

The Use of Meaningful Learning in Distance Learning

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Abstract

This article aims to evaluate meaningful learning strategies in distance education. The application of meaningful learning is the emphasis of this class action research project with 32 respondents from class XI, in the application of meaningful Education using the principles of an advance organizer, progressive differentiation, integrative reconciliation, and consolidation in each learning activity. This study is classroom action research (CAR) conducted in two cycles. Data collection consisted of two research cycles: student activity data and student learning outcomes data. Student activity data was collected using observation sheets, while student achievement data was collected using the test method in each cycle. The criteria for grouping activities in each learning cycle use the ideal average and standard deviation. Sources of data include observations, questionnaires, and documentation for learning outcomes. The finding showed that meaningful learning model activities effectively increased student learning motivation. This can be seen from the increase in the average score of students on the test results; 67,15 in cycle 1 and 77,04 in cycle 2. The increase was also seen based on the results of the observations, which showed positive responses from students. From the results of the questionnaire, it is known that the average student perception score is 32.281 or 96%. This means that students positively respond to this learning model's application.

Keywords:

Meaningful Learning, Learning Model, Distance Education

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INTRODUCTION

Recently, an unexpected health catastrophe hit the educational system (i.e., the pandemic of Covid-19). In 2020 On March 11, Director-General of WHO Tedros Ghebreyesus officially proclaimed Coronavirus, commonly called COVID-19, pandemic. Based on the fact that it has expanded to more than 100 different nations worldwide. As of April 20, 2020, there were 2.44 million cases estimated worldwide, with 165,000 fatalities ((CSSE), 2020). More than 900 million students across all educational levels, including those in higher Education, have been impacted (Nicola et al., 2020; UNESCO, 2020). This pandemic asserts the Indonesian government to cancel national exams, temporarily close schools, stop learning activities in class and maintain rigid physical distancing. The circular letter addresses online Education and home-based employment (Covid-19). This circular letter encourages online Education so that teachers and students can collaborate, teach, and lecture from the convenience of their homes using video conferencing, digital documents, and other online services. The education sector has undergone a



digital revolution resulting from this event, which has put pressure on its capacity for a swift and efficient response.

Schools adopt applicable technology, set up learning and resource materials, build infrastructure and systems, implement new teaching procedures, and modify curricula. However, only a few schools successfully made this transition smoothly, while many others struggled (Pham & Nguyen, 2020), especially those from less developed countries with poor infrastructure (Simbulan, 2020). Schools and classrooms must adapt to online learning entirely while the global world tries to stop the lethal sickness from spreading. Due to movement limitations and health rules, this scenario may make obstacles associated with online learning worse (Gonzalez et al., 2020; Kapasia et al., 2020).

This distance education is the first time to be held simultaneously throughout Indonesia. It also forces every subject to be delivered online, including Civic Education. Based on the objectives to be achieved, civic Education contains several dimensions, such as knowledge, values, skills, and students' active participation (Kemendikbud, 2013). With these limitations, what is most important for students is how meaningful online learning experiences are.

MA ANNIDA has implemented an online learning environment since March 2020. Online learning allows students to learn outdoors and receive and send information over a wireless network. According to several studies, teachers may provide teaching interactively, share materials without hiccups (Elaish et al., 2019), and encourage teamwork and student participation (Garcia et al., 2018); student evaluations are acceptable sources of learning quality. There is a connection between student happiness and instructional efficacy (Theall & Franklin, 2001). Within a meaningful learning paradigm, Jonassen examines teachers' experiences with Distance learning through online learning (Jonassen, 1995).

Online learning transmits synchronous and asynchronous educational programs through the internet and other technical technologies (Huang, 2019; Usher & Barak, 2020). Asynchronous online learning occurs with no set schedule and requires no real-time interaction between teachers and students (V. Singh & Thurman, 2019). Facing learning needs regarding the Covid-19 pandemic, online distance education is the answer to dealing with pandemic conditions. However, there are several fundamental issues with migrating to these new learning environments connected to pedagogical regulations, logistics (Varea & González-Calvo, 2020), socioeconomic concerns (Donitsa-Schmidt & Ramot, 2020), technology, and psychosocial factors (Khalil et al., 2020).

Several studies have looked at online learning that focused on students' mental health (Copeland et al., 2021; Fawaz et al., 2022) and virtual learning environments (Almaiah et al., 2020; Hew et al., 2020; Tang et al., 2020), studying at the house (Suryaman et al., 2020), conscience (Carter et al., 2020), and the student's overall learning achievements (Adarkwah, 2021; Day et al., 2021; Khalil et al., 2020; K. Singh et al., 2020).

Some academic communities have long acknowledged the value of online learning (Barrot, 2019, 2020, 2021; Cavanaugh et al., 2009; Kebritchi et al., 2017; Tallent-Runnels et al., 2006; Wallace, 2003); however, they claim that additional research is needed to demonstrate the difficulties associated with achieving continuous online learning (Boelens et al., 2017; Rasheed et al., 2020).

The system of Education in Indonesia currently uses the 2013 curriculum. Likewise, MA ANNIDA, since 2018, has implemented the 2013 curriculum, where the implementation of K13 refers to the meaningful learning paradigm (constructivist).

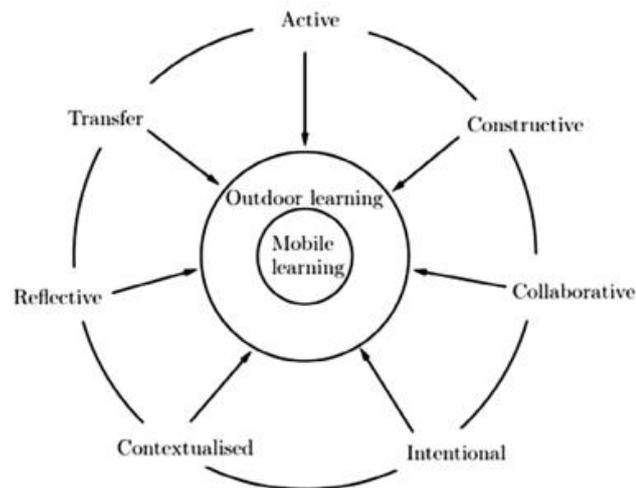


Figure 1. Seven Characteristics of Meaningful Learning
Source: Jonassen et al (2003)

Ausubel (1963) and Jonassen (1995) developed meaningful learning as a basis for investigating the experiences of the teachers and students, then numerous research (Hakkarainen et al., 2007; Jonassen et al., 1999; Ruokamo & Pohjolainen, 2000). According to Ausubel's theory of subsumption (1968), integrating new knowledge with students' previous understanding can create new meanings in learning, showing an active learning process. By making meaningful connections between recent information and the learner's prior knowledge, there are connections between several concepts (Keengwe et al., 2008).

Ausubel (1963) argues that an important component that influences learning is something students already know. The need to connect new ideas or knowledge with goals in students' cognitive structure to make learning meaningful. In applying Ausubel's theory in learning, some principles must be considered, i.e.:

- (1) Advance Organizer
Initial settings help learners to the material to be studied and remind them of previous material that can use to help teachers instill new concepts.
- (2) Progressive differentiation
Concept development is most effective when learning general and inclusive concepts before more detailed and specific ideas.
- (3) Learn to superordinate
As long as knowledge is assimilated and related to concepts in the cognitive structure (subsumption), the idea develops and goes through differentiation. When a construct is already known or contains components of a new, inclusive concept, superordinate learning may take place.
- (4) Integrative reconciliation

The new meaning is compared and contrasted with the previous definition, and how the higher concept uses the recent idea is what the teacher must show explicitly.

According to Jonassen et al. (2003; 2006), when students are engaged, creative, deliberate, and cooperative and work on real-world projects, they learn meaningfully. Teachers can pay attention to the characteristics of meaningful learning and use technology for learning because student learning is connected, interactive, and interdependent (Jonassen, 1995). In this article, we apply Ausubel's theory (1963)'s four guiding principles for meaningful learning: Advance organizer, progressive differentiation, learning to superordinate, and integrative reconciliation. All of these principles have components of active, constructive, collaborative, intentional, contextual, reflective, and transfer learning. Furthermore, according to Hakkarainen (2007), each criterion of meaningful learning can be more consistently met.

METHODS

Classroom action research is this kind of study (CAR). According to some studies, classroom-using action research is a technique to ascertain what is best in your class so that you can improve student learning (McKeachie et al., 2014; Tanis, 2020; Weimer, 1993). The Kemmis and McTaggart paradigm, consisting of four parts—planning, action, observation, and reflection—is referenced in this classroom action research project (Kemmis et al., 2014). The activity involves meaningful learning in planning and implementation (Angelo & Cross, 1993; Kunlasomboon et al., 2015). The test results, teacher evaluations, and course grades are as little as a few examples of current data that are sometimes widely used in classroom action research (CAR) (Angelo & Cross, 1993). The data obtained from the planning phase is data from interviews and observations. After the planning phase, the next stage is the implementation phase. In the implementation phase, it is planned to be divided into two cycles of activities. The participants in this classroom action research are grade XI MA Annida in the 2021/2022 academic years. According to observations, students have problems understanding the topic when learning civics.

Participants

Sample of this research, 32 grade 11 high school students and chosen by a purposive sampling method. With purposive sampling, the researcher selects participants deliberately due to evident requirements and factors so that they do not go through the selection process as is done in the random method (Faisal, 2007, p. 67). Researchers chose students majoring in science that had been determined previously as a sample to be studied.

Collecting and Analysis

In this study, two types of data have been collected for analysis.

- a. The concerned teacher and collaborators use the observation sheet to record student actions and behavior during the learning process.

- b. Student knowledge levels are measured using learning test results. The instrument used in this Classroom Action Research consists of the following:
1. Sheet Tests / daily tests to find out student learning outcomes.
 2. Student observation sheet to determine student motivation to participate in Citizenship Education lessons.
 3. Teacher's observation sheet to determine learning activities done by the Master.

The data types, methods, and instruments are presented in the following table.

Table 1. Data Collection Techniques and Instruments

No.	Data Type	Method	Instrument
1.	Student Activity	Interview, Observation	Observation sheet
2.	Learning Objectives	Test	Test of Learning

The criteria for transforming the average percentage are shown in table 2 to define classical learning activities using the Mean ideal (Mi) and Standard Deviation ideal (SDi) as an analytical framework.

Table 2. Learning Activity Classification Criteria

Score	Criteria
75 % < <i>activeness</i> ≤ 100%	Very Active
50 % < <i>activeness</i> ≤ 74,99%	Active
25 % < <i>activeness</i> ≤ 49,99%	Quite Active
0 % < <i>activeness</i> ≤ 24,99%	Less Active

Source : Yoni et al.(Yoni, 2010, pp. 175-176)

Analysis

Data analysis techniques used in analyzing quantitative data obtained from student learning test results and determine the percentage of student learning completeness by using a formula to decide individual absorption according to the Ministry of Culture and Education (1993/1994) also Sudira (2006) as follows:

$$\text{Absorption} = \frac{\text{results of students' tests}}{\text{Ideal Highest value}} \times 100\%$$

Data analysis to determine the learning completeness of all samples in this study is as follows:

$$\text{LC} = \frac{\text{number of students who passed}}{\text{several students taking the test}} \times 100\%$$

RESULTS & DISCUSSION

Results

1. Planning Phase

At the planning stage, the teacher first sets Civics learning objectives by Ausubel's meaningful learning principles. The teacher then conducts interviews to assist students and organize what they already know with what they will learn and to make it easier for them to understand. The following table presents a meaningful learning plan based on Ausubel's principles of meaningful learning.

Table 4. The Meaningful Learning Planning

Description	Principles used	Learning pattern
1. The concept map of the subject matter is displayed during the learning process. 2. The teacher provided general examples. 3. Discussion and presentation related to the material	Advance Organizer	Synchronous learning using Zoom and google meet
4. The teacher continued the material with a learning video. 5. The teacher asked students to look for other sources related to the studied material.	Progressive differentiation and learning to superordinate	Asynchronous learning using google classroom (GC), WhatsApp (WA)
6. With the direction of the teacher, students are asked to complete structured tasks	Integrative reconciliation	Asynchronous learning using google classroom (GC), WhatsApp (WA)
7. The teacher provided a summary of the material studied	Consolidation	Asynchronous learning using google classroom (GC), WhatsApp (WA)

2. Implementation Phase

The data on students' learning activities when participating in learning was analyzed descriptively. The Standard Deviation (SDi) and the Mean ideal (Mi) are the primary criteria for classifying student activities.

a. Student learning activity data

Learning activity data in the first and the second cycle used observation sheets, each consisting of two learning activities (two meetings) with 32 students. In the first cycle, the featureless value of student learning activities (\bar{M}) was 43,53%. Referring to predetermined criteria, the first cycle's level of student learning activities was quite active. Moreover, in the second cycle, the featureless value of student learning activities was 85,88%. Referring to predetermined, the second cycle's level of student learning activities was very active.

b. Student Learning Outcomes data

Data on student achievements during the first intervention cycle show that 32 students total a score of 2149,7. Therefore, the featureless value on student learning outcomes (class average) is 67,15. In the second cycle, the total value of students is 2465,3 on 32 students. Therefore, the featureless value on student learning outcomes (class average) \bar{X} is 77,04. Table 5 summarizes the results of the first and second cycles of research.

Table 5. Summary of Research Results

No.	Types of Research results	Cycle	
		First Cycle	Second Cycle
1.	Student learning activities	43,53% (Quite active)	85,88% (Very Active)
Student learning outcomes:			
2.	2.1 Class average (\bar{X})	67,15	77,04
	2.2 Absorption (DS)	67%	77%
	2.3 Learning Completeness (LC)	56%	88%

Discussion

The enforcement of online-based meaningful learning in the first cycle was different than expected. There is still a need for an increase in learning activities,

and the average achievement score of student learning activities is 43,53%, where student learning activities are pretty active. The average value of learning outcomes for students (\bar{X}), absorption (DS), and learning completeness (LC) of students are: $\bar{X} = 67,15$; DS = 67% and LC = 56%. The average value of learning outcomes for students and absorption could be more satisfactory.

In the first cycle's implementation of educational activities, the arrangement of the online learning environment still needs to be improved, where students feel new to their learning environment to the learning model is applied. The second cycle's implementation is a follow-up to the first cycle's implementation, where there are still shortcomings and limitations. The action takes the form of group formation before starting online learning.

At the beginning of the first cycle, the researcher grouped students into several small groups of four or five people. From a total of 32 students, there are five study groups. Likewise, during the second cycle, the difference is in the second cycle of grouping students according to the learning achievement test's outcomes.

The first cycle discussion session implemented a meaningful learning model with less control. Formation of groups is done during the learning takes place. This has caused students to focus less on solving the material.

As a result, student achievement could be more optimal in this aspect. Moreover, this forces researchers to pay more attention to the field. In the second cycle, the researcher started implementation by forming groups and monitoring their ability to find sources and discuss. Researchers also began to respond to student errors. Fortunately, these corrections did not disrupt class activities that were already going well. Correction of learning has increased student achievement in understanding the material and made them graduate with better scores compared to the first cycle. While implementing the meaningful learning model, the researcher used and modified several materials to meet the student's competency level.

Matched materials, where students are introduced to new concepts, speed up learning as they can better understand the topic. The introduction of several new materials, both new in terms of knowledge and new in the learning process. In class, students will continue to ask and confirm new findings. This phenomenon appears in the first and second cycles. The factors that cause this are teacher performance, class atmosphere, lesson planning, and teaching materials. The specified factor should work

synergistically so students feel comfortable interacting with learning. Students who feel free to create their learning will participate fully in learning activities. Under these conditions, students will be easily stimulated and dragged to achieve instructional goals.

CONCLUSION

Following the research findings describe, several conclusions follow. First, before implementing meaningful learning, the teacher made several preparations to divide the teaching process into two phases: the planning phase and the implementation of strategies in the classroom. Planning also includes advance

organizing, progressive differentiation, integrative reconciliation, consolidation, and selecting appropriate material by designing lesson plans. The implementation consists of brainstorming and giving clear instructions on how students should carry out activities. As a result, there was an increase in student learning completeness scores after the teaching process from 56% in the first cycle to 88% after the second cycle and average student learning outcomes from 67.15 after the first cycle to 77.04 after the second cycle. Second, partners working in several activities provide opportunities for students to provide information or knowledge and build their self-esteem in learning.

The increase in student learning activity can be seen from 43.53% to 85.88% at the end. Third, in implementing this strategy, the students responded positively to using the meaningful learning model in their classroom. Based on their opinion, this strategy can make them learn better, understand lessons better, be more motivated, and respect each other more in doing some activities. The result is that the average score of students' perceptions of the application of meaningful learning is 38.281 or 96%, which is included in the "strongly agree" criteria with the meaningful learning model.

REFERENCES

- (CSSE), the C. for S. S. and E. (2020). *COVID-19 Dashboard*. John Hopkins Coronavirus Resource Center. <https://coronavirus.jhu.edu/map.html>
- Adarkwah, M. A. (2021). "I am not against online teaching, but what about us?": ICT in Ghana post Covid-19. *Education and Information Technologies*, 26(2), 1665–1685. <https://doi.org/10.1007/S10639-020-10331-Z>
- Almaiah, M. A., Al-Khasawneh, A., & Althunibat, A. (2020). Exploring the critical challenges and factors influencing the E-learning system usage during the COVID-19 pandemic. *Education and Information Technologies*, 25(6), 5261–5280. <https://doi.org/10.1007/S10639-020-10219-Y>
- Angelo, T. A., & Cross, K. P. (1993). *Classroom Assessment Techniques: A Handbook for College Teachers* (Jossey-Bass Higher and Adult Education Series). In *Jossey-Bass Publishers* (2nd ed., Vol. 46, Issue 12). <http://www.amazon.com/Classroom-Assessment-Techniques-Jossey-Bass-Education/dp/1555425003>
- Ausubel. (1963). Cognitive Structure and the Facilitation of Meaningful Verbal Learning. *Journal of Teacher Education*, 14(2), 217–222. <https://doi.org/10.1177/002248716301400220>
- Ausubel, D. (1968). *Educational Psychology: A Motivation for the research question: A Cognitive View*. Coloso University College.
- Barrot, J. S. (2019). Facebook as a learning environment for language teaching and learning: A critical literature analysis from 2010 to 2017. *Journal of Computer Assisted Learning*, 34(6), 863–875. <https://doi.org/10.1111/jcal.12295>

- Barrot, J. S. (2020). Scientific Mapping of Social Media in Education: A Decade of Exponential Growth. *Journal of Educational Computing Research*, 59(4), 645–668. <https://doi.org/10.1177/0735633120972010>
- Barrot, J. S. (2021). Social media as a language learning environment: a systematic literature review (2008-2019). *Computer-Assisted Language Learning*. <https://doi.org/10.1080/09588221.2021.1883673>
- Boelens, R., De Wever, B., & Voet, M. (2017). Four key challenges to the design of blended learning: A systematic literature review. *Educational Research Review*, 22, 1–18. <https://doi.org/10.1016/J.EDUREV.2017.06.001>
- Carter, R. A., Rice, M., Yang, S., & Jackson, H. A. (2020). Self-regulated learning in online learning environments: strategies for remote learning. *Information and Learning Science*, 121(5–6), 311–319. <https://doi.org/10.1108/ILS-04-2020-0114>
- Cavanaugh, C. S., Barbour, M. K., & Clark, T. (2009). Research and practice in K-12 online learning: A review of open access literature. *International Review of Research in Open and Distance Learning*, 10(1). <https://doi.org/10.19173/IRRODL.V10I1.607>
- Copeland, W. E., McGinnis, E., Bai, Y., Adams, Z., Nardone, H., Devadanam, V., Rettew, J., & Hudziak, J. J. (2021). Impact of COVID-19 Pandemic on College Student Mental Health and Wellness. *Journal of the American Academy of Child and Adolescent Psychiatry*, 60(1), 134-141.e2. <https://doi.org/10.1016/J.JAAC.2020.08.466>
- Day, T., Chang, I. C. C., Chung, C. K. L., Doolittle, W. E., Housel, J., & McDaniel, P. N. (2021). The Immediate Impact of COVID-19 on Postsecondary Teaching and Learning. *Professional Geographer*, 73(1), 1–13. <https://doi.org/10.1080/00330124.2020.1823864>
- Donitsa-Schmidt, S., & Ramot, R. (2020). Opportunities and challenges: teacher education in Israel in the Covid-19 pandemic. *Journal of Education for Teaching*, 46(4), 586–595. <https://doi.org/10.1080/02607476.2020.1799708>
- Elaish, M. M., Shuib, L., Ghani, N. A., & Yadegaridehkordi, E. (2019). Mobile English Language Learning (MELL): a literature review. *Educational Review*, 71(2), 257–276. <https://doi.org/10.1080/00131911.2017.1382445>
- Fawaz, M., Al Nakhal, M., & Itani, M. (2022). COVID-19 quarantine stressors and management among Lebanese students: a qualitative study. *Current Psychology*, 41, 7628–7635. <https://doi.org/10.1007/S12144-020-01307-W>
- Garcia, R., Falkner, K., & Vivian, R. (2018). Systematic literature review: Self-Regulated Learning strategies using e-learning tools for Computer Science. *Computers and Education*, 123, 150–163. <https://doi.org/10.1016/J.COMPEDU.2018.05.006>
- Gonzalez, T., De La Rubia, M. A., Hincz, K. P., Comas-Lopez, M., Subirats, L., Fort, S., & Sachaid, G. M. (2020). Influence of COVID-19 confinement on students' performance in higher Education. *PLoS ONE*, 15(10), 1–23.

<https://doi.org/10.1371/journal.pone.0239490>

- Hakkarainen, P., Saarelainen, T., & Ruokamo, H. (2007). Towards meaningful learning through digital video-supported, case-based teaching. *Australasian Journal of Educational Technology*, 23(1), 87–109.
- Hew, K. F., Jia, C., Gonda, D. E., & Bai, S. (2020). Transitioning to the “new normal” of learning in unpredictable times: pedagogical practices and learning performance in fully online flipped classrooms. *International Journal of Educational Technology in Higher Education*, 17(1), 1–22. <https://doi.org/10.1186/S41239-020-00234-X>
- Huang, Q. (2019). Comparing teacher’s roles of F2f learning and online learning in a blended English course. *Computer Assisted Language Learning*, 32(3), 190–209. <https://doi.org/10.1080/09588221.2018.1540434>
- Jonassen, D. H. (1995). Supporting Communities of Learners with Technology: A Vision for Integrating Technology with Learning in Schools. *Educational Technology*, 35(4), 60–63.
- Jonassen, D. H., Howland, J., Moore, J., & Marra, R. M. (2003). *Learning to Solve Problems with Technology: A Constructivist Perspective* (2nd ed.). Merrill/Prentice Hall.
- Jonassen, D. H., Peck, K. L., & Wilson, B. G. (1999). *Learning with technology : a constructivist perspective* (1st edition). Merrill Pub Co.
- Jonassen, D. H., & Strobel, J. (2006). Modeling for meaningful learning. In *Engaged Learning with Emerging Technologies* (pp. 1–27). Springer Netherlands. https://doi.org/10.1007/1-4020-3669-8_1
- Kapasias, N., Paul, P., Roy, A., Saha, J., Zaveri, A., Mallick, R., Barman, B., Das, P., & Chouhan, P. (2020). Impact of lockdown on learning status of undergraduate and postgraduate students during COVID-19 pandemic in West Bengal, India. *Children and Youth Services Review*, 116. <https://doi.org/10.1016/J.CHILDYOUTH.2020.105194>
- Kebritchi, M., Lipschuetz, A., & Santiago, L. (2017). Issues and Challenges for Teaching Successful Online Courses in Higher Education. *Journal of Educational Technology Systems*, 46(1), 4–29. <https://doi.org/10.1177/0047239516661713>
- Keengwe, J., Wachira, P., & Onchwari, G. (2008). *The Use of Computer Tools to Support Meaningful Learning*. https://www.researchgate.net/publication/255664048_The_Use_of_Computer_Tools_to_Support_Meaningful_Learning
- Kemendikbud. (2013). *Undang-Undang Republik Indonesia No. 20 Tahun 2013 Tentang Sistem Pendidikan Nasional*.
- Kemmis, S., McTaggart, R., & Nixon, R. (2014). *The Action Research Planner*. Springer Singapore.
- Khalil, R., Mansour, A. E., Fadda, W. A., Almisnid, K., Aldamegh, M., Al-

- Nafeesah, A., Alkhalifah, A., & Al-Wutayd, O. (2020). The sudden transition to synchronized online learning during the COVID-19 pandemic in Saudi Arabia: A qualitative study exploring medical students' perspectives. *BMC Medical Education*, 20(1), 1–10. <https://doi.org/10.1186/S12909-020-02208-Z>
- Kunlasomboon, N., Wongwanich, S., & Suwanmonkha, S. (2015). Research and Development of Classroom Action Research Process to Enhance School Learning. *Procedia - Social and Behavioral Sciences*, 171, 1315–1324 | [10.1016/j.sbspro.2015.01.248](https://doi.org/10.1016/j.sbspro.2015.01.248). *Procedia - Sosial and Behavioral Sciences*, 171, 1315–1324. <https://sci-hub.se/https://doi.org/10.1016/j.sbspro.2015.01.248>
- McKeachie, J., W., & Svinicki. (2014). *McKeachie's teaching tips: strategies, research, and theory for college and university teachers*. Wadsworth, Cengage Learning.
- Nicola, M., Alsafi, Z., Sohrabi, C., Kerwan, A., Al-Jabir, A., Iosifidis, C., Agha, M., & Agha, R. (2020). The socio-economic implications of the coronavirus pandemic (COVID-19): A review. *International Journal of Surgery*, 78, 185–193. <https://doi.org/10.1016/J.IJSU.2020.04.018>
- Pham, T., & Nguyen, H. (2020). COVID-19: Challenges and opportunities for Vietnamese higher Education. *Higher Education in Southeast Asia and Beyond*, 8, 22–24. <https://headfoundation.org/2020/06/09/covid-19-challenges-and-opportunities-for-vietnamese-higher-education/>
- Rasheed, R. A., Kamsin, A., & Abdullah, N. A. (2020). Challenges in the online component of blended learning: A systematic review. *Computers & Education*, p. 144, 103701. <https://doi.org/10.1016/J.COMPEDU.2019.103701>
- Ruokamo, H., & Pohjolainen, S. (2000). Distance learning in a multimedia networks project: Main results. *British Journal of Educational Technology*, 31(2), 117–125. <https://doi.org/10.1111/1467-8535.00142>
- Simbulan, N. P. (2020). COVID-19 and its impact on higher Education in the Philippines. *Higher Education in Southeast Asia and Beyond*, 8, 15–18. <https://headfoundation.org/2020/06/04/covid-19-and-its-impact-on-higher-education-in-the-philippines/>
- Singh, K., Srivastav, S., Bhardwaj, A., Dixit, A., & Misra, S. (2020). Medical Education During the COVID-19 Pandemic: A Single Institution Experience. *Indian Pediatrics*, 57(7), 678–679. <https://doi.org/10.1007/S13312-020-1899-2>
- Singh, V., & Thurman, A. (2019). How Many Ways Can We Define Online Learning? A Systematic Literature Review of Definitions of Online Learning (1988-2018). *American Journal of Distance Education*, 33(4), 289–306. <https://doi.org/10.1080/08923647.2019.1663082>
- Sudira, P. (2006). *Kurikulum Tingkat Satuan Pendidikan SMK*. Departemen

Pendidikan Nasional, Direktorat Jenderal Manajemen Pendidikan Dasar dan Menengah.

- Suryaman, M., Cahyono, Y., Muliansyah, D., Bustani, O., Suryani, P., Fahlevi, M., Pramono, R., Purwanto, A., Purba, J. T., Munthe, A. P., Juliana, & Harimurti, S. M. (2020). COVID-19 pandemic and home online learning system: Does it affect the quality of pharmacy school learning? *Systematic Reviews in Pharmacy*, 11(8), 524–530. <https://doi.org/10.31838/SRP.2020.8.74>
- Tallent-Runnels, M. K., Thomas, J. A., Lan, W. Y., Cooper, S., Ahern, T. C., Shaw, S. M., & Liu, X. (2006). Teaching courses online: A review of the research. *Review of Educational Research*, 76(1), 93–135. <https://doi.org/10.3102/00346543076001093>
- Tang, T., Abuhmaid, A. M., Olaimat, M., Oudat, D. M., Aldhaeabi, M., & Bamanger, E. (2020). The efficiency of a flipped classroom with online-based teaching under COVID-19. *Interactive Learning Environments*. <https://doi.org/10.1080/10494820.2020.1817761>
- Tanis, C. J. (2020). The seven principles of online learning: Feedback from faculty and alums on its importance for teaching and learning. *Research in Learning Technology*, p. 28. <https://doi.org/10.25304/rlt.v28.2319>
- Theall, M., & Franklin, J. (2001). Looking for Bias in All the Wrong Places: A Search for Truth or a Witch Hunt in Student Ratings of Instruction? *New Directions for Institutional Research*, 2001(109), 45–56. <https://doi.org/10.1002/IR.3>
- UNESCO. (2020). *COVID-19 Educational Disruption and Response*. UNESCO. <https://en.unesco.org/news/covid-19-educational-disruption-and-response>
- Usher, M., & Barak, M. (2020). Team diversity as a predictor of innovation in team projects of face-to-face and online learners. *Computers and Education*, 144. <https://doi.org/10.1016/J.COMPEDU.2019.103702>
- Varea, V., & González-Calvo, G. (2020). Touchless classes and absent bodies: teaching physical Education in times of Covid-19. *Sport, Education and Society*, 1–15. <https://doi.org/10.1080/13573322.2020.1791814>
- Wallace, R. M. (2003). Online Learning in Higher Education: a review of research on interactions among teachers and students. *Education, Communication & Information*, 3(2), 241–280. <https://doi.org/10.1080/14636310303143>
- Weimer, M. (1993). *Improving Your Classroom Teaching. Survival Skills for Scholars. Volume 1*. SAGE Publications, Inc., p. 2455 Teller Rd., Newbury Park, CA 91320 (hardcover: ISBN-0-8039-4975-8; paperback: ISBN-0-8039-4976-6, \$11.95).
- Yoni, A. (2010). *Menyusun Penelitian Tindakan Kelas*. Familia.