



THE SUITABILITY OF THE DIGITAL LEARNING OBJECTS (DLOs) APPROACH AMONG KAFA TEACHERS IN PAHANG: A NOMINAL GROUP APPROACH

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Article Info	ABSTRACT
Article history: Received: 22 Nov 2023 Revised: 4 Dis 2023 Accepted: 25 Jan 2024 Published: 1 Feb 2024 Keywords: Digital Learning Objects (DLOs), KAFA teachers, Nominal Group Technique (NGT), ICT, digital learning OPEN  ACCESS	Nowadays, digital materials and digital learning methods have become the preferred choices for educators in delivering information to students. Digital reusable, portable, and stand-alone materials are called Digital Learning Objects (DLOs). This article employs an alternative method to examine the components of DLOs suitable for use by KAFA teachers using the Nominal Group Technique (NGT). Additionally, the article explores the significance of DLOs in PdPc and the challenges KAFA teachers face in implementing DLOs. Furthermore, the research findings indicate that the NGT technique has assisted researchers in obtaining timely validation of elements, as these elements were developed through literature review, expert discussions, and voting processes. It is recommended that further research be conducted to enhance the level of proficiency and ICT skills among KAFA teachers.

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INTRODUCTION

New technology has evolved and become a part of daily life. Technology is innovation, change, or modification of the natural environment to meet human needs and desires (Ellis, Sivaraj, Roehrig, Dare & Ring-Whalen, 2020). Technology has changed humans' lives (Muliyati Timbang & Abdul Said Ambotang, 2020). It benefits society for use in everyday life, such as in the education sector, business, banking, databases, and so on. Technology has brought a new dimension to the education field that can provide educators opportunities to use it effectively in learning and facilitation (PdPc) (Mac Callum, Jeffrey & Kinshuk, 2014). The national education system has also evolved in parallel with the development and advancement of technology. This development is in line with digital technology in the era of Industry 4.0, which has brought many changes and also influenced various aspects of human life, including the field of education (Aida Aryani Shahroom & Norhayati Hussin, 2018; Ghavifekr & Wong, 2022; Putrawangsa & Hasanah, 2018; Sharma, 2019).

Various studies have been conducted to examine how technology can be blended with pedagogy to produce digital learning methods that keep pace with current global advancements (Maschio & Correia, 2020). Digital learning has developed quite well in Malaysia in line with the development of ICT. In Malaysia's education context, ICT is defined as all digital resources, including tools, applications, and learning objects used as enablers in effective PdPc and education management that encourage creativity and innovation to achieve a knowledge-based economy (KPM, 2016). The rapid development of ICT has also opened up a vast space for educators to explore various digital learning and blended learning methods such as *flipped classrooms*, *MOOCs*, and *chatrooms* to be integrated into PdPc (Aida Aryani Shahroom & Norhayati Hussin, 2018; Sharma, 2019). The term "digital learning" can be understood as using digital technology to support learning and is not tied to a specific environment, pedagogy, instructional design, and student interaction with certain digital technology materials or environments (Basham, Hall, Carter & Stahl, 2016).

The education system in Malaysia has also been updated to keep pace with the development of digital learning, taking into account various changes and challenges in 21st-century learning (Hasliza Abdullah, 2020). Consequently, the development of learning and knowledge among teachers should provide a significant return on the future success of the country's education. The quality of human capital possessed by these teachers is not only intellectual but also the self-presentation of the educators themselves will change in a more positive direction, in line with current technological developments (Zuraidah Abdullah, Zulkifli A Manaf, Nik Mustafa Mat Ail & Mohammad Ismath Ramzy, 2016). Teachers must have a positive attitude and inclination to apply digital learning in PdPc (Vongkulluksn, Xie & Bowman, 2018) so that it is more student-centred and can stimulate their cognitive abilities (Ertmer, Ottenbreit-Leftwich, Sadik, Sendurur & Sendurur, 2012; Hsu, 2016).

LITERATURE REVIEW

Digital Learning Objects

Various digital platforms offer free digital learning, such as social media, *YouTube channels*, *Facebook*, *e-News*, *e-journals*, *Wakelet*, and others. With the diversity of these sources, teachers can quickly gather materials as resources for digital teaching and learning, storing them in cloud storage or digital repositories like websites, *Google Drive*, *Microsoft OneDrive*, *Dropbox*, and others. Digital materials that are reusable, portable, and stand-alone are referred to as Digital Learning Objects (DLOs) (Azman Jais, Abdul Hadi Mat Dawi, Siti Rosni Mohamad Yusoff & Foo, 2023; Smith, 2004; Topal, Yildirim & Onder, 2020). Digital Learning Objects (DLOs) refer to learning materials designed for digital environments. Over time, various definitions have been given to DLOs. According to Poultsakis, Papadakis, Kalogiannakis, and Psycharis (2021), DLOs refer to:

1. Content structure that supports learning through the alignment of educational objectives.
2. Content design that can be used in various educational environments.
3. Content that can be stored in various digital learning management systems (LMS) or used in various delivery methods.

According to Topali & Mikropoulos (2019), DLOs is a small, complete pedagogical content structure that can be reused. Therefore, DLOs are digital resources that can be reused, portable, and stand-alone. DLOs can take various forms, including charts and diagrams, textbooks, films, or various media accessed through computers (Fuchs, Bruch & Annegarn-Gläß, 2016). It is designed to enhance the learning experience by combining interactive, multimedia, and technology elements. DLOs' advantages are that they can help teachers deliver information more effectively and help students develop their high-level thinking skills (Iatraki, Mallidis-Malessas & Mikropoulos, 2020). Additionally, DLOs are more flexible and adjust students' academic skills based on their learning profiles (Mourao & Netto, 2018). It is essential to understand that DLOs replace traditional learning materials and enrich and enhance learning through technology.

Many digital platforms and digital content development, such as social media, *YouTube channels*, *Facebook*, *e-News*, *e-journals*, *Wakelet*, and others, share digital learning objects for free. Teachers can easily collect digital teaching and learning resources through these diverse sources and put them into cloud drives or digital repositories like websites, *Google Drive*, *Microsoft OneDrive*, and others. In the context of teaching and learning in schools, DLOs components can be divided into five components: instructional videos, audio learning, online assessments, learning websites, and mobile applications (Azman Jais et al., 2023b). Teachers can use these five components as digital learning materials during or after teaching sessions.

KAFA teacher

The Al-Quran and Fardhu Ain Class Education (KAFA), under the management of the Department of Islamic Development Malaysia (JAKIM), has been established as a vehicle for building individuals early through formal religious education. Among the fields taught in KAFA education are Al-Quran, Worship, Akidah, Sirah, Adab & Islamic Morals, Jawi, Appreciation of Islamic Way of Life (PCHI), Practical Prayer and Lughatul Quran (Muhammad Amirul Mohd Nor, Muhammad Zulazizi Mohd Nawawi & Norhisham Mohamad, 2022). In building a student's life based on the Islamic way of life, knowledge should be delivered according to appropriate methods, and its delivery to students needs to be simplified so that they can understand the syllabus (Mohd Roslan Mohd Nor & Wan Mohd Tarmizi Wan Othman, 2011). The offering of Al-Quran and Fardhu Ain (KAFA) classes to primary school students is significant in realizing the effort to build a foundation as an Islamic student (Murihah Abdullah et al., 2022). However, what happened through continuous research from 1994 to 2017 from various institutions and researchers shows that the level of P&P among KAFA teachers and students can still be questioned, especially from the aspect of strategy implementation, teaching aids (BBM), teaching methods, and professionalism (Ahmad Zulfiqar Shah Abdul Hadi, Mohd Abdul Nasir Abd Latif Muhammad Hasbi Abdul Rahman, 2018; Mohd Syaubari Othman, Mohd Afifi Baharuddin Setambah Tajul Rosli Shuib, Mohamed Marzuqi Abd Rahim & Kama Shafeei et al., 2021).

ICT and digital teaching and learning materials are still low among KAFA teachers and should be a priority in improving and further enhancing the quality of teaching and learning in the classroom (Ahmad Zulfiqar Shah Abdul Hadi et al., 2018). Teachers are still using the method or technique of reading textbooks alone in their teaching, which can eventually cause students to lose interest in being active in the classroom (Siti Zubaidah Che Mohd Noor & Abdul Razak Ahmad, 2015) and this is caused by teachers not being prepared for the new curriculum changes by using ICT in implementing P&P as suggested (Noraini et al., 2013). Some students state that the teacher's teaching method is quite dull, and some teachers teach without organized and neat preparation (Muhammad Amirul Mohd Nor, Muhammad Zulazizi Mohd Nawawi & Norhisham Mohamad, 2022; Nur Hanani Hussin, Mohd Aderi Che Noh & Ab. Halim Tamuri, 2013).

In addition, there are other problems related to digital learning, such as devices and internet networks, selecting suitable PdPc platforms, parents' involvement and cooperation, and the teacher's efforts towards digital learning (Murihah Abdullah et al., 2022). To achieve effective digital learning, Chiu et al. (2021) suggest the need for active and comprehensive student involvement, effective use of technology during PdPc, professional development of teachers in the field of ICT and the selection of suitable online learning platforms. Digital learning is seen as the right step towards meeting the needs of new media as a

they were learning resources to achieve lifelong education as desired by the Ministry of Education Malaysia (Mohamad et al., 2015). Therefore, the diversity of the use of teaching aids (ABM), especially the use of digital ABM and effective teaching and learning styles, need to be applied by teachers to attract interest and increase the level of understanding of KAFA students (Farrah Wahida Che Ros, Zamri Arifin & Shamsul Azhar Yahya, 2022). Teachers need to deliver PdPc effectively, that is, to deliver teaching in a relaxed, easy-to-understand, memorable, and enjoyable manner (Muhammad Amirul Mohd Nor et al., 2022). Therefore, using digital learning objects needs to be explored and emphasized by KAFA teachers to align with 21st-century learning (Farrah Wahida Che Ros, Zamri Arifin & Shamsul Azhar Yahya, 2022).

METHODOLOGY

The scholar employed the Nominal Group Technique (NGT) as the principal methodology in this investigation. The NGT is characterized as semi-quantitative due to its integration of qualitative methods (Habibah @ Artini Ramlie et al., 2017). This research procured perspectives from seven specialists in the KAFA elementary school instruction domain. Given the challenges of convening these experts in person, the scholar executed the NGT session virtually via Google Meet. This session took two hours and thirty minutes (O'Neil & Jackson, 1983). The session was bifurcated into two phases: initially, the scholar presented a literature review about DLOs to the experts, and subsequently, the experts voted to select the most appropriate components of DLOs for incorporation into KAFA pedagogy and learning. The experts were convened and the NGT approach was employed to generate ideas and solutions predicated on expert opinions. At the culmination of the session, the scholar conducted a specialized calculation utilizing the NGT technique to procure data to scrutinize the appropriateness of employing DLOs amongst KAFA educators.

Data analysis

The researcher employed the Nominal Group Technique (NGT) process in this investigation. According to Maziah Mahmud & Ramlan Mustapha (2022), the NGT technique can be executed by following these steps:

1. Brainstorming Phase: Participants individually and silently write their ideas responding to the stimulating question.
2. Round Robin Phase: This phase involves sharing ideas from all experts. Each idea presented is displayed on a Flipchart and shown to everyone. Discussion about the concept is not permitted at this time.
3. Clarification Phase: The facilitator will read and briefly explain each idea.
4. Voting Phase: Each participant will evaluate all ideas and is asked to vote or choose the idea they like the most individually. The total score will be arranged according to priority, i.e., 1=Not suitable, 2=Neutral, and 3=Suitable.



Figure 1: NGT-PLUS Analysis Software

Figure 2: Data entry from expert voting

Sampling

The optimal sample size for NGT-based studies remains a topic of debate among researchers. Depending on the research requirements, NGT can be conducted on a single cohort or a large group, and it can also be broken down into smaller groups to facilitate more in-depth communication (Dobbie et al., 2004; Lomax & McLeman, 1984; Siti Norma Aisyah Malkan & Ramlan Mustapha, 2023). Therefore, the core study utilized the sample size provided in Table 1:

Author	Sample
Van de Ven dan Delbecq (1971)	5 – 9 expert/participants
Horton (1980)	7 – 10 experts/participants
Harvey dan Holmes (2012)	6 – 12 expert/participants
Abdullah & Islam (2011)	7 – 10 experts/participants
Carney et al. (1996)	Min. 6 expert/participants

Source : (Maziah Mahmud & Ramlan Mustapha, 2022)

Based on the above references, the researcher selected seven experts to participate in this NGT procedure. Considering the existing scenario, this number is deemed appropriate for this study, which limits the number of contacts.

RESEARCH FINDINGS AND DISCUSSIONS

In this section, the results of this study are presented after the completion of the NGT process. Table 2 displays the components of DLOs utilized by KAFA teachers in this study.

Table 2: DLOs components

DLOs components	Description
Learning video	We are utilizing video media to disseminate information and learning materials. It can take the form of presentations, demonstrations, simulations, and explanations through visual and audio elements.
Audio learning	It involves creating or using specially designed audio content to assist in teaching and learning. It consists of podcasts, audiobooks, recorded lectures, language lessons, or audio-based courses.
Online assessment	A process of assessing a student's knowledge, skills, or abilities using digital platforms or tools. It comprises multiple-choice quizzes, open-ended questions, interactive simulations, video-based assessments, or coding challenges.
Learning site	Also known as an online learning platform or e-learning platform. It provides educational resources, courses, and tools to facilitate learning. It also includes functions for tracking progress, certification, and peer collaboration to enhance the learning experience.
Mobile application	It is a software application that can be accessed by mobile devices such as smartphones or tablets. It offers significant potential to enhance student learning experiences and support innovative and interactive teaching. It can be accessed from Android (Google Play), IOS (App Store), Huawei (AppGallery), and Windows (Microsoft Store) operating systems.

Table 3: NGT analysis result (output from NGT-PLUS software)

Items	Voter 1	Voter 2	Voter 3	Voter 4	Voter 5	Voter 6	Voter 7	Score	%	Rank	Result
Learning video	3	3	3	3	3	3	3	21	100	1	Suitable
Audio learning	2	3	3	2	2	2	2	16	76.19	3	Suitable
Online assessment	3	1	3	3	3	3	3	19	90.48	2	Suitable
Learning site	2	1	1	2	1	2	2	11	52.38	4	Not Suitable
Mobile application	3	3	2	2	3	3	3	19	90.48	2	Suitable

The findings of this study briefly indicate that the percentage of elements evaluated are at a suitable level for use, except for the Learning Page item. The learning site item scored only 52.38% and is deemed unsuitable. This is due to KAFA teachers' lack of proficiency in ICT usage and their limited exposure and training related to ICT. For items that exceed a score of 70%, they can be utilized as components of DLOs in the teaching and learning sessions by KAFA teachers, as stipulated by (Deslandes et al., 2010; Dobbie et al., 2004; Habibah @ Artini Ramlie et al., 2017; Ramlan Mustapha et al., 2022, 2023).

CONCLUSION AND RECOMMENDATION

The role of teachers in the KAFA class is crucial in shaping noble individuals who adhere to Islamic teachings, especially when facing challenges in a globalized world (Hasnadi Hassan, 2019). However, the field of education is changing so rapidly that KAFA teachers need to follow and adapt to more modern strategies. In addition, KAFA teachers also need to make changes in teaching methods and become proficient in using ICT for implementation in teaching and learning. This aligns with the Ministry of Education's aspiration to produce a competitive, digitally fluent generation.

Among the advantages of DLOs, they can provide equal learning opportunities to all students with various abilities, increase student motivation, enable individualized learning, allow students to access hard-to-obtain information, and create a fun and challenging learning environment. Therefore, with these DLOs components, teachers will be more open and innovative in delivering information to students. Various

Innovative teaching methods using DLOs can be explored, such as using the Flip classroom technique, AI and virtual reality in teaching, 3D printing, Jigsaw, and others.

Stakeholders can assist in enhancing ICT skills and digital fluency among KAFA teachers by providing adequate ICT training and courses. In addition, the equipment and infrastructure in the classroom also need to be improved by equipping the class with essential ICT tools such as LCDs, speakers, and internet access. This can help teachers deliver their teaching more effectively, and students will always be motivated and enjoy learning. It is also suggested that a study be conducted to examine the problems KAFA teachers face related to ICT skills and proficiency to enable them to become digitally fluent educators.

REFERENCES

- Ahmad Zulfiqar Shah Abdul Hadi, Mohd Abdul Nasir Abd Latif, & Muhammad Hasbi Abdul Rahman. (2018). Visualisasi maklumat berkomputer dalam memperkasakan pengajaran Kelas Agama dan Fardhu Ain (KAFA) Jakim di peringkat sekolah rendah. *Sains Humanika*, 10(3–4), 79–86. www.sainshumanika.utm.my
- Aida Aryani Shahroom, & Norhayati Hussin. (2018). Industrial Revolution 4.0 and Education. *International Journal of Academic Research in Business and Social Sciences*, 8(9), 314–319. <https://doi.org/10.6007/ijarbss/v8-i9/4593>
- Azman Jais, Abdul Hadi Mat Dawi, Siti Rosni Mohamad Yusoff, & Yen, F. S. (2023a). *Teknologi untuk pengajaran dan pembelajaran* (1st ed.). Local Publication (M) Sdn Bhd.
- Azman Jais, Abdul Hadi Mat Dawi, Siti Rosni Mohamad Yusoff, & Yen, F. S. (2023b). *Teknologi untuk pengajaran dan pembelajaran* (1st ed.). Local Publication (M) Sdn Bhd.
- Basham, J. D., Hall, T. E., Carter, R. A., & Stahl, W. M. (2016). An Operationalized Understanding of Personalized Learning. *Journal of Special Education Technology*, 31(3), 126–136. <https://doi.org/10.1177/0162643416660835>
- Chiu, T. K. F., Lin, T. J., & Lonka, K. (2021). Motivating online learning: The challenges of COVID-19 and beyond. *Asia-Pacific Education Researcher*, 30(3), 187–190. <https://doi.org/10.1007/s40299-021-00566-w>
- Deslandes, S. F., Mendes, C. H. F., Pires, T. de O., & Campos, D. de S. (2010). Use of the nominal group technique and the delphi method to draw up evaluation indicators for strategies to deal with violence against children and adolescents in Brazil. *Revista Brasileira de Saude Materno Infantil*, 10(1), 29–37. <https://doi.org/10.1590/s1519-38292010000500003>
- Dobbie, A., Rhodes, M., Tysinger, J. W., & Freeman, J. (2004). Using a modified nominal group technique as a curriculum evaluation tool. *Family Medicine*, 36(6), 402–406.
- Ellis, J., Wieselmann, J., Sivaraj, R., Roehrig, G., Dare, E., & Ring-Whalen, E. (2020). Toward a Productive Definition of Technology in Science and STEM Education. *Contemporary Issues in Technology and Teacher Education*, 20(c), 1–37. <https://citejournal.org/volume-20/issue-3-20/science/toward-a-productive-definition-of-technology-in-science-and-stem-education/>
- Ertmer, P. A., Ottenbreit-Leftwich, A. T., Sadik, O., Sendurur, E., & Sendurur, P. (2012). Teacher beliefs and technology integration practices: A critical relationship. *Computers and Education*, 59(2), 423–435. <https://doi.org/10.1016/j.compedu.2012.02.001>
- Farrah Wahida Che Ros, Zamri Arifin, & Shamsul Azhar Yahya. (2022). Tinjauan semasa tahap pemahaman dan penguasaan pelajar sekolah rendah KAFA: Prospek pembangunan bahan bantuan mengajar di era Revolusi Industri 4.0. *BITARA International Journal of Civilizational Studies and Human Sciences*, 5(1), 10–22. <https://bitarajournal.com/index.php/bitarajournal/article/view/261/220>
- Fuchs, E., Bruch, A., & Annegarn-Gläß, M. (2016). Introduction: Educational films: A historical review of media innovation in schools. *Journal of Educational Media, Memory, and Society*, 8(1), 1–13. <https://doi.org/10.3167/jemms.2016.080101>

- Ghavifekr, S., & Wong, S. Y. (2022). Technology leadership in Malaysian schools: The way forward to education 4.0 – ICT utilization and digital transformation. *International Journal of Asian Business and Information Management*, 13(2), 1–18. <https://doi.org/10.4018/IJABIM.20220701.0a3>
- Habibah @ Artini Ramlie, Zaharah Hussin, Saedah Siraj, Mohd Ridhuan Mohd Jamil, Ahmad Arifin Sapar, & Abdul Muqsinh Ahmad. (2017). Aplikasi Teknik Kumpulan Nominal (Nominal Group Technique - NGT) dalam penyelidikan pendidikan islam. *Journal of Islamic Social Sciences and Humanities*, 11, 125–138.
- Hasliza Abdullah. (2020). Persepsi pelajar terhadap penggunaan Google Classroom sebagai media E-pembelajaran dalam kursus penyelidikan - Kertas projek.pdf. *Jurnal Penyelidikan Pendidikan*, 21(2020), 69–82.
- Hasmadi Hassan. (2019). Persepsi penjaga terhadap “SAR-KAFA” dalam usaha membimbing pelajar menguasai kemahiran asas membaca al-Quran di “SAR-KAFA” kariah masjid Kampung Pandan Satu, Kuantan. *Cabaran Pengajian Islam Dalam Era Revolusi Industri 4.0 (SePIA 1.0)*, 381–386.
- Hsu, P. S. (2016). Examining Current Beliefs, Practices and Barriers About Technology Integration: A Case Study. *TechTrends*, 60(1), 30–40. <https://doi.org/10.1007/s11528-015-0014-3>
- Iatraki, G., Mallidis-Malessas, P., & Mikropoulos, T. (2020). Digital Learning Objects Support Grade-Aligned Physics Instruction for High School Students with Mild Intellectual Disability: DLOs in Physics instruction for students with MID. *ACM International Conference Proceeding Series*, 213–218. <https://doi.org/10.1145/3439231.3439267>
- KPM. (2016). *Pelan Strategik Pembastarian Sekolah 2016-2020 (1st ed.)*. Bahagian Teknologi Pendidikan, Kementerian Pendidikan Malaysia.
- Lomax, P., & McLeman, P. (1984). The uses and abuses of nominal group technique in polytechnic course evaluation. *Studies in Higher Education*, 9(2), 183–190. <https://doi.org/10.1080/03075078412331378834>
- Mac Callum, K., Jeffrey, L., & Kinshuk. (2014). Comparing the role of ICT literacy and anxiety in the adoption of mobile learning. *Computers in Human Behavior*, 39, 8–19. <https://doi.org/10.1016/j.chb.2014.05.024>
- Maschio, A. V., & Correia, N. M. R. (2020). Digital learning object for audiovisual production. *International Journal of Information and Education Technology*, 10(3), 201–208. <https://doi.org/10.18178/ijiet.2020.10.3.1364>
- Maziah Mahmud, & Ramlan Mustapha. (2022). Cultivating The Mental Wellbeing Using Islamic Approach: An Expert Approach and Suggestion. *International Journal of Academic Research in Business and Social Sciences*, 12(4), 1223–1233. <https://doi.org/10.6007/ijarbss/v12-i4/13199>
- Mohamad, M., Hussin, H., & Shaharuddin, S. (2015). Adult Learners' Perceptions of Designed Hypermedia in a Blended Learning Course At a Public University in Malaysia. 14(1), 31–39. <http://www.tojet.net/articles/v14i1/1414.pdf>
- Mohd Roslan Mohd Nor, & Wan Mohd Tarmizi Wan Othman. (2011). Sejarah dan perkembangan Pendidikan Islam di Malaysia. *At-Ta'dib*, 6(1), 59–78. <https://doi.org/10.21111/at-tadib.v6i1.547>
- Mohd Syaubari Othman, Mohd Afifi Baharuddin Setambah, Tajul Rosli Shuib, Mohamed Marzuqi Abd Rahim, & Kama Shafeei. (2021). Hubungan Pelaksanaan Gamifikasi Terhadap Penglibatan Pelajar Dalam Kurikulum Al-Quran Dan Fardu Ain (KAFA). *The Online Journal Of Islamic Education*, 9(2), 13–23.
- Mourao, A. B., & Netto, J. F. M. (2018). Inclusive Model for the Development and Evaluation of Accessible Learning Objects for graduation in Computing: A Case Study. *Proceedings - Frontiers in Education Conference, FIE, 2018-Octob*, 1–8. <https://doi.org/10.1109/FIE.2018.8659129>
- Muhammad Amirul Mohd Nor, Muhammad Zulazizi Mohd Nawi, & Norhisham Mohamad. (2022). Pelaksanaan kaedah pengajaran berkesan dalam pengajaran Tajwid al-Quran dalam kalangan guru

- kelas Al-Quran dan Fardhu Ain (KAFA) di Negeri Kedah. *INSANIAH: Online Journal of Language, Communication, and Humanities*, 5(1), 40–55.
- Muliyati Timbang, & Abdul Said Ambotang. (2020). Pengaruh inovasi teknologi, peranan pentadbir dan kesediaan guru terhadap profesionalisme keguruan sekolah luar bandar di Sabah. *Malaysian Journal of Social Sciences and Humanities (MJSSH)*, 5(2), 96–106. <https://doi.org/10.47405/mjssh.v5i2.369>
- Murihah Abdullah, Shofiyyah Moidin, Mohd Asmadi Yakob, Amiratul Munirah Yahaya, & Hajarul Bahti Zakaria. (2022). The Implementation of Online Teaching and Learning (PdP) Methods of Al-Quran and Fardhu Ain (KAFA) Classes. Case Study in Dungun.pdf. In Nur Nafhatun Md Shariff, Mohd Asmadi Yakob, Zety Sharizat Hamidi, Zeiad Amjad Abdulrazzak Aghwan, & Najahudin Lateh (Eds.), *Selected Proceedings from the 1st International Conference on Contemporary Islamic Studies (ICIS 2021)* (pp. 241–246). Springer Singapore. <https://doi.org/https://doi.org/10.1007/978-981-19-2390-6>
- Noraini, M. N., Merylina, A. M. H., Mahizer, H., Arif, I. M., & Norazilawati, A. (2013). Penggunaan Inovasi Teknologi Dalam Pengajaran: Cabaran Guru Dalam E-Pembelajaran. *Proceedings Of The 7th International Malaysian Educational Technology Convention (IMETC 2013)*, Technology Enhanced Global Classroom Environment, 1–12.
- Nur Hanani Hussin, Mohd Aderi Che Noh, & Ab. Halim Tamuri. (2013). Elemen mengenali murid dalam pengajaran guru cemerlang Pendidikan Islam. *The Online Journal of Islamic Education*, 1(2), 10–19.
- O'Neil, M. J., & Jackson, L. (1983). Nominal Group Technique: A process for initiating curriculum development in higher education. *Studies in Higher Education*, 8(2), 129–138. <https://doi.org/10.1080/03075078312331378994>
- Poultsakis, S., Papadakis, S., Kalogiannakis, M., & Psycharis, S. (2021). The management of Digital Learning Objects of Natural Sciences and Digital Experiment Simulation Tools by teachers. *Advances in Mobile Learning Educational Research*, 1(2), 58–71. <https://doi.org/10.25082/amler.2021.02.002>
- Putrawangsa, S., & Hasanah, U. (2018). Integrasi teknologi digital dalam pembelajaran di era industri 4.0. *Jurnal Tatsqif*, 16(1), 42–54. <https://doi.org/10.20414/jtq.v16i1.203>
- Ramlan Mustapha, Nurshahira Ibrahim, Maziah Mahmud, Abu Bakar Jaafar, Wan Azmi Wan Ahmad, & Nur Hidayah Mohamad. (2022). Brainstorming the Students Mental Health after Covid-19 Outbreak and How to Curb from Islamic Perspectives: Nominal Group Technique Analysis Approach. *International Journal of Academic Research in Business and Social Sciences*, 12(2). <https://doi.org/10.6007/ijarbss/v12-i2/12367>
- Ramlan Mustapha, Tengku Nazatul Shima Tengku Paris, Maziah Mahmud, Mohamad Sahizam Musa, Azniza Ahmad Zaini, & Jazimin Zakaria. (2023). Managing students' mental health: The use of NGT and FDM to generate a concrete solution. *International Journal of Asian Social Science*, 13(2), 89–100. <https://doi.org/10.55493/5007.v13i2.4736>
- Sharma, P. (2019). Digital Revolution of Education 4.0. *International Journal of Engineering and Advanced Technology*, 9(2), 3558–3564. <https://doi.org/10.35940/ijeat.a1293.129219>
- Siti Norma Aisyah Malkan, & Ramlan Mustapha. (2023). The Suitability Of Al Ghazali's Approach in Dealing With Mental Health : A Nominal Group Approach. *International Journal of Islamic Theology and Civilization*, 1(1), 37–45.
- Siti Zubaidah Che Mohd Noor, & Abdul Razak Ahmad. (2015). Kreativiti guru dalam meningkatkan kefahaman dan penghayatan sejarah. In Mahdun, Said Suhil Achmad, Abdul Razak Ahmad, Mohd Hanafi Mohd Yasin, Daeng Ayub Natuna, & Suarman (Eds.), *Proceeding : 7th International Seminar on Regional Education* (Vol. 1, pp. 457–468). Universitas Riau Press.
- Smith, R. S. (2004). Learning Objects for Instruction. In *Learning Objects for Instruction* (1st ed.). New Media Consortium. <https://doi.org/10.4018/978-1-59904-334-0>
- Topal, M., Yildirim, E. G., & Onder, A. N. (2020). Use of Educational Films in Environmental Education as a Digital Learning Object. *Journal of Education in Science, Environment and Health*, 6(2), 134–147. <https://doi.org/10.21891/jeseh.703492>

- Topali, P., & Mikropoulos, T. A. (2019). Digital Learning Objects for Teaching Computer Programming in Primary Students BT - Technology and Innovation in Learning, Teaching and Education (M. Tsitouridou, J. A. Diniz, & T. A. Mikropoulos (eds.); pp. 256–266). Springer International Publishing.
- Vongkulluksn, V. W., Xie, K., & Bowman, M. A. (2018). The role of value on teachers' internalization of external barriers and externalization of personal beliefs for classroom technology integration. *Computers and Education*, 118(March), 70–81. <https://doi.org/10.1016/j.compedu.2017.11.009>
- Zuraidah Abdullah, Zulkifli A Manaf, Nik Mustafa Mat Ail, & Mohammad Ismath Ramzy. (2016). Perneriksaan guru Bahasa Melayu melalui penyeliaan kembang tumbuh dan Komuniti Pembelajaran Profesional (KPP) di lima sekolah menengah daerah Kuala Lipis. *Jurnal Kepimpinan Pendidikan*, 3(2), 32–46. <http://e-journal.um.edu.my/publish/JuPiDi/ulos> (eds.); pp. 256–266). Springer International Publishing.