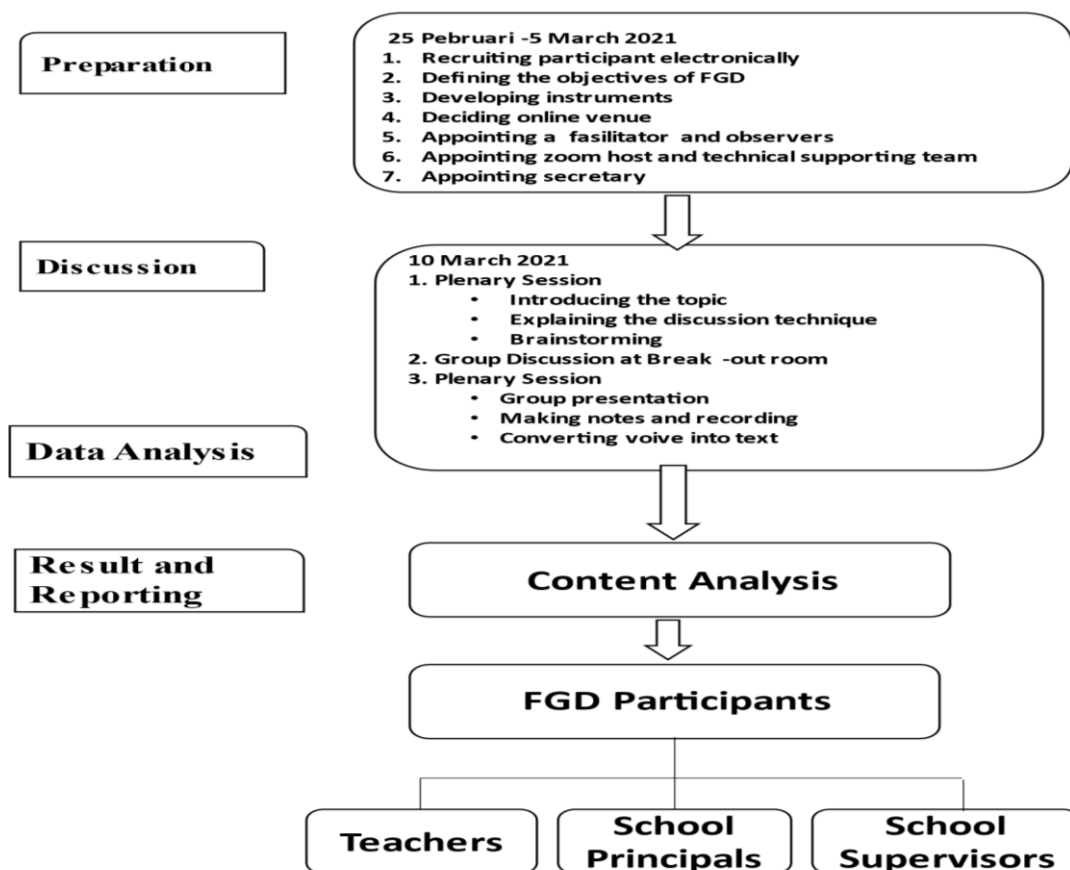


Figure 2. The Steps of the Online Focus Discussion

The Yogyakarta High School Supervisory coordinator as the facilitator, led the discussion. The facilitator presented brief, explicit, and exciting materials concerning the digital learning transformation during the COVID-19 pandemic to open the participant’s view about the discussion topic. Furthermore, the facilitator clearly explained the discussion guide. The facilitator elaborated on each step and what the participants should discuss with time limitations before joining the breakout room meeting. The discussion was conducted in the breakout zoom room before presenting the debate results in the main session. Each room was monitored by one selected observer. The facilitator also encouraged the participant to send an instant message in a chat room within the meeting to make the discussion more effective.

The data were collected from the online entries, written responses, and virtual discussions. Moreover, the support teams recorded the discussion in the primary and small rooms. After the recording was finished, it was converted into text using Voice Typing and Google Docs. The internet, valuable and straightforward technology tools were used to recognize the voices and convert them into Google Docs text using the Indonesian language. Furthermore, the data were analyzed using qualitative content analysis (Lauri, 2019). The analysis is aimed at systematically, credibly, and replicable text classification and other forms of communication (Drisko & Maschi, 2016). The data were carefully immersed upon text identification to determine a significant clue. The units were extracted into understandable words or concepts using a condensed meaning unit process (Graneheim, Lindgren, & Lundman, 2017). Afterward, they were coded and labeled to form subcategories and categories, an expression of the manifest content of the data. Grouping was also conducted to create “subcategories” and “categories.” The data corresponding to a specific ‘category’ was constructed or divided into subcategories in the part of this paper.

FINDING AND DISCUSSION

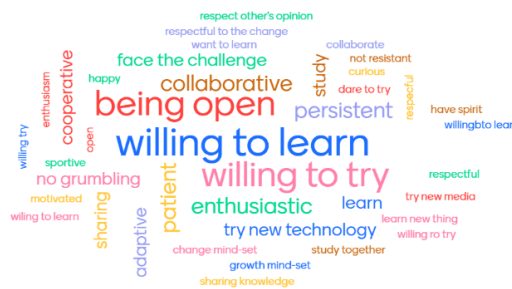
Finding

The discussion started with a prompt question: “What are the indication of teacher’s willingness to change in adapting transformation during the COVID-19?” using “Mentimeter” through the link <https://www.mentimeter.com/app> with the voting code 3135564. The participants directly answered these leading questions on handphones, and the result was instantly downloaded and displayed in the forum. Afterward, the polling result was visualized using the “Word Cloud” feature to present deep opinion polls, while short answers were used to respond to surveys.

Go to www.menti.com and use the code 31 35 56 4

The indications of a teachers' willingness to change in adapting education transformation due to the COVID-19 pandemic.

Mentimeter



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Figure 3. The Result of Mentimetre Polling about Indication of Teachers’ Willingness to Change

Figure 3 shows the participants’ results concerning the teachers’ willingness to change. There were 77% or 87% responses from the participants, though four failed due to technical problems. The word cloud stated three main aspects of the willingness to change, including openness, learning, and trying. Additionally, using Mentimeter, the zoom polling held confirmations to obtain the objective perception. Eight indications, including enthusiastic, cooperative, respectful to the change, persistent, no grumbling, open, and willing to try and learn, were discovered from the previous polling.

Table 1. The result of zoom pollings’ about teachers’ willingness to change

Categories	Participants	Frequency	Percentage
Willing to learn	31	24	77,42
Willing to try	31	20	64,52
Being open	31	19	61,29
No grumbling	31	7	22,58
Persistent	31	7	22,58
Respectful to the change	31	6	19,25
Cooperative	31	6	19,35
Enthusiastic	31	4	12,90

Table 1 shows the result of zoom polling in line with the Mentimeter polling. The responses to polling reduced many categories into three, including willingness to "learn" (77,42%), "try" (64,52%), and "be open" (61,29%) of participants. Three questions for discussion were generated to explore the teacher’s willingness to change. They included: 1) how teachers need to learn to deal with changes during the COVID-19 pandemic, 2) the areas teachers need to try adapting to

changes, and 3) the indications of teachers' openness in facing changes during the COVID-19 pandemic?

In what areas should teachers try to adapt to the changes during the COVID-19 pandemic?

The discussion resulted in two categories and codes. This question was built based on the result of zoom polling, indicating 64,52% of participants argued that teachers must try various strategies and media to adapt to online learning. Various information technology in learning activities was the first category of practitioners' view about teachers' need to deal with changes during the COVID-19 pandemic. Distance class management was the second category with its challenges. For instance, teachers encounter difficulties managing, assessing, and learning technology during distance learning. They have made changes using classroom management, conducting assessments, and utilizing technology in learning.

According to the school principals, teachers need to master pedagogy and technology to manage a class. They should try new teaching patterns with new models and media using technology in learning. Essentially, they need to improve their technology and class management competence during online learning. Effective communications positively affect the success and management of a class. If a teacher is technologically competent and manages the class, better results will be attained.

A group of teachers acknowledged how difficult managing an online class was. However, these difficulties can be avoided by mastering the latest learning technology. Implementing new technologies in education helps teachers cope with classroom management challenges. Furthermore, students' competence in technology is outstanding compared to the teachers, though there is a need for improvement

What are the indications of teachers' openness in facing changes during the COVID-19 pandemic?

This question was based on the result of zoom polling, with 61,29% of participants arguing that teachers should be open to change. Three categories contribute to the openness attitude to face change during the COVID-19 pandemic, including awareness, enthusiasm, and openness. These categories were extracted by analyzing the content of video record transcription.

Being open to change was intensely analyzed, and teachers acknowledged the need for adjustments in condition. They should recognize the importance of making learning changes, the risks of being resistant, and that the changes made are beneficial for both teachers and students. The principals thought, discussed, and emphasized that teachers need openness and make changes with enthusiasm and willingness to support school policies while facing challenges during online learning.

The participants were actively involved in an online discussion by responding to all questions, conducting small groups enthusiastically, finishing group discussions, and presenting in large groups. The results showed that many participants emphasized the importance of teachers' willingness to change during the COVID-19 pandemic. Some teachers were pessimistic about dealing with the COVID-19 pandemic because they voiced their discomfort without making changes. However, the optimistic teachers knew the importance of change and ensured learning continued by making changes.

The facilitator stated that a self-intentioned change characterized teachers' willingness to change (TWC). The desire to support and shift policies programmed by schools to overcome learning problems due to the COVID-19 pandemic was created through the process. The steps of change at the personal level included the willingness to learn, try, and openness (Figure 4).

Discussion

Willingness to Learn

Accessing various learning resources

The This section discusses developing the knowledge gained by teachers from various learning sources, information, training, technical guidance, or scientific forums. The focus group

discussion showed the need for teachers to learn about the facilities and infrastructure inside and outside the school as media and learning resources that positively impact competence.

The era of learning freedom and the COVID-19 pandemic make teachers ready to leap to transform online learning for all students. New insight was initiated to build creativity and improve self-quality by changing technology's systems, perspectives, and patterns. Furthermore, the participation in valuable webinars enabled teachers to access various learning resources and information needed for change. The focus group discussion participants suggested that teachers attend training/workshops organized internally and externally by the school. They conducted discussions and collaborated with colleagues to adopt change.

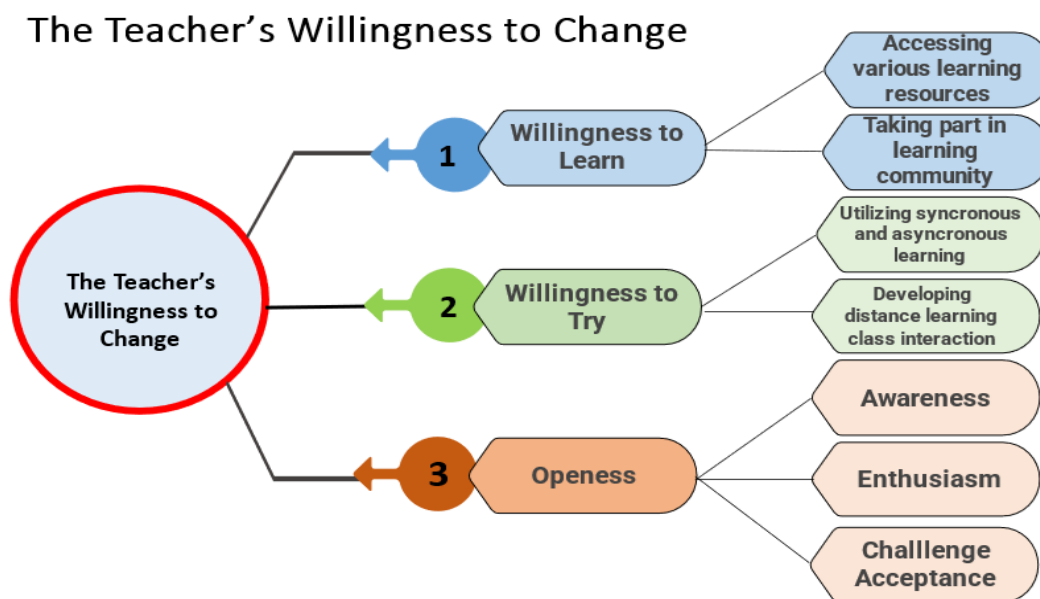


Figure 4. Infographics of Teachers' Willingness to Change (Developed by Researchers)

Taking part in learning community

Teachers who were willing to change participated in the learning community internally and externally. The teacher opened a positive discussion and collaboration space through the learning community to enhance competence and be part of the learning change ecosystem internally and externally.

Change occurs through interaction with activities and facilitators. The theory is known as social capital, commonly used in the economic sector to describe something that adds value to an organization. In school settings, social capital entails the teacher's networking, information sources, collaboration, and sharing of ideas. Current reform efforts focus on improving teachers' human capital by covering the skills and abilities of individual people (Tjahjono, Fachrunnisa, & Palupi, 2019). Human capital includes the tenure of the teacher, knowledge of pedagogical content and strategies, and level of education (Rogošić & Baranović, 2016). Teachers' social capital differs from one another. The human capital perspective states that teachers have adequate social capital because they are better trained, more talented, or experienced, whereas the social capital perspective argues that teachers' connections and interactions with other teachers can improve their competence. Therefore, the Indonesian government promotes and provides opportunities for teachers to improve their professional competence through training, writing scientific papers, and joining the teacher professional community.

During independent learning, revitalization of teachers' guidance using various programs involved using a collaboration of activities. The government emphasized in this program the need to improve professional competence. Teachers can share experiences, provide mutual assistance, broaden colleagues' insight and knowledge in various matters, specifically mastery of concepts, utilize learning resources, increase knowledge and skills, and adopt a renewal approach in more

professional learning. Furthermore, their social development can be undertaken by collaborating to solve learning problems in scientific writing.

Willingness to Try

Utilizing synchronous and asynchronous learning

The focus group discussion confirmed the urgency of willingness to try, which is the realization of the act of making changes. Ability is the embodiment of knowledge application in the form of real action. A person or group can make changes to the level of performance. Therefore, teachers should apply the knowledge gained from various learning resources and try multiple modes within and outside the network. Adjusting conditions (synchronous and asynchronous) helps teachers conduct learning and assessment.

During the COVID-19 pandemic, teachers need to apply blended learning (a combination of both synchronous and asynchronous). Changes in learning have led to a change in school regular activities. Teachers should change according to the students' needs and maintain the changes during the COVID-19 pandemic. They should be ready to change from past experiences and adapt to new changes. These viewpoints are in line with the argument that teachers should commit in implementing the new ways of teaching as needed by students (Siri, Supartha, Sukaatmadja, & Rahyuda, 2020).

Developing distance class interaction

All focus group discussion participants have admitted that distance learning offers many classroom obstacles. Students' inactive engagement and difficulties in class management by the teachers result from student indiscipline, absenteeism, and inactivity. Teachers' should improve the central role in controlling the class and actively involve students to overcome this. The distance class should facilitate students' learning, but this does not mean eliminating the teacher's role.

The results recommend the importance of teachers trying various effective communication strategies through technology. Effective communication will help students be lively and actively involved in learning, while surveyor games will spice up the teaching and learning activity. For instance, teachers use a Mentimeter, Slido, Quizzes, and Google Jamboard at the beginning, middle, or end of the lesson.

To create active and fun learning, teachers should effectively involve students by promoting and facilitating them to answer in writing/oral, do assignments/practice/discussion using media, and give feedback on their work/answers in writing. Students should also be promoted to share the results of their work/answers orally. This is challenging during distance learning, making it necessary to enhance teachers' competency in managing online classes.

Being Open

Openness raised three indicators: awareness of the conditions caused by COVID-19, enthusiasm, and accepting change as a challenge.

Awareness

The focus group discussion participants were convinced that making any changes can be quickly made by raising self-awareness with several questions, including i) Why the teacher's change is necessary, ii) Why education change occurs, and iii) the risks in case teachers resist change. Teachers with good self-awareness to drive change can respond to these three questions. In general, awareness is a person's perception of existing conditions, problems, and efforts to solve the issue (Balluck, Asturi, & Brockman, 2020; Hiatt, 2006; Karambelkar & Bhattacharya, 2017).

Self-awareness is the main factor that drives personal change and forms an understanding that leads to appropriate changes. Changing awareness begins with an individual while dealing with a difficult situation during the pandemic and can be jointly conducted by all organization members.

Enthusiasm

The focus group discussion participants emphasized that teacher enthusiasm is essential in dealing with change. This quality is essential in making changes to become an effective teacher

during the pandemic. The teachers are willing to change and practice a teaching style that is motivating, energetic, passionate, and dynamic. Additionally, enthusiastic teachers promote the active participation of students during learning. Students quickly become willing to learn and develop characters when the teacher is enthusiastic. This view is in line with the previous research that teachers who are not willing to change lack enthusiasm, resulting in boredom (Dicke, Elling, Schmeck, & Leutner, 2015), lack of apathy, and anger. They instead respond to change by complaining and voicing concerns.

Challenge acceptance

The development of technological competence has made the roles and responsibilities of teachers increasingly complex. Learning during the pandemic requires students always to make various improvements and adjustments to their competence mastery. Moreover, students and teachers in distance learning need to develop a dynamic and creative learning process. Teachers need to facilitate students to access various sources and improve their professionalism. Generally, the lack of professionalism improvement leads to mistrust from students, parents, and the community. Teachers have to think anticipatively and proactively and continuously update their knowledge to overcome challenges.

This finding was supported by Zeid et al. (2017), that investigated the willingness to change the diversity of teaching methods. This research concluded that teachers required the willingness to adapt learning to a new curriculum and implement various learning models. In a business organization, Hiatt (2006) introduced the determinants of willingness to change by emphasizing a sequent process, from awareness, desire, knowledge, ability, and reinforcement. Compared to the two studies, the findings in this study are more straightforward so that they are easier to implement in teacher professional development.

CONCLUSION

This study examined educators' views about the emergent predictors of teachers' willingness to adapt to online learning due to the COVID-19 pandemic. The results showed three categories, including the willingness to 1) learn, 2) try, and 3) be open to any changes in learning from regular to distance learning. Furthermore, the teacher's willingness to learn was determined by assessing various learning resources and participating in a learning community. The willingness to try was demonstrated by utilizing synchronous and asynchronous learning and developing distance class interaction, while openness was marked by awareness, enthusiasm, and challenge acceptance.

These findings are unique because the willingness to change is usually discussed in business organizations. Teachers should be willing to change as an individual unit to support the success of online learning. Furthermore, they need to understand the meaning of change, its importance, and the risks involved in case they resist change. Teachers' knowledge and skills application support changes in performance levels. By utilizing the research results related to predictors of teachers' willingness to change, it is recommended that educational institutions carry out change management for teachers through communication, coaching, mentoring, and training. Thus, the problem of teacher resistance to change can be eliminated, and teachers enhance their willingness to learn, try, and be open in the effort to improve their profession. As a result, teachers are expected to be able to create exciting learning, involve students actively, contextually, according to the times, and accommodate the needs of students.

This study involved a small number of teachers, school principals, school supervisors, and academic representatives. However, the findings can be used as a trigger for further studies by involving more respondents, a more comprehensive scope, and different methods for the results to be more beneficial. This study also created new challenges for further studies in uncovering essential.

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REFERENCES

- Anasi, S. N. (2018). Influence of gender on attitude towards the use of social media for continuing professional development among academic librarians in Nigeria. *Information and Learning Science*, 119(3/4), 226-240. <https://doi.org/10.1108/ILS-11-2017-0114>
- Azorín, C. (2020). Beyond COVID-19 supernova. Is another education coming? *Journal of Professional Capital and Community*. <https://doi.org/10.1108/JPCC-05-2020-0019>
- Balluck, J., Asturi, E., & Brockman, V. (2020). Use of the ADKAR® and CLARC® change models to navigate staffing model changes during the COVID-19 pandemic. *Nurse Leader*, 18(6), 539-546. <https://doi.org/10.1016/j.mnl.2020.08.006>
- Bokayev, B., Torebekova, Z., Davletbayeva, Z., & Zhakypova, F. (2021). Distance learning in Kazakhstan: estimating parents' satisfaction of educational quality during the coronavirus. *Technology, Pedagogy and Education*, 30(1), 27-39. <https://doi.org/10.1080/1475939X.2020.1865192>
- Caena, F., & Punie, Y. (2019). *Developing a European Framework for the Personal, Social & Learning to Learn Key Competence (LifEComp)*. Literature Review & Analysis of Frameworks. Luxembourg: Publications Office of the European Union. <https://data.europa.eu/doi/10.2760/172528>
- Caena, F., & Redecker, C. (2019). Aligning teacher competence frameworks to 21st-century challenges: The case for the European Digital Competence Framework for Educators (Digcompedu). *European Journal of Education*, 54(3), 356-369. <https://doi.org/10.1111/ejed.12345>
- Caena, F., & Stringher, C. (2020). Towards a new conceptualization of Learning to Learn. *Aula Abierta*, 49(3), 199-216. <https://doi.org/10.17811/rifie.49.3.2020.199-216>
- Churi, P., Mistry, K., Asad, M. M., Dhiman, G., Soni, M., & Kose, U. (2021). Online learning in COVID-19 pandemic: an empirical study of Indian and Turkish higher education institutions. *World Journal of Engineering*. <https://doi.org/10.1108/WJE-12-2020-0631>
- Dhawan, S. (2020). Online learning: A panacea in the time of COVID-19 crisis. *Journal of Educational Technology Systems*, 49(1), 5-22. <https://doi.org/10.1177/0047239520934018>
- Dicke, T., Elling, J., Schmeck, A., & Leutner, D. (2015). Reducing reality shock: The effects of classroom management skills training on beginning teachers. *Teaching And Teacher Education*, 48, 1-12. <https://doi.org/10.1016/j.tate.2015.01.013>
- Donohue, J. M., & Miller, E. (2020). COVID-19 and school closures. *Jama*, 324(9), 845-847. <https://doi.org/10.1001/jama.2020.13092>
- Drisko, J. W., & Maschi, T. (2016). Content analysis: Pocket Guides to Social Work R.
- Firmansyah, R., Putri, D., Wicaksono, M., Putri, S., Widiyanto, A., & Palil, M. (2021). Educational Transformation: An Evaluation of Online Learning Due to COVID-19. *International Journal of Emerging Technologies in Learning (IJET)*, 16(7), 61-76. <https://doi.org/10.3991/ijet.v16i07.21201>
- Fussell, S. G., & Truong, D. (2021). Using virtual reality for dynamic learning: an extended technology acceptance model. *Virtual Reality*, 1-19. <https://doi.org/10.1007/s10055-021-00554-x>
- Garad, A., Al-Ansi, A. M., & Qamari, I. N. (2021). The role of e-learning infrastructure and cognitive competence in distance learning effectiveness during the covid-19 pandemic. *Jurnal Cakrawala Pendidikan*, 40(1), 81-91. <https://doi.org/10.21831/cp.v40i1.33474>
- Gopal, R., Singh, V., & Aggarwal, A. (2021). Impact of online classes on the satisfaction and performance of students during the pandemic period of COVID 19. *Education and Information Technologies*, 26(6), 6923-6947. <https://doi.org/10.1007/s10639-021-10523-1>
- Graneheim, U. H., Lindgren, B.-M., & Lundman, B. (2017). Methodological challenges in qualitative content analysis: A discussion paper. *Nurse Education Today*, 56, 29-34. <https://doi.org/10.1016/j.nedt.2017.06.002>

- Guest, G., Namey, E., & McKenna, K. (2017). How many focus groups are enough? Building an evidence base for nonprobability sample sizes. *Field Methods*, 29(1), 3-22. <https://doi.org/10.1177%2F1525822X16639015>
- Gunawan, G., Suranti, N. M. Y., & Fathoroni, F. (2020). Variations of models and learning platforms for prospective teachers during the COVID-19 pandemic period. *Indonesian Journal of Teacher Education*, 1(2), 61-70. <http://orcid.org/0000-0001-8546-0150>
- Hargreaves, A., & Fullan, M. (2020). Professional capital after the pandemic: revisiting and revising classic understandings of teachers' work. *Journal of Professional Capital and Community*. <https://doi.org/10.1108/JPCC-06-2020-0039>
- Harris, A. (2020). COVID-19—school leadership in crisis? *Journal of Professional Capital and Community*. <https://doi.org/10.1108/JPCC-06-2020-0045>
- Herawati, R., & Priyanto, A. (2021). Implementasi Pembelajaran Online Selama Covid-19: Studi Evaluasi Di Sekolah Binaan Terpilih (The Implementation of Online Learning during the COVID-19: Evaluation Study at Selected Supervised School). *JSH: Journal of Sport and Health*, 2(2), 26-34. <https://doi.org/10.26486/jsh.v2i2.2020>
- Hiatt, J. (2006). *ADKAR: a model for change in business, government, and our community*: Prosci.
- Iona, J. (2018). *Mentimeter*. *The School Librarian*, 66(3), 153-153.
- Jnr, B. A., & Noel, S. (2021). Examining the adoption of emergency remote teaching and virtual learning during and after COVID-19 pandemic. *International Journal of Educational Management*. <https://doi.org/10.1108/IJEM-08-2020-0370>
- Jogeza, N. A., Baloch, F. A., Jaffar, M., Shah, T., Khilji, G. K., & Bashir, S. (2021). Teachers' attitudes towards social media (SM) use in online learning amid the COVID-19 pandemic: the effects of SM use by teachers and religious scholars during physical distancing. *Heliyon*, 7(4), e06781. <https://doi.org/10.1016/j.heliyon.2021.e06781>
- Karambelkar, M., & Bhattacharya, S. (2017). Onboarding is a change: applying change management model ADKAR to onboarding. *Human Resource Management International Digest*. <https://doi.org/10.1108/HRMID-04-2017-0073>
- König, J., Jäger-Biela, D. J., & Glutsch, N. (2020). Adapting to online teaching during COVID-19 school closure: teacher education and teacher competence effects among early career teachers in Germany. *European Journal of Teacher Education*, 43(4), 608-622. <https://doi.org/10.1080/02619768.2020.1809650>
- Kuhfeld, M., Soland, J., Tarasawa, B., Johnson, A., Ruzek, E., & Liu, J. (2020). Projecting the potential impact of COVID-19 school closures on academic achievement. *Educational Researcher*, 49(8), 549-565. <https://doi.org/10.3102%2F0013189X20965918>
- Lauri, M. A. (2019). WASP (Write a Scientific Paper): Collecting qualitative data using focus groups. *Early Human Development*, 133, 65-68. <https://doi.org/10.1016/j.earlhumdev.2019.03.015>
- Lemay, D. J., Bazalais, P., & Doleck, T. (2021). Transition to online learning during the COVID-19 pandemic. *Computers in Human Behavior Reports*, 4, 100130. <https://doi.org/10.1016/j.chbr.2021.100130>
- Liguori, E. W., Winkler, C., Zane, L. J., Muldoon, J., & Winkel, D. (2021). COVID-19 and necessity-based online entrepreneurship education at US community colleges. *Journal of Small Business and Enterprise Development*. <https://doi.org/10.1108/JSBED-09-2020-0340>
- Lorenza, L., & Carter, D. (2021). Emergency online teaching during COVID-19: A case study of Australian tertiary students in teacher education and creative arts. *International Journal of Educational Research Open*, 2-2, 100057. doi: <https://doi.org/10.1016/j.ijedro.2021.100057>
- Maqableh, M., & Alia, M. (2021). Evaluation online learning of undergraduate students under lockdown amidst COVID-19 Pandemic: The online learning experience and students' satisfaction. *Children and Youth Services Review*, 128, 106160. <https://doi.org/10.1016/j.childyouth.2021.106160>

- Meylasari, U. S., & Qamari, I. N. (2017). Faktor-faktor yang mempengaruhi knowledge sharing dalam implementasi e learning [The factors influencing knowlwege sharing and e-learning implementation]. *Jurnal Manajemen Bisnis*, 8(2), 238-263.
- Moorhouse, B. L., & Kohnke, L. (2020). Using Mentimeter to elicit student responses in the EAP/ESP classroom. *RELC Journal*, 51(1), 198-204. <https://doi.org/10.1177%2F0033688219890350>
- Nambiar, D. (2020). The impact of online learning during COVID-19: students' and teachers' perspective. *The International Journal of Indian Psychology*, 8(2), 783-793. <https://doi.org/10.25215/0802.094>
- Rahmatika, R., Yusuf, M., & Agung, L. (2021). The Effectiveness of Youtube as an Online Learning Media. *Journal of Education Technology*, 5(1), 152-158. doi: <https://doi.org/10.23887/jet.v5i1.33628>
- Rogošić, S., & Baranović, B. (2016). Social capital and educational achievements: Coleman vs. Bourdieu. *Center for Educational Policy Studies Journal*, 6(2), 81-100. doi: <https://doi.org/10.26529/cepsj.89>
- Roll, M. J., & Ifenthaler, D. (2021). Multidisciplinary digital competencies of pre-service vocational teachers. *Empirical Research in Vocational Education and Training*, 13(1), 1-25. doi: <https://doi.org/10.1186/s40461-021-00112-4>
- Scherer, R., Howard, S. K., Tondeur, J., & Siddiq, F. (2021). Profiling teachers' readiness for online teaching and learning in higher education: Who's ready? *Computers in Human Behavior*, 118, 106675. doi: <https://doi.org/10.1016/j.chb.2020.106675>
- Sharma, L., & Srivastava, M. (2019). Teachers' motivation to adopt technology in higher education. *Journal of Applied Research in Higher Education*. <https://doi.org/10.1108/JARHE-07-2018-0156>
- Siri, A., Supartha, I. W. G., Sukaatmadja, I., & Rahyuda, A. G. (2020). Does teacher competence and commitment improve teacher's professionalism. *Cogent Business & Management*, 7(1), 1781993. <https://doi.org/10.1080/23311975.2020.1781993>
- Sweet, C. (2001). Designing and conducting virtual focus groups. *Qualitative Market Research: An International Journal*, 4(3), 130-135. <https://doi.org/10.1108/13522750110393035>
- Tarchi, C., Brante, E. W., Jokar, M., & Manzari, E. (2022). Pre-service teachers' conceptions of online learning in emergency distance education: How is it defined and what self-regulated learning skills are associated with it? *Teaching And Teacher Education*, 113, 103669. <https://doi.org/10.1016/j.tate.2022.103669>
- Tjahjono, H. K., Fachrunnisa, O., & Palupi, M. (2019). Configuration of organisational justice and social capital: their impact on satisfaction and commitment. *International Journal of Business Excellence*, 17(3), 336-360. <https://doi.org/10.1504/IJBEX.2019.097957>
- Tracy, S. J. (2019). *Qualitative research methods: Collecting evidence, crafting analysis, communicating impact*: John Wiley & Sons.
- Vallely, K., & Gibson, P. (2018). Engaging students on their devices with Mentimeter. *Compass: Journal of Learning and Teaching*, 11(2), 1-6. <https://doi.org/10.21100/compass.v11i2.843>
- Van Den Beemt, A., Thurlings, M., & Willems, M. (2020). Towards an understanding of social media use in the classroom: a literature review. *Technology, Pedagogy and Education*, 29(1), 35-55. <https://doi.org/10.1080/1475939X.2019.1695657>
- Zeid, H. A., Assadi, N., & Murad, T. (2017). The effect of junior high school teachers' motivation and willingness to change on the diversity of their teaching methods. *Theory and Practice in Language Studies*, 7(12), 1160-1170. <https://doi.org/10.17507/tpls.0712.02>
- Zhao, Y. (2020). COVID-19 as a Catalyst for Educational Change. *Prospects*, 49(1), 29-33. <https://doi.org/10.1007/s11125-020-09477-y>
- Zhao, Y., Wehmeyer, M., Basham, J., & Hansen, D. (2019). Tackling the wicked problem of measuring what matters: Framing the questions. *ECNU Review of Education*, 2(3), 262-278. <https://doi.org/10.1177%2F2096531119878965>
- Zimmer, W. K., & Matthews, S. D. (2022). A virtual coaching model of professional development to increase teachers' digital learning competencies. *Teaching And Teacher Education*, 109, 103544. <https://doi.org/10.1016/j.tate.2021.103544>