Utilizing Technology to Improve the Quality of Learning in Indonesia: Challenges and Consequences for Arabic Teachers

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Abstract

Islamic boarding schools are identical to traditional learning because they ignore and do not respond to technological developments. This study aims to describe the media used in Islamic boarding schools in teaching Arabic, teachers' perceptions of technology-based media, and opportunities to change the media used in Arabic learning in Islamic boarding schools. This study was conducted with a qualitative approach in Islamic boarding schools where students were selected according to their needs. Data were collected by observation, interviews, and documentation studies. Based on the results, the Batang Kabung Islamic Boarding School used traditional learning media. However, there are open opportunities to apply technology-based media because of the openness of pesantren in accepting changes with an internet connection, human resources for education staff, and students’ ability to operate technology-based learning media. The consequences faced by Islamic boarding schools are curriculum revisions, more operational costs, adjustment of methods with learning media, and the need to improve teacher competencies in utilizing technology-based media.

Keywords: learning media, educational technology, Arabic learning, teacher competencies

Introduction

Arabic learning for non-Arabs to this day is still faced with various problems because the selection and use of appropriate media are seen as part of an alternative to reduce various problems. This view is based on studies confirming that learning media can make it easier for students to understand learning materials and make it easier for teachers to convey material to students (Byrne, 2021; Macgilchrist et al., 2021a).

Learning media is relevant to the development of students, so the motivation in participating in learning will also increase (Ritonga et al., 2016; Xuan et al., 2020). The utilization of learning media can also improve the results achieved (Munari et al., 2018). The use of appropriate learning media will make the quality of the learning
process better (Jabir et al., 2021). Khaira (2021) proved that the Crossword Puzzle media made students more diligent in learning Arabic from not having a strong desire to take learning seriously.

The above studies are the basis for researchers to reveal further about the use of technology-based learning media at MTI Batang Kabung Islamic Boarding School. Based on initial observations at the pesantren, it is known that Arabic learning tends to ignore technological developments and their use in learning, namely teachers only rely on media such as blackboards available in the classroom without trying to use media such as OHP, online media, and modern learning media. This reality leads to the low activity of students in following the learning process. Students are limited to listening without any feedback from students on the material presented by the teachers. Meanwhile, the use of technology in education is the right step in the current digital era (Sarker et al., 2019), several studies have proven that openness to technology has brought progress to the world of education (Alhumaid, 2019; Serdyukov, 2017).

The results of the analysis using VOSviewer there are studies that have relevance to this study, some people who conduct research and have links to the future of Arabic learning using technology are as in figure 1 below:

Figure 1. Researchers related to Language Learning using technology

The aspects that became their studies and their relationship to the research conducted are visualized as in figure 2 below:

Figure 2. Relevant research topics
From some of the research themes described in the picture above there are several studies that have relevance to this study, including the research of Sahrir and friends (Sahrir et al., 2022). Their research aims to find out the knowledge and ability of Arabic teachers towards TPACK, especially at the time of online learning. The difference with this study is that in the content aspect of utilizing technology in Arabic learning, Sahrir and his friends did not explore how the opportunities and challenges in the future.

While related to learning technology, Hanafi and his friends who analyzed about e-BBQ developed for the learning of worship, quran, and training (Hanafi et al., 2020). The research they do is for learning outside the context of Arabic learning, but the connectivity of their research with research conducted is related to the use of technology in learning, this is inseparable from the existence of e-learning as part of learning technology.

Zainuddin and Sahrir also conducted research related to multimedia development in Arabic language learning (Zainuddin & Sahrir, 2016). Their results prove that multimedia with the SME model can be used in Arabic learning. The research of Zainuddin and Sahrir with this research is in the aspect of the form of technological media that is used as an object of research. Based on the three studies described above, aspects of the use of technology in improving Arabic language learning that are focused on opportunities and challenges need to be researched.

The absence of technology-based media in Arabic learning may lead to the low achievement of learning objectives as expected, namely achieving four Arabic language skills. This is different from a study by Ansyah et al confirmed the importance of maintaining the learning system with the Kaji duduak system in Islamic boarding schools, because the system has made learning patterns in Islamic boarding schools leading students able to read books well (Ansyah et al., 2020). Meanwhile, the researchers saw that the purpose of learning foreign languages and Arabic, in particular, is to help students achieve the four language skills as needed in the industrial revolution era (Albantani & Madkur, 2019; Ritonga, Widodo, et al., 2021).

Academics have conducted many studies related to the use of media in learning, but studies are generally focused on experimenting with certain media and looking at their effectiveness (Ahmadi & Ilmiani, 2020; Istifci & Ucar, 2021; Malik, 2021). Another study focused on the usefulness of media in improving learning outcomes and increasing student motivation (Yanuari Dwi Puspitarini & Hanif, 2019). From several studies, it is clearly seen that there are significant differences with this study. This study focused on the opportunities for using technology media in Arabic learning in Islamic boarding schools and the consequences for Islamic boarding school managers.

Method

This study used a qualitative approach to reveal and analyze data naturally without any treatment (Ahmad et al., 2019). This study was carried out at MTI Batang Kabung Padang Islamic Boarding School in urban areas but has not become the main
choice for people to continue their education. This study was held from February-
November 2021 for data collection, analysis, verification, and drawing conclusions.

This study used primary and secondary data from informants who have the
capacity and broad knowledge related to content. Primary data were collected from
Arabic teachers at MTI Batang Kabung Islamic Boarding School, while secondary data
were collected from the principal and some students took Arabic learning. Students as
informants were determined by purposive sampling or selecting informants as needed.

As a natural study, data were collected by observation, interviews, and
documentation studies. This study used non-participatory observations of situations
and activities taking place at Islamic boarding schools without being involved in
activities carried out by informants (Cooper et al., 2004). Therefore, the researcher
used an observation instrument focusing on Arabic learning activities. In addition,
researchers used interviews as a technique in collecting data. This study used
unstructured interview where researchers directly communicated with informants
regarding the use of technology-based Arabic learning media without using interview
guidelines (Weller et al., 2018). The unstructured interview was chosen to give the
informants the freedom to disclose information. Researchers used documentation
studies as a technique for collecting data intended to find data from documents
available at the study location.

Data were analyzed qualitatively or interactively from data collection to
drawing conclusions. To get the validity, data triangulation was used from certain
informants verified with other informants. In addition, data were verified on a time
series where data obtained at a certain time was verified at another time.

Result and Discussion

Arabic learning at MTI Batang Kabung Islamic Boarding School used
Madrasah curriculum. In addition to having its own curriculum, MTI Batang Kabung
Islamic Boarding School also makes the Curriculum of the Ministry of Religious
Affairs to match the education level of alumni with graduates of other educational
institutions. Arabic learning in Islamic boarding schools takes place as the same as
formal educational institutions, namely organizing learning with reference to the whole
learning system. The use of learning media and the prospect of using technology-
based media in Arabic learning in this Islamic boarding school can be described as the
following results.

Utilizing Arabic Learning Media

Learning success cannot be separated from the media, as well as the skills of
the teachers in using learning media. Based on observations, interviews and
documentation studies were conducted on Arabic learning media at MTI Batang
Kabung Islamic Boarding School. Types of media and material content can be seen in
table 1.

| No | Types of Media | Material       |
|----|----------------|----------------|
| 1  | Blackboard     | القواعد        |

Table 1. Types of Media and Material
Various data were collected by observation, interviews, and documentation studies. The use of media in Arabic learning at MTI Batang Kabung is limited to the four types of media mentioned in table 1 above.

Blackboard is used by teachers to teach Arabic/Qawa'id Arabic material. Teachers explain in detail Arabic grammar on the blackboard and students listen accompanied by questions. The results prove that Arabic teachers write grammatical material on blackboards, and then students are asked to write them back in notes (Observation, 2021). The use of blackboards in Arabic learning is written in the learning plan prepared by the teachers (Study Documentation, 2021). Interviews with students found that rewriting learning material on the blackboard is boring (Student 1, Interview, 2021).

The use of media such as blackboards is still a mainstay for Arabic teachers at MTI Batang Kabung Islamic Boarding School, although, on the other hand, some students feel that the media no longer makes learning interesting for students (Student 2, Interview, 2021). The existence of the blackboard media is in accordance with the conclusions of several studies confirming that the blackboard as a learning media causes students to be less responsive to the material explained by the teachers (Clarkson, 2013)-(Jesajas et al., 2018)-(DiGregorio & Sobel-Lojeski, 2010). The blackboard as Arabic learning media at MTI Batang Kabung was irrelevant to the conditions of the students, so the quality of learning was also difficult to realize.

Based on table 1, Arabic learning at MTI Batang Kabung also uses a wall magazine as a learning medium. Teachers always instruct students to put 5 to 10 Arabic vocabularies on the wall magazine every day (Arabic Teachers, Interview; 2021). Information given by Arabic teachers is according to observations during the study period, Arabic vocabularies in the wall magazine change every day (Observation, 2021). After being traced, the vocabulary is displayed on the wall magazine and then archived by Arabic teachers to then be collected in a bundle every semester (Documentation Study; 2021).

This data proves the creativity of Arabic teachers to appreciate all works. All students get Arabic vocabularies collection documents displayed on the wall magazine. Wall magazines in schools provide a lot of inspiration for the school community (Astuty & Fathurrahman, 2018). The use of wall magazines can also realize literacy in every educational institution (Purwaningrum et al., 2021; Winarsih & Bawawa, 2021). Wall magazine at MTI Batang Kabung needs to be developed considering the role of the media can inspire the public and can also increase vocabulary.

Arabic learning at MTI Batang Kabung Islamic Boarding School also uses tape records as a medium. According to interviews conducted with Arabic teachers, the use of these media is focused on strengthening abilities in the Ashwat or phonological aspects (Arabic Teachers, Interview; 2021). The data obtained from students also
proves that the tape records used by Arabic teachers help them to be able to pronounce makhraj well (Student 3, Interview; 2021). Document studies with tape records used by teachers in teaching Arabic were awarded by one of the lecturers from UIN Imam Bonjol (Documentation Study; 2021).

The use of tape records as language learning media has been proven to improve the ability of students to achieve targeted language skills. Wijayani et al (2010) conducted a study related to the audio recording that the media can improve listening skills. This is because recording media generally use native speakers, so students will be skilled in listening to every letter, word and sentence. In line with that, Richards (2015) confirmed that language learning technology is a must in the digital era. The data found that there were different directions in the use of tape records as media produced by previous researchers, namely the use of tape record media in Arabic learning at MTI Batang Kabung Islamic Boarding School focused on al-ashwat. In general, this difference does not reduce the usefulness of learning media, but the ability of teachers to use media should be improved.

Arabic teachers at MTI Batang Kabung also use video CDs to be played in digital videos. Based on the data obtained, the use of this media is oriented towards increasing the ability to carry out Arabic conversation (hiwar) (Arabic Teachers, Interview; 2021). Another informant emphasized that to practice Arabic conversation the teachers first asked students to watch how native Arabs speak Arabic (Student 4, Interview; 2021). Arabic teachers have several Arabic video CDs (Study Documentation; 2021), but the videos are not in line with the learning materials contained in the Arabic textbooks used. In such conditions, innovations should be made by making YouTube videos and compiling the material in the form of Google Drive, this innovation is in line with the study by Ritonga et al (2021).

Based on the results, the utilization of Arabic learning media at MTI Batang Kabung Islamic Boarding School tends to use classical media. This means that Arabic teachers have limited knowledge in utilizing technology-based learning media. This statement is based on the results of interviews with Arabic teachers and the availability of media at MTI Batang Kabung Islamic Boarding School. Teachers who have the ability to use media will propose to the principal to fulfill any required infrastructure.

**Opportunities to Use Technology-Based Learning Media**

The use of Arabic learning media at MTI Batang Kabung Islamic Boarding School did not have a real contribution to improving Arabic skills in four skills. Therefore, thinking about the future of media in Arabic learning at these institutions is something important to do.

The use of technology-based learning media at MTI Batang Kabung Islamic Boarding School in Arabic learning has great opportunities. Based on observations and data found, opportunities to use technology-based learning media can be seen in Table 2.
Table 2. The Future of Arabic Learning Using Media Technology

| No | Opportunity | Strength |
|----|-------------|----------|
| 1  | Strategic location | Internet network access supports the implementation of education using technology media |
| 2  | Support from the Foundation and Principal of Madrasas | Fulfilled all forms of facilities and infrastructure needed in realizing the use of technology-based learning media |
| 3  | Background | Many students come from general educational institutions and are familiar with the use of technology-based media |
| 4  | Readiness of Education Personnel | Educational staff have the ability to operate technology-based media, so they can assist Arabic teachers in conducting learning using technology media |

Based on table 2, the supporting factor for the use of technology-based Arabic learning media at MTI Batang Kabung Islamic Boarding School is a strategic location. The geographical location of educational institutions is one aspect that can be considered when choosing the type of media used. MTI Batang Kabung in urban areas allows all teachers and students to take advantage of technological tools due to the strong internet network. This view is in line with the study confirming the factor supporting the use of technology media in learning is geographic location (Buabeng-Andoh, 2012). This is in line with a study by Sartika (2021) that some of the obstacles for educational institutions in providing education with technological devices are to the lack of internet access.

The use of technology-based learning media at MTI Batang Kabung Islamic Boarding School is also supported by the foundation. The data obtained show that the foundation with all its capabilities will always try to realize the proposal for the procurement of facilities and infrastructure without exception for the procurement of technology equipment. As it is known that progress and improvement in the quality of education and learning cannot be separated from policy (OECD, 2012). Therefore, the support of the foundation for any improvement in the quality of education at MTI Batang Kabung was very strong.

The opportunity for Arabic teachers at MTI Batang Kabung to utilize technology media was caused by their background. In accordance with the document study, students taking Arabic learning at MTI Batang Kabung are skilled in operating computer devices (Documentation Study, 2021). This data implies that they will be more interested in learning Arabic using technology media than conventional media. Several students are also known that before they were admitted to MTI Batang Kabung, students took computer courses first.

The ability of students can be used as a reference in choosing which learning media to use. Ramdani and Hilmi explained that the condition of students is an aspect
that must be considered in choosing learning media (Ramdhani & Muhammadiyah, 2015). Habits of students have an impact on their behavior in learning (Schmidt, 2020). Various aspects must be considered for teachers in selecting and determining the media to be used, including the background.

Arabic learning by utilizing technology media at MTI Batang Kabung also has prospects due to the readiness of the education staff. In accordance with the data, it was found that the human resources in the field of education staff at MTI Batang Kabung have skills in the technological field, so that the ability will be able to help teachers to operate technological devices as learning media.

From the opportunities described above, the situation and environment of MTI Batang Kabung Islamic Boarding School, technology-based Arabic learning media can be utilized as shown in the figure below:

![Arabic-Language Website](image)

**Figure 3. Utilizing technology-based learning media**

The future of Arabic learning by utilizing technology media at MTI Batang Kabung as in Figure 3 above can be explained that with advances in website technology, Arabic learning can be developed. It is recommended that technology-based media allow for development, namely that Arabic learning websites can be utilized by various online-based learning platforms. The platforms in question are Google Meet, Zoom Meet, Edmodo, Duolingo, Google Classroom, Ruangguru.com. These various platforms are used accompanied by recordings directly connected to YouTube. Learning Arabic using the various platforms described above will result in a learning model that can be utilized at any time. This means that learners can access it outside of learning time.

Learning by utilizing technological media as described above will result in learning not only taking place once but video recordings connected to YouTube will be accessible again by all students. The use of technological media as described above is not only interesting for students but will also result in continuous learning (Pokhrel & Chhetri, 2021), the use of technology in education, and teaching will also help socialize institutional management (McGarr & Engen, 2021). The use of various
technology-based learning media will create new things in the world of education (Macgilchrist et al., 2021b).

Consequences of Using Technology-Based Arabic Learning Media

The use of Arabic learning media running at MTI Batang Kabung Islamic Boarding School is currently faced with various consequences when there is a desire to switch to using technology media in learning. The data found can be described that several consequences must be faced as in figure 4 below.

![Figure 4. Challenges in Using Technology Media](image)

- **Curriculum revision**
- **Internal and External Operating costs that will increase**
- **Teacher's ability in technology**
- **Adjustment of learning methods**

Figure 4. Challenges in Using Technology Media

The shift from the current use of learning media to technology-based learning media, especially in Arabic learning, requires a revision of the curriculum. The revision referred to in the aspect of learning materials, Arabic teachers cannot only rely on learning materials in teaching materials, but must adapt the material to the platforms used. This is because each platform has appropriate learning material content. Materials related to speaking skills, for example, are difficult to convey using edmodo or duolingo. The edmodo platform is relevant to be used to teach theoretical material (Alqahtani, 2019), as well as Arabic grammar.

Financing for operations at MTI Batang Kabung also increased. This is because technology-based learning media operations require the availability of a strong internet network with more quotas, the use of electric power will also increase. However, in this aspect, the foundation has stated that it is ready for the consequences. On the other hand, until now Arabic teachers do not have sufficient skills to operate technology-based learning media (Mustapa et al., 2021). Therefore, the principal must provide training to teachers to have skills in using technology-based learning media. Another consequence is that Arabic teachers must be able to adapt learning methods to the media used, this is because each media has relevance to the
learning method, and vice versa, certain methods are not necessarily suitable for certain media.

**Conclusion**

Arabic learning requires innovation as an improvement in the skills of students. One of the reforms in education and teaching can be performed in the aspect of learning media. Arabic learning has been taking place so far relying on traditional media. Therefore, with all the potential in educational institutions, there are opportunities to take advantage of various technology-based learning media and even build a website leading to Arabic learning. The consequences that may arise can be resolved by the authorities at each educational institution. The ability of teachers to utilize technology-based learning, especially in Arabic, is seen as part of the steps of teachers to bring about a change in perceptions of the difficulty in Arabic learning.

The transition from the traditional use of media to technology-based media requires a revision of the curriculum, especially in the aspect of learning materials, the availability of operational financing must also be increased, teachers must always update the latest learning methods because every media has the right method to use. Arabic teachers, especially in Indonesia, must also improve their skills in using technology-based media.

**REFERENCES**

Ahmad, S., Wasim, S., Irfan, S., Gogoi, S., Srivastava, A., & Farheen, Z. (2019). Qualitative v/s. Quantitative Research- A Summarized Review. *Journal of Evidence Based Medicine and Healthcare*, 6(43).

Ahmadi, A., & Ilmiani, A. M. (2020). The Use of Teaching Media in Arabic Language Teaching During Covid-19 Pandemic. *Dinamika Ilmu*, 20(2).

Albantani, A. M., & Madkur, A. (2019). Teaching Arabic in the era of Industrial Revolution 4.0 in Indonesia: Challenges and opportunities. *ASEAN Journal of Community Engagement*, 3(2).

Alhumaid, K. (2019). Four Ways Technology Has Negatively Changed Education. *Journal of Educational and Social Research*, 9(4).

Alqahtani, A. S. (2019). The Use of Edmodo: Its Impact on Learning and Students’ Attitude Toward IT. *Journal of Information Technology Education: Research*, 18.

Ansyah, S., Rironga, M., & Alrasi, F. (2020). Sistem Kaji Duduak Sebagai Strategi Pembelajaran Maharah Al-Qira’ah Di Madrasah Batang Kabung. *Arabi: Journal of Arabic Studies*, 5(2).

Astuty, D., & Fathurrahman. (2018). Wall Magazine as Media in Grasping Pupils’ Reading Interest at Primary Level. *Journal of English Language Teaching*, 5(2).

Buabeng-Andoh, C. (2012). Factors influencing teachers ’ adoption and integration of information and communication technology into teaching: A review of the
Byrne, B. (2021). Disabled children and digital technologies: Learning in the context of inclusive education. *Learning, Media and Technology, 46*(4).

Clarkson, P. C. (2013). Using Interactive Whiteboards in School Settings: A Resource for Future Pedagogies. *Information Technology, Education and Society, 12*(2).

Cooper, J., Lewis, R., & Urquhart, C. (2004). Using participant or non-participant observation to explain information behaviour. *Information Research, 9*(4).

DiGregorio, P., & Sobel-Lojeski, K. (2010). The Effects of Interactive Whiteboards (IWBs) on Student Performance and Learning: A Literature Review. *Journal of Educational Technology Systems, 38*(3).

Hanafi, Y., Murta'dho, N., Ikhsan, M. A., & Diyana, T. N. (2020). Reinforcing Public University Student’s Worship Education by Developing and Implementing Mobile-Learning Management System in the ADDIE Instructional Design Model. *International Journal of Interactive Mobile Technologies (IJIM), 14*(2).

Istifci, I., & Ucar, A. D. (2021). A Review of Research on the Use of Social Media in Language Teaching and Learning. *Journal of Educational Technology and Online Learning, 4*(3).

Jabir, I. T., Rohana, & Pada, A. (2021). The Effect Of Use Powtoo Learning Media To Student Learning Motivation On 3rd Grade On Indonesia Subjects At Islamic Elementary School Athirah 1 Makassar. *IJEST International Journal Of Elementary School Teacher, 1*(1).

Jesajas, M. B., Rondonuwu, F. S., & Kristiyanto, W. H. (2018). Prototype of sliding whiteboard as physics learning media based on thinking processed review. *Journal of Science and Science Education, 2*(1).

Khaira, M. (2021). The Effectiveness of Crossword Puzzle in Improving Mufradat Skills. *Tanwir Arabiyah: Arabic as Foreign Language Journal, 1*(2).

Macgilchrist, F., Potter, J., & Williamson, B. (2021a). Shifting scales of research on learning, media and technology. *Learning, Media and Technology, 46*(4).

Macgilchrist, F., Potter, J., & Williamson, B. (2021b). Shifting scales of research on learning, media and technology. *Learning, Media and Technology, 46*(4).

Malik, Abd. (2021). Media Pembelajaran PAI pada Era Covid-19: Studi Kreativitas Guru dan Motivasi Peserta Didik. *Al-Kabfi: Jurnal Pendidikan Agama Islam, 6*(2).

McGarr, O., & Engen, B. K. (2021). By-passing teachers in the marketing of digital technologies: The synergy of educational technology discourse and new public management practices. *Learning, Media and Technology. 

Munari, R., Hidayatulloh, F., Sakura, H., & Arga, P. (2018). Use of Learning Media Ict-Based To Improve Motivation and the Result of Learning Science in Solar System Materials. *Collase, 1*(6).
Mustapa, A. M., Mohd Saad, M. F., & Abdul Ghani, M. Z. (2021). Challenges and Expectations of Online Arabic Language Teaching In The Covid-19 Pandemic Era. *Ijaz Arabi Journal of Arabic Learning*, 4(3).

OECD. (2012). Equity and Quality in Education: Supporting Disadvantaged Students and Schools. In *Computer-Supported Collaborative Learning Conference, CSCL* (Issue PART 2). OECD Publishing.

Pokhrel, S., & Chhetri, R. (2021). A Literature Review on Impact of COVID-19 Pandemic on Teaching and Learning. *Higher Education for the Future*, 8(1).

Purwaningrum, S., Arifin, S., In’am, A., & Khozin. (2021). The Implementation of School Literacy Movement in the Perspective of Mortimer Adler and Charles Van Doren. *Tadris: Jurnal Pendidikan Islam*, 16(2).

Ramdhani, M. A., & Muhammadiyah, H. (2015). The Criteria of Learning Media Selection for Character Education in Higher Education. *Risky – Analisis Penggunaan Media Video. Proceeding International Conference of Islamic Education: Reforms, Prospects and Challenges Faculty of Tarbiyah and Teaching Training, Maulana Malik Ibrahim State Islamic University, Malang, December 2015*.

Richards, J. (2015). Technology in Language Teaching Today. *Indonesian Journal of English Language Teaching*, 10(1).

Ritonga, M., Lahmi, A., Sartika, F., Zubaidah, & Annova, F. (2021). The Using YouTube and Google Drive as Arabic Learning Media at Covid-19 Period. *Proceedings of the 1st International Conference on Education, Humanities, Health and Agriculture, ICEHHA 2021*.

Ritonga, M., Nazir, A., & Wahyuni, S. (2016). Pembelajaran Bahasa Arab Berbasis Teknologi Informasi dan Komunikasi. *Arabiyyat: Jurnal Pendidikan Bahasa Arab Dan Kebahasaaraban*, 3(1).

Ritonga, M., Widodo, H., Lahmi, A., Budiarti, M., Annova, F., & Zubaidah. (2021). Arabic Learning Orientation in Ma’had and Islamic Boarding Schools, and its Relevance to the Need for Human Resources with Language Skills in the Globalization Era. *International Journal of Early Childhood Special Education*, 13(2).

Sahrir, M. S., Hamid, M. A. A Abd., Zaini, A. R., Hamat, Z., & Taufik Ismail. (2022). Investigating the technological pedagogical content knowledge (TPACK) skill among Arabic school trainee teachers in online assessment during COVID-19 pandemic. *Journal of Language and Linguistic Studies*, 18(Spessial Issue 2).

Sarker, M. F. H., Mahmud, R. Al, Islam, M. S., & Islam, M. K. (2019). Use of e-learning at higher educational institutions in Bangladesh. *Journal of Applied Research in Higher Education*, 11(2).

Sartika, F., Ritonga, M., Lahmi, A., Rasyid, A., & Febriani, S. R. (2021). *Online Learning in the Low Internet Area, Planning, Strategies and Problems Faced by Students During the Covid-19 Period* (D. Oliva, S. A. Hassan, & A. Mohamed, Eds.; Artificial). Springer.
Schmidt, S. J. (2020). Distracted learning: Big problem and golden opportunity. *Journal of Food Science Education, 19*(4).

Serdyukov, P. (2017). Innovation in education: What works, what doesn’t, and what to do about it? *Journal of Research in Innovative Teaching & Learning, 10*(1).

Song, M. J. (2021). Teacher professional development in integrating digital fabrication technologies into teaching and learning. *Educational Media International, 58*(4).

UNESCO-IIEP. (2017). A guide for ensuring inclusion and equity in education. In Q. Tang (Ed.), *A guide for ensuring inclusion and equity in education.* United Nations Educational, Scientific and Cultural.

Weller, S. C., Vickers, B., Bernard, H. R., Blackburn, A. M., Borgatti, S., Gravlee, C. C., & Johnson, J. C. (2018). Open-ended interview questions and saturation. *PLoS ONE, 13*(6).

Wijayani, T. A. (2010). Using Digital Audio Recording in Learning Speaking. *Journal of English and Education, 4*(2).

Winarisih, S., & Bawawa, M. (2021). Using Wall Magazine to Implement School Literacy Movement. *New Language Dimensions, 2*(1).

Xuan, D., Ismail, W. M., & Zailani, M. A. (2020). Non-native Arabic learners’ social media usage and motivation influencing learning of Arabic language in Malaysian public universities. *International Journal of Language Education, 4*(2).

Yanuari Dwi Puspitarini, & Hanif, M. (2019). Using Learning Media to Increase Learning Motivation in Elementary School. *Anatolian Journal of Education, 4*(2).

Zainuddin, N., & Sahir, M. S. (2016). Multimedia Courseware for Teaching Arabic Vocabulary: Let’s Learn from the Experts. *Universal Journal of Educational Research, 4*(5).