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EFFECTIVENESS OF BLENDED LEARNING MODEL-BASED ON "KUTUB AL-TIS'AH" APPLICATION IN IMPROVING STUDENTS' CRITICAL THINKING IN HADITH STUDY COURSES

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Abstract: This study compares the enhancement of students' critical thinking abilities between those who utilise the Blended Learning model based on *Kutub al-Tis'ah* and those who adhere to a conventional learning methodology. A quasi-experimental method with purposive sampling was employed, with two classes from the Architecture Study Program at the State Islamic University of Sunan Ampel Surabaya in 2020/2021 serving as samples. The experimental group was instructed using the blended learning model, while the control group was taught using conventional methods. The results of the post-test demonstrated that the experimental class exhibited significantly higher scores (with an average of 90.32 and a variance of 6.799) than the control class (with an average of 65.81 and a variance of 5.872). The results of the statistical tests, including those for normality (Kolmogorov-Smirnov and Shapiro-Wilk) and homogeneity (Levene), demonstrated that the data from both groups were normally distributed and homogeneous. A p-value of 0.00, less than 0.05, indicated that the null hypothesis should be rejected, demonstrating that the blended learning model effectively enhances critical thinking skills in Hadith Studies courses.

Keywords: Blended Learning, *Kutub al-Tis'ah*, Student's Critical Thinking.

Introduction

The advancement of science, technology, and the currents of globalisation have brought about changes in various aspects of human

life, and these developments are occurring at a rapid pace, particularly in the field of technology and information.[1] The utilisation of digital technology is now ubiquitous, facilitating rapid interaction through a multitude of digital devices, including the discovery of educational resources.[2] To address these challenges, it is essential to invest in the development of high-quality human resources through the modernisation of the education system. In order to facilitate the renewal of the education system, it is essential to create an environment conducive to learning and to implement a variety of methods, strategies, approaches and learning techniques that encourage the acquisition of 21st-century skills. These skills, which have been collectively termed the '4Cs', encompass critical thinking and problem-solving abilities, collaboration skills, communication skills, creativity and innovation skills.[3]

In the context of the current globalised era, the capacity to engage in critical thinking is arguably one of the most indispensable skills. This viewpoint is further supported by the assertion of Budi Cahyono, who posits that the capacity for critical thinking is a pivotal skill for success in learning, work, and living in the 21st century.[4] Dewis defines critical thinking as an active process whereby an individual engages in self-reflection and evaluation of information and ideas, rather than merely accepting them unquestioningly.[5] Johnson defines critical thinking as a mental activity encompassing a range of processes, including problem-solving, decision-making, persuasion,

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[1] I Wayan Redhana, "Mengembangkan Keterampilan Abad 21 Dalam Pembelajaran Kimia," *Jurnal Inovasi Pendidikan Kimia* 13, no. 1 (February 10, 2019), https://journal.unnes.ac.id/nju/index.php/JIPK/article/view/17824.

[2]Muhasim Muhasim, "Pengaruh Tehnologi Digital Terhadap Motivasi Belajar Peserta Didik," *Palapa* 5, no. 2 (November 30, 2017): 53–77.

[3] Nurul Septikasari and Rendy Nugraha Frasandy, "Keterampilan 4C Abad 21 Dalam Pembelajaran Pendidikan Dasar," *Tarbiyah al-Awlad* 8, no. 2 (2018): 107–117, accessed January 5, 2022, https://ejournal.uinib.ac.id/jurnal/index.php/alawlad/article/view/1597.

[4] Budi Cahyono, "Analisis Ketrampilan Berpikir Kritis Dalam Memecahkan Masalah Ditinjau Perbedaan Genderlah Ditinjau Perbedaan Gender," *Aksioma : Jurnal Matematika dan Pendidikan Matematika* 8, no. 1 (August 9, 2017): 50–64, accessed January 5, 2022, http://journal.upgris.ac.id/index.php/aksioma/article/view/1510.

[5] Alec Fisher and Benyamin Hadinata, *Berpikir Kritis: Sebuah Pengantar*, ed. Gugi Sagara, Cet. 2. (Jakarta: Erlangga, 2008), accessed January 5, 2022, https://pustakaaceh.perpusnas.go.id/detail-opac?id=40700.

analysis of assumptions, and the conduct of scientific research.[6] Chukwuywnum posits that critical thinking skills are tools that can be employed in everyday life to enable individuals to navigate the myriad challenges of the 21st century and to ensure their continued survival.[7] However, the findings of research conducted by Irene Andita indicate that the critical thinking abilities of learners in Indonesia remain underdeveloped and require further enhancement.[8] This is corroborated by the 2018 Programme for International Student Assessment (PISA) results, which indicated that the mathematical proficiency of learners in Indonesia was ranked 73rd out of 79 countries. The PISA study employs a question format that assesses Higher-Order Thinking Skills (HOTS).

In addition to the cognitive aspects of information media and technology utilisation, there are also psychomotor aspects that require mastery. Technological advancement is an unavoidable phenomenon in the 21st century. Edi Syahputra's research emphasises the significance of information technology in the context of 21st-century learning. It is incumbent upon all stakeholders in the field of education to acquire proficiency in digital literacy. The learning model has undergone a significant shift towards the application of digital technology, specifically in the context of ICT Literacy (Instructional Communication and Technology). This shift has the potential to bridge the gap between rural and urban schools in Indonesia, provided that all educational institutions are able to adequately compensate for this change.[9]

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[6] Elaine B. Johnson, *CTL Contextual Teaching & Learning: Menjadikan Kegiatan Belajar-Mengajar Mengasyikan Dan Bermakna* , ed. Ida Sitompul and Ibnu Setiawan (Bandung: Kaifa, 2010), accessed January 5, 2022, https://opac.perpusnas.go.id/DetailOpac.aspx?id=528508.

[7] Asuai Nelson Chukwuyenum, "Impact of Critical Thinking on Performance in Mathematics among Senior Secondary School Students in Lagos State," *IOSR Journal of Research & Method in Education* 3, no. 5 (2013): 18–25, accessed January 5, 2022, www.iosrjournals.orgwww.iosrjournals.org18%7C.

[8] Irene Andita Purnamasari, "Analisis Proses Berpikir Kritis Siswa Dalam Pemecahan Masalah Soal Cerita Materi Persamaan Linear Satu Varoabel Yang Memuat Nilai Mutlak Ditinjau Dari Minat Belajar Matematika Siswa Kelas X Semester 2 SMAN 1 Klaten Tahun Ajaran 2016/2017," *Pendidikan Matematika* (October 16, 2017).

[9] Edi Syahputra, "pembelajaran abad 21 dan penerapannya di indonesia," in *seminar nasional sains, teknologi, humaniora dan pendidikan* (medan, 2018), accessed january 5,

However, Megahantara's research has identified a range of impacts resulting from the advancement of information technology, encompassing both positive and negative effects. The positive impacts of information technology can be enumerated as follows: (1) the ability to complete tasks in a timely and efficient manner, (2) enhanced communication with others, (3) the establishment of new relationships, (4) convenient access to information, (5) the ability to conduct transactions, (6) the facilitation of internet access, and (7) the provision of free entertainment. In addition to these positive impacts, information technology also has a negative impact, including the emergence of new models of fraud, the emergence of various forms of plagiarism, and others.[10] Conversely, the advancement of information technology, as posited by Yohannes, also engenders alterations in human conduct, ethical standards, norms, regulations, and moral principles that are antithetical to the ethical standards, norms, regulations, and moral principles that prevail within society.[11]

In order to mitigate the adverse effects of technological and informational advancement, Humairah Munir conducted a study on Madrasah Aliyah students. The findings indicate that educators can play a pivotal role in counteracting the detrimental impact of ICT (Information and Communication Technology) by setting positive examples, providing guidance, employing habituation techniques, implementing restrictions on ICT usage, utilising rewards and sanctions, and fostering collaboration between madrasahs and parents. Such countermeasures may also be implemented through the study of Islamic Religious Education, which encompasses the Qur'an, hadith, Aqidah, Akhlak, Fiqh, and Sejarah Kebudayaan Islam.[12] In his

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2022, https://www.researchgate.net/publication/331638425_Pembelajaran_Abad_21_dan_Penerapannya_di_Indonesia.

[10] Galang Sansaka Megahantara, "Pengaruh Teknologi Terhadap Pendidikan Di Abad 21", http://megahantara.blogs.uny.ac.id/wp-content/uploads/sites/15470/2017/10/jurnal.pdf

[11] Yohannes Marryono Jamun, "Dampak Teknologi Terhadap Pendidikan," *Jurnal Pendidikan dan Kebudayaan Missio* 10, no. 1 (January 28, 2018): 48–52, accessed January 5, 2022, http://unikastpaulus.ac.id/jurnal/index.php/jpkm/article/view/54.

[12] Humaerah Munir, "Upaya Penanggulangan Dampak Negatif Teknologi Informasi Dan Komunikasi Pada Peserta Didik Kelas X MAN 2 Kota Parepare Dalam Perspektif Pendidikan Islam.," *Istiqra`: Jurnal Pendidikan dan Pemikiran Islam* 7, no. 1 (September 27, 2019), accessed January 5, 2022, https://jurnal.umpar.ac.id/index.php/istiqra/article/view/167.

research, Zakaria concluded that the implementation of information and communication technology (ICT) can enhance the quality of learning. However, for this to be achieved, three key factors must be considered by the institution. Firstly, the institution must ensure that learners have access to technology. Secondly, the material provided must be of a high quality and beneficial for both teachers and learners. Thirdly, teachers must possess the necessary knowledge and ICT skills to utilise the technology effectively.[13] In a separate study conducted by Handayani, it was found that the use of the internet as a medium for literacy among students is still largely confined to social media, business, and entertainment platforms.[14]

In light of the disparate findings of the aforementioned research, further investigation is required to ascertain how ICT media can be harnessed to enhance critical thinking abilities. One potential avenue for exploration is the implementation of the blended learning model. Blended learning is defined as the combination of online learning with face-to-face instruction, which is conducted by instructors or teachers.[15] Accordingly, the Blended Learning model necessitates the integration of ICT, which has been demonstrated to yield favourable outcomes. As evidenced by Ekayati's research, the deployment of Edmodo-based blended learning methodologies has been shown to have a beneficial impact on both lecturers and students, who engage actively in learning activities across both online and face-to-face settings.[16] A plethora of applications can be employed by educators to facilitate the integration of online learning (in-network) and blended learning, including WhatsApp, Zoom,

[13] Zakaria Siregar and Topan Bilardo Marpaung, "Pemanfaatan Teknologi Informasi Dan Komunikasi (TIK) Dalam Pembelajaran Di Sekolah," *BEST Journal (Biology Education, Sains and Technology)* 3, no. 1 (April 10, 2020): 61–69, accessed January 5, 2022, https://jurnal.uisu.ac.id/index.php/best/article/view/2437.

[14] Eka Aprilya Handayani, "Penggunaan Internet Sebagai Media Penggunaan Internet Sebagai Media Literasi Pada Mahasiswa STKIP Muhammadiyah Bulukumba: Tantangan Pendidikan Abad 21," in *Seminar Nasional Kedua Pendidikan Berkemajuan Dan Menggembirakan (The Second Progressive and Fun Education Seminar)*, n.d.

[15] Rini Ekayati, "Implementasi Metode Blended Learning Berbasis Aplikasi Edmodo," *EduTech: Jurnal Ilmu Pendidikan dan Ilmu Sosial* 4, no. 2 (October 5, 2018), accessed January 5, 2022, http://jurnal.umsu.ac.id/index.php/edutech/article/view/2277.

[16] Ibid, "Implementasi Metode Blended Learning ...," n.d.

Edmodo, and numerous others.[17] The blended learning model presented in this study is the integration of ICARE (Introduction, Connection, Application, Reflection, and Extension) learning models into both face-to-face and online learning environments, utilising the flipped classroom approach.

The ICARE system provides learners with the opportunity to apply the knowledge and skills acquired during training.[18] The ICARE learning model is based on a set of syntaxes, which can be summarised as follows: introduction, connection, application, reflection and extension.[19] The ICARE model was initially developed for online learning and subsequently adapted for use in the classroom.[20] The concept was first introduced at San Diego State University in 1998 by Bob Hoffman and Donn Ritchie in their document entitled Teaching and Learning Online. The ICARE model was introduced in Indonesia in 2016 by the United States Agency for International Development (USAID) through the implementation of teacher training programmes and classroom learning processes. The aforementioned training programme was provided to elementary/MI teachers and junior high school/MTS educators in several cities.[21]

This learning model is centred on the student,[22] offering them the chance to apply their newly acquired knowledge in a practical

[17] Rikhatul Wardah and Hernik Farisia, "Pembelajaran Daring Pada Masa Pandemi Covid-19: Implementasinya Pada Sekolah Menengah Pertama," *Edukatif: Jurnal Ilmu Pendidikan* 3, no. 4 (August 2, 2021): 2008–2017, accessed January 6, 2022, https://www.edukatif.org/index.php/edukatif/article/view/908.

[18] Kementerian Pendidikan Nasional, *Buku 1 Panduan Pengembangan Pendekatan Belajar Aktif* (Jakarta, 2010).

[19] Ni Made Dwijayani, "Pengembangan Media Pembelajaran ICARE," *Kreano: Jurnal Matematika Kreatif Inovatif* 8, no. 2 (2017): 127.

[20] Carni, J. Maknun, and P. Siahaan, "An Implementation Of Icare Approach (Introduction, Connection, Application, Reflection, Extension) to Improve The Creative Thinking Skills," *JPhCS* 812, no. 1 (March 29, 2017): 012022, accessed January 5, 2022, https://ui.adsabs.harvard.edu/abs/2017JPhCS.812a2022C/abstract.

[21] Desi Wulandari, Fitria Dwi Prasetyaningtyas, and Sri Hartati, "Pengembangan Pembelajaran Icare-K Berkarakter Untuk Membekali Kemampuan Keterampilan Proses Ipa Mahasiswa Calon Guru SD," *Elementary School Journal PGSD FIP UNIMED* 7, no. 3 (December 19, 2017): 337–345, accessed January 5, 2022, https://jurnal.unimed.ac.id/2012/index.php/elementary/article/view/8169.

[22] Ahmad Jalalluddin Al-Mahali, "Pengembangan Model Pembelajaran ICARE Pada Ekspansi Kelas Yang Sesuai Dengan Kultur Dan Karakter Siswa Di SDN

setting and to reflect on its real-world applications.[23] Furthermore, the ICARE model facilitates the development of student problem-solving abilities.[24]

This model offers several advantages, including a more meaningful learning experience. The ICARE model provides students with ample opportunities to practise or consolidate the material they have received, facilitating the integration of learning in school with real-life applications. This approach ensures that the material is effectively embedded in the memory of learners, reducing the likelihood of forgetting.[25]

The ICARE model offers a number of advantages, but also presents certain limitations. For instance, the time constraints at the introductory and connecting stages may not allow for a comprehensive mastery of the theory, application, or teaching materials. This was observed by the author during a training conducted by USAID, as well as in studies that often combine the ICARE model with other learning models or media. Subsequently, this research integrates the ICARE model with the flipped classroom approach.

As posited by Graham Brent, the flipped classroom represents a pedagogical model or strategy devised by educators with the objective of minimising instructional input during classroom learning while simultaneously maximising interaction between learners. This strategy employs technology to provide learners with supplementary materials that can be accessed online.[26] This signifies the liberation of

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Gedongan 2 Dan SDN Meri 2 Kota Mojokerto," *Progressa: Journal of Islamic Religious Instruction* 1, no. 1 (April 16, 2017): 59.

[23] Maria Desidaria Noge, "Efektivitas Model Pembelajaran ICARE Berbasis Media Autentik "Berbabe" Terhadap Hasil Belajar Bahasa Inggris Siswa Sekolah Dasar," *Jurnal Tunas Bangsa* 4, no. 2 (August 30, 2017): 198–210, accessed January 5, 2022, https://ejournal.bbg.ac.id/tunasbangsa/article/view/642.

[24] Liliek Triani et al., "Pembelajaran I-CARE Berbantuan Praktikum: Peningkatan Problem-Solving Skills Dan Hasil Belajar Siswa Pada Materi Jaringan Hewan," *Jurnal Inovasi Pendidikan IPA* 4, no. 2 (October 10, 2018): 158–168, accessed January 5, 2022, https://journal.uny.ac.id/index.php/jipi/article/view/21826.

[25] Kuntum An Nisa Imania and Siti Husnul Bariah, "Pemanfaatan Program Pembelajaran Lovaas (ABA) Dengan Pendekatan ICARE Dalam Meningkatkan Kemampuan General Life Skill Anak Autis," *Jurnal Petik* 4, no. 1 (2018), accessed January 5, 2022, https://www.scribd.com/document/486116485/7-50-1-PB-pdf.

[26] J. Bergmann and A Sams, "Flip Your Classroom Reach Every Student in Every Class Every Day ," *International Society for Technology in Education* (2012): 120–130,

learning time for learners, which was initially conducted within the classroom setting. In this model, the teacher provides students with assignments or materials to facilitate active learning of the material. Subsequently, the teacher conveys the learning material through video or e-book and offers instructions while students complete the exercise. The material serves as a discussion point when the class is conducted in person.[27]

In the flipped classroom model, the sequence of learning processes is reversed in comparison to the conventional learning approach. In the context of conventional learning in the classroom, learners engage in active learning under the guidance of educators, undertaking assignments in the form of exercises or homework. Tucker (in Roehl, 2016) posits that students utilise classroom time to solve problems, develop concepts and engage in collaborative learning.[28]

The flipped classroom learning model has been demonstrated to enhance learner engagement and motivation,[29] facilitating more effective learning and fostering collaborative interactions.[30] Through the application of flipped classroom learning models, learners can increase their critical thinking so that they can solve problems by collaborating.[31]

In light of the favourable outcomes observed in numerous ICARE and flipped classroom learning studies, researchers have

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accessed January 5, 2022, https://www.scirp.org/(S(oyulxb452alnt1aej1nfow45))/reference/ReferencesPapers.aspx?ReferenceID=1791200.

[27] Fatra Hadi Kurniawan, "Pengembangan Sistem Pembelajaran Berbasis Flipped Classroom Dengan Media LSN Pada Mata Pelajaran Biologi Kelas Xi Di SMA Negeri 1 Plosoklaten Kabupaten Kediri / Fatra Hadi Kurniawan" (July 20, 2017).

[28] Amy Roehl, "The Flipped Classroom: An Opportunity to Engage Millenial Students through Active Learning Strategies," *Journal of Family & Consumer Science* 105, no. 2 (n.d.).

[29] Nadya Treesna Wulansari and et. al, "Pengaruh Penerapan Model Pembelajaran Flipped Classroom Terhadap Hasil Belajar Kognitif Mahasiswa Keperawatan Dalam Materi Ajar Mikrobiologi," *Jurnal Bioeducation* 5, no. 2 (2018).

[30] Kurniawan, "Pengembangan Sistem Pembelajaran Berbasis Flipped Classroom Dengan Media LSN Pada Mata Pelajaran Biologi Kelas Xi Di SMA Negeri 1 Plosoklaten Kabupaten Kediri / Fatra Hadi Kurniawan."

[31] Lenia Puri Rahayu, "Efektivitas Strategi Pembelajaran Flipped Classroom Pada Materi Pythagoras SMP Kelas VIII Ditinjau Berdasarkan Gender," in *Prosiding SI MaNis (Seminar Nasional Integrasi Matematika Dan Nilai-Nilai Islami)*, 2017.

proposed the efficacy of blended learning in enhancing students' critical thinking abilities through the utilisation of *Kutub al-Tis'ah* in the context of hadith study. The application can be utilised as an additional learning resource and as a media tool in the context of hadith studies courses. The application comprises a number of features[32] that can be employed to facilitate the acquisition of knowledge in the field of hadith studies and to foster the growth of students' critical thinking abilities. Hadith studies constitutes a basic and independent subject in several Islamic religious colleges, both public and private. Consequently, the majority of universities provide hadith study courses, which are a prerequisite for all students. This is due to the fact that the course of hadith studies provides a fundamental scientific basis for the study of the sources of Islamic teachings. Nevertheless, as Daniel June, Professor of Hadith Science at UIN al-Raniry Aceh, observes, the study of hadith remains a challenging field, and it could even be argued that the subject is perceived as uninspiring, which has resulted in a lack of interest. He attributes this to a lack of systematic learning.[33]

It is therefore recommended that the Blended Learning model, based on the *Kutub al-Tis'ah* application, be implemented as one of the learning innovation efforts. Furthermore, this model represents a

[32] The application features Kutub al-Tis'ah. among others: (1) contains 62 thousand hadiths more than 9 hadiths (kutub al-tis'ah) and all of them are accessible, (2) equipped with Arabic texts and translated Indonesian and can be shared, (3) each of these hadiths is given a level of authentic quality}, h}asan and da'if) except Musnad Ahmad and Muwatta' Imam Malik; (4) search for words, either Arabic text or Indonesian text; (5) Related hadith means being able to see Hadiths that have a connection with a Hadith that we are reading/looking for, (6) Index hadith or grouping hadith thematically (Iman, Akhlaq & Adab, Worship, etc.), (7) there is a collection or group of Hadith Qudsi, Mutawatir, Marfu, Mauquf, Maqtu', Mursal, Munqati, Muallaq, (8) Sanad path diagram: various sanad (path to Hadith) of a Hadith are displayed in the form of informative diagrams, (9) Detailed information for each narrator (Hadith passage) to make it easier for us to know the credibility of narrators, (10) Statistics on the number of hadith narrations of a narrator in 9 books of Hadith, (11) Supporting multi-numbering: supporting some widely known methods of Hadith numbering (Al-Alamiyah, Fathul Bari, Sharah An-Nawawi, etc.), (12) Daily Hadiths: daily will be sent interesting thematic Hadith. **(https://news.detik.com/berita/d-2963319/cari-rujukan-Hadis-kini-ada-aplikasi-ensiklopedi-hadits-9-imam,** Accessed on Wednesday, July 8th, 2019 11:25 WIB)

[33] Daniel Juned, "Ilmu Hadis Paradigma Baru Dan Rekonstruksi Ilmu Hadis" (Jakarta, n.d.).

novel approach that has yet to be implemented in numerous universities across Indonesia. In order to ascertain the efficacy of the Blended Learning model based on the *Kutub al-Tis'ah* application in the Hadith Studies course, with a view to enhancing students' critical thinking skills, this quasi-experimental research was undertaken. Two distinct groups were employed for the study: an experimental group that utilized a blended learning approach based on the *Kutub al-Tis'ah* application, and a control group that engaged with conventional learning methods, including lectures and discussions. In the initial stages of the study, both groups were administered pre-tests and post-tests.

The population of this study comprises all students enrolled in the Hadith Studies programme at UIN Sunan Ampel, totalling 134 classes from 43 different study programmes. A sample of two classes from the Architecture Study Programme was selected for inclusion in the study. Class A is the experimental class, comprising 25 students, while Class B is the control class, with a total of 26 students, as outlined in the table.

Table 1. The number of Research subject

Subject	Experiment Class	Control Class	Total	Note
	25	26	51	Samples

The collection of supplementary data through interviews with lecturers and study programmes is conducted to obtain information regarding the implementation of Hadith Studies courses and the efficacy of the Blended Learning model. This data is then validated by the validator, after which the application is observed by lecturers and given a response by users, namely experimental class students. The data pertaining to critical thinking is presented in the form of hotspot questions, which have been adapted from the cognitive theory of Benjamin S. Bloom. This theory has been revised by Anderson and Krathwohl for levels C4 and C5, and these revised questions serve as a pre-test and post-test. In order to ascertain the efficacy of the Blended Learning model based on the *Kutub al-Tis'ah* application in enhancing critical thinking abilities, the pre-test and post-test results are subjected to an effective criteria analysis. This is conducted on the

premise that the post-test value of the experimental class is superior to that of the control class. The analysis employed is a statistical test. Once the data has been collected, the prerequisite test of the analysis will proceed with the hypothesis of a similarity test of two average pre-test datasets. The objective of this test is to ascertain whether there is a discernible difference between the average pre-test values of student learning outcomes in blended learning classes and those in conventional classes. In order to achieve these objectives, the assumption test initially employs a normality test, with the resulting calculations utilising the Kolmogorov-Smirnov and Spiro-Wilk tests. This is followed by a homogeneity test, with the resulting calculations employing the Levene test. The statistical test then continues. The objective of testing this hypothesis is to ascertain whether the hypothesis is accepted or rejected. The subsequent stage comprises a hypothesis test of the similarity of two average post-test data sets, which follows the same process as the analysis of the pre-test results.

The blended learning approach, which combines the ICARE and flipped classroom models, was observed as follows: The six-step process, which allows students to reflect on their learning, is as follows: (1) Introduction; (2) Connection; (3) Application; (4) Reflection; (5) Extension; and (6) Recitation.

In the Reflection stage, students are encouraged to consider what they have learned and to record their thoughts. Lecturers provide feedback and guidance throughout the process.

Effectiveness of ICARE and Flipped Classroom Models with Blended Learning Model Based on *Kutub al-Tis'ah* application in Improving Critical Thinking Skills

Once the sample for both the experimental and control classes had been determined and pre-tested, each class was assigned a score. The results of this process are presented in Table 2 below.

Table 2. Description of Experiment Class Pre-test Data and Control Groups

	Type of Method	*N*	Mean	Std. Deviation	Std. Error Mean
Critical Thinking	Experiment	25	49,88	6,35	1,27

Control	26	50,20	6,11	1,22

The table above illustrates that the mean pre-test scores for student learning outcomes in experimental and conventional classes are 49.88 and 50.20, respectively, with standard deviations of 6.35 and 6.11, respectively.

Two Average Similarity Hypothesis Test Pre-test Data

The objective of this test is to ascertain whether there is a discernible difference between the average pre-test value of student learning outcomes in an experimental class and those in a control class. In order to ascertain the requisite information, an assumption test was initially conducted, the results of which are as follows:

Normality Test

The results of the normality tests for the experiment class pre-test scores and the control classes are presented below:

Table 3. Normality Test

	Type of Method	Kolmogorov-Smirnov[a]			Shapiro-Wilk		
		Statistic	***df***	***Sig.***	***Statistic***	***df***	***Sig.***
Critical Thinking	ICARER/ Experiment	0,093	25	0,200*	0,949	25	0,236
	Conventional/Control	0,117	25	0,200*	0,956	25	0,343

The Kolmogorov-Smirnov and Spiro-Wilk tests yielded pre-test scores for both the experimental and control groups with a significance level of 0.200, which exceeded the alpha value of 0.05.

Homogeneity Test

The results of the experimental class homogeneity test, when compared to the control classes, are as follows:

Table 4. Test of Homogeneity of Variances

Pretest

Levene Statistic	df1	df2	Sig.
.165	1	49	.687

The results of the homogeneity test calculation using the Levene test showed the pre-test value of both the experimental class with the control was homogeneous with Sig 0.677 > α = 0.05.

Statistical Test

(i) Hypothesis

H_0: Experimental class pre-test grade average is equal to control class pre-test grade point average

H_1: Experimental class pre-test grade average score is not the same as control class pre-test average

(ii) α = 5%

(iii) Test Statistics

Table 5. Independent Samples Test

Independent Samples Test										
		Levene's Test for Equality of Variances	t-test for Equality of Means							
								95% Confidence Interval of the Difference		
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
Pre-test	Equal variances assumed	.165	.687	-.181	49	.857	-.312	1.727	-3.783	3.158
	Equal variances not assumed			-.181	48.532	.857	-.312	1.729	-3.788	3.163

(iv) Conclusion

The results of the calculation yielded a significance value of 0.857, which is greater than the alpha value of 0.05. This indicates that the null hypothesis (H0) is accepted, suggesting that the average value of the pre-test class Experiment is equivalent to the average pre-test value of the Control class. In other words, the initial abilities of both the experimental and control groups are equivalent.

Table 6. Description of Post-test Data

Group Statistics

	Kode	N	Mean	Std. Deviation	Std. Error Mean
Post-	Experiment	25	90.32	6.799	1.360

test	Control	26 65.81	5.872	1.152

The data description results obtained the average post-test score of student learning outcomes in experimental classes and conventional classes of 90.32 and 65.81 with variants of 6,799 and 5,872.

Two Average Similarity Hypothesis Test Post-test Data

The objective of this test is to ascertain whether there is a discernible difference between the average grade achieved by students in the experimental class and the average grade achieved by students in the control class in the post-test phase of the learning outcomes assessment. In order to achieve these objectives, it is first necessary to carry out an assumption test, as follows:

Normality Test

The results of the normality tests for the post-test scores of the experimental and control classes are presented below.

Table 7. Tests of Normality

	Kolmogorov-Smirnov[a]			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
Post-test_Eks	.118	25	.200*	.928	25	.077
Post-test_Ctr	.090	25	.200*	.959	25	.388

a. Lilliefors Significance Correction

*. This is a lower bound of the true significance.

The Kolmogorov-Smirnov and Spiro-Wilk tests yielded comparable results for both the experimental and control groups, with a significance level of 0.200 exceeding the alpha value of 0.05.

Homogeneity Test

Experimental class homogeneity test results with control classes as follows:

Table 8. Test of Homogeneity of Variances

Post-test

Levene Statistic	df1	df2	Sig.
1.641	1	49	.206

The results of the homogeneity test calculation using the Levene test showed the post-test value of both the experimental class with the Control class was homogeneous with Sig 0.206 > α = 0.05.

Statistical Test

(i) Hypothesis

H_0: Experimental class post-test average is equal to control class post-test grade average

H_1: Experimental class post-test average scores greater with Control class post-test average scores

(ii) α = 5%

(iii) Test Statistics.

Table 9. Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
									95% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
Post test	Equal variances assumed	1.641	.206	13.796	49	.000	24.512	1.777	20.942	28.083

Table 9. Independent Samples Test

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Post test	Equal variances assumed	1.641	.206	13.796	49	.000	24.512	1.777	20.942	28.083
	Equal variances not assumed			13.756	47.377	.000	24.512	1.782	20.928	28.096

(iv) Conclusion

The results of the calculation yielded a value of $\alpha = 0.00$ (two-tailed test hypothesis) and, if a one-tailed test were to be conducted, then $\alpha = 0.00/2$, indicating that the null hypothesis (H0) should be rejected. This implies that the average value of the post-test class experiment is greater than that of the post-test control class. In other words, the students in the experimental class demonstrated a greater level of proficiency at the conclusion of the course than those in the control class.

The findings of the statistical analysis indicate that the Flipped Classroom model is an effective approach for enhancing critical thinking abilities.

Discussion of the Effectiveness of Blended Learning Model Based on the *Kutub al-Tis'ah*

The findings of the data analysis indicated that the blended learning model based on the *Kutub al-Tis'ah* application was more efficacious in enhancing students' critical thinking abilities when compared to conventional learning models. This finding is consistent with previous research indicating that the ICARE and Flipped Classroom models can enhance critical thinking abilities. In this study, the two models were employed in combination.

The research conducted by Ni Putu Rosma Dewi indicates that the utilisation of the GeoGebra software in conjunction with the ICARE model of learning can facilitate the enhancement of learners' abilities to solve mathematical problems.[34] A similar approach was employed by Liliek Triani and colleagues, who initially observed deficiencies in students' ability to solve problems related to biological materials. However, the use of the practicum-assisted ICARE model at the "application" stage yielded consistent results, indicating that the ICARE learning model is an effective approach for enhancing problem-solving abilities, particularly in comparison to conventional models.[35]

The research, entitled "Development of ICARE Learning Media", conducted by Ni Made Dwijayanti, resulted in the ICARE model devices exhibiting the following characteristics: (1) practical utility; (2) the capacity to facilitate critical and creative thinking; (3) the ability to provide students with the opportunity to consider alternative solutions to problem-solving challenges, both during training and in the context of real-world problems; and (4) the provision of diverse learning opportunities.[36] The objective of Hapsari's research is to identify the factors that impede creative thinking. The findings indicate that the ICARE learning model has a favourable and statistically significant impact on enhancing students' creative thinking abilities.

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[34] Ni Putu Risma Dewi, "Efektivitas Model ICARE Berbantuan Geogebra Untuk Meningkatkan Kemampuan Pemecahan Masalah Matematis Siswa," *JNPM (Jurnal Nasional Pendidikan Matematika* 3, no. 1 (2019).

[35] Triani et al., "Pembelajaran I-CARE Berbantuan Praktikum: Peningkatan Problem-Solving Skills Dan Hasil Belajar Siswa Pada Materi Jaringan Hewan."

[36] Dwijayani, "Pengembangan Media Pembelajaran ICARE."

Prior research on the flipped classroom model has demonstrated its efficacy in enhancing students' critical thinking abilities. This is evidenced by the findings of Misfalla Roudlo in their study, entitled "Kemampuan Berpikir Kritis dan Kemandirian Belajar Melalui Model pembelajaran Flipped Classroom dengan Pendekatan STEM".[37] Research about "Efektivitas Penggunaan E-Modul Berbasis *Flipped Classroom* untuk Melatih Keterampilan Berpikir Kritis" by Farida Tsalatsatur Rokhmania et.al.[38]; Agung, et.al, in their research about "Pengaruh Model Pembelajaran *Flipped Classroom* Terhadap Kemampuan Berpikir Kritis Siswa pada Mata Pelajaran Sejarah Kelas Xi-3 SMA Negeri 15 Surabaya".[39] Irna Septiani Maolidah, "Efektivitas Penerapam Model Pembelajaran Flipped Classroom pada Peningkatan Kemampuan Berpikir Kritis Siswa"[40]; and Dinda Febrianti, et.al, "Meningkatkan Kemampuan Berpikir Kritis Siswa SMP dalam Pembelajaran Tari Secara Daring Melalui Model *Flipped Classroom"*.[41]

The results of the statistical calculations indicated that the significance level (Sig) was less than the alpha value (α) of 0.05, which was determined through a two-tailed hypothetical test. If the alpha value was calculated using a single tail, the significance level would be 0.00/2, which is also less than the alpha value of 0.05. This finding supports the rejection of the null hypothesis (H0), which suggests that the average value of the post-test class experiments is greater than the average post-test value of the control class. The findings of this study align with those of previous studies outlined above, with

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[37] Misfalla P. A Roudlo, "Kemampuan Berpikir Kritis Dan Kemdirian Belajar Melalui Model Pembelajaran Flipped Classroom Dengan Pendekatan STEM," in *Prosiding Seminar Nasional Pascasarjana UNNES*, 2020.

[38] Farida Tsalatsatur Rokhmania and et.al, "Efektivitas Penggunaan E-Modul Berbasis Flipped Classroom Untuk Melatih Keterampilan Berpikir Kritis," in *Prosiding Seminar Nasional Fisika (SNF)*, 2017.

[39] Et.al Agung, "Pengaruh Model Pembelajaran Flipped Classroom Terhadap Kemampuan Berpikir Kritis Siswa Pada Mata Pelajaran Sejarah Kelas XI-3 Sma Negeri 15 Surabaya," *AVATARA: e-Journal Pendidikan Sejarah* 11, no. 1 (2021).

[40] Irna Setiani Maulidah, "Efektivitas Penerapam Model Pembelajaran Flipped Classroom Pada Peningkatan Kemampuan Berpikir Kritis Siswa," *Edutcehnologia* 3, no. 2 (2013).

[41] Dinda Febrianti and et.al, "Meningkatkan Kemampuan Berpikir Kritis Siswa SMP Dalam Pembelajaran Tari Secara Daring Melalui Model Flipped Classroom," *Ringkang* 1, no. 3 (2021).

modifications to the combination of flipped classroom models with ICARE models.

The findings of this study indicate that the Flipped Classroom model is more effective than conventional models, particularly in the context of hadith studies courses, where the application of *Kutub al-Tis'ah* is of paramount importance. The learning model has been developed on the basis of a number of learning theories, including those of cognitivism and constructivism. The blended learning model based on the application of *Kutub al-Tis'ah* is a meaningful learning process, whereby new information is associated with relevant concepts already present within an individual's cognitive structure. This is demonstrated in the following steps.

(1) Introduction (10 minutes). This initial stage of the learning experience is designed to facilitate students' comprehension of the lesson content. This section provides an explanation of the objective of the lesson and the anticipated outcomes of the learning process. The objective is to prepare students psychologically and physically to engage in the learning process, which requires concentration. Concentration can be defined as the ability to focus on the subject matter being presented. The concentration of attention is directed towards the content of the learning materials and the process of obtaining them.[42] One of the factors that affects the learning and teaching process is concentration.

(2) Connection (30 minutes), Brainstorming with fellow learners about material from e-modules that have been sent through Google Classroom (GC) or WA Group for prior study at home before the face-to-face class. Through group discussion, learners engage with the material, subsequently sharing their insights with other groups.

(3) Application (90 minutes). Students engage in collaborative learning activities within small groups, utilising the application *Kutub al-Tis'ah* for practical application. The verification and acceptance of hadith (*takhrîj al-hadith*) entails the evaluation of the quality and status of a hadith (*sahih*, *hasan* or *da'if*), which is then combined with various sanad schemes to ascertain the position of each hadith, taking into account the strengthening hadith (the witness or its disciple). In essence, this stage involves the practical resolution of the aforementioned problem.

[42] Dimyati, "Belajar Dan Pembelajaran" (Jakarta: Rineka Cipta, 2009).

(4) Reflection (15 minutes). The students engage in introspective contemplation, reflecting on the insights gained from the connection to the application, which have been further reinforced through the question and answer session. The lecturers oversee these activities, ensuring that any errors are corrected and that the correct information is reinforced. The students are expected to take comprehensive notes on the required information. (5) Extension (10 minutes). The lecturers then proceed to summarise the material that has been taught, after which they assign independent tasks to the students, which require them to explore the material in greater depth. (6) Recitation (5 minutes). The lecturers will provide the students with the material to study in the form of e-modules and other media, including video, images, and other materials, which the students will send to the lecturers via the WhatsApp group (WAG) or Google Class (GC). This will enable the students to familiarise themselves with the material in advance of the face-to-face learning sessions, ensuring that they are well prepared. The activity will conclude with the lecturer delivering a brief message of encouragement and a closing prayer.

The Blended Learning approach offers numerous opportunities for students to engage in the learning process. It provides students with the freedom to think critically and act in ways that facilitate their understanding of knowledge and problem-solving abilities. Additionally, it allows students to construct knowledge rather than merely waiting for transfer from lecturers. In the context of hadith studies, students are required to examine the theoretical framework governing the transmission of hadith (material disseminated via the WA Group or GC), analyse and evaluate the information presented, and subsequently determine whether to accept or reject it. The endeavour is undertaken by students independently prior to the face-to-face "recitation" stage, which represents a component of the flipped classroom model. At the "connection" stage, lecturers assess the theory that has been mastered, and at the "application" stage, students practise this theory. Thereafter, students reflect on their learning and, if necessary, receive further instruction and additional learning experiences. It can thus be concluded that the utilisation of blended learning models (Introduction, Connect, Apply, Reflect, Extend, and Recitation) has an impact on students' critical thinking skills with regard to the study of hadith. This learning model enables

learners to organise their understanding of the material they have acquired and to expand their knowledge. The blended learning model thus enables learners to gain a comprehensive and nuanced understanding of the subject matter, which in turn fosters the development of critical thinking skills.

Furthermore, blended learning encompasses meaningful learning, whereby the integration of new concepts with those already held by learners facilitates the absorption of the latter. This is evidenced by his syntactic introduction, connection, application, reflection, extension and recitation. David Paul Ausubel posits that the subject matter learned must be "meaningful" because it will affect the intellectual and emotional involvement of learners in learning activities. Nasution identifies the following characteristics of meaningful learning: (1) the description of the relationship or relevance of new materials to old materials; (2) the presentation of the most common ideas before more detailed concepts; (3) the comparison of new materials with old materials; (4) the prioritisation of the mastery of existing ideas before the introduction of new concepts, with knowledge constructed by the child as a meaningful construct.[43]

The "ICARE" learning model is entirely consistent with the constructivist learning theory. This is evident in each of the model's stages. In the stages of "connection" and "application," students engage in learning through the following processes: (1) The formation of small groups for the purpose of collaborative problem-solving or the examination of learning materials; (2) The necessity for the presence of students who have a comprehensive understanding of the subject matter; (3) The role of the lecturer as a facilitator. It stands to reason that this ICARER model can enhance critical thinking. The enhancement of critical thinking can be achieved through the utilisation of exercises that encourage the continuous application of critical thinking skills. These exercises encompass the following key elements: firstly, the identification of significant issues and the formulation of thought-provoking questions; secondly, the collation and assessment of pertinent information; thirdly, the utilisation of

[43] Wina Sanjaya, *Penelitian Tindakan Kelas* (Jakarta: Prenada Media, 2016).

ideas to facilitate effective communication and the development of logical conclusions and solutions.[44]

From the discussion, it is evident that the blended learning model (a combination of ICARE and Flipped Classroom models) fosters critical thinking, as it incorporates exercises or practices that necessitate the application of critical thinking skills. Furthermore, the higher post-test grades achieved by the Experiment class, which utilises high-level thinking questions (HOTS), namely those at level C4 (analysed) and C5 (evaluating), support the aforementioned assertion. These grades align with the revised Anderson and Kart Wohl Bloom's taxonomy, which encompasses the aforementioned levels. It can therefore be concluded that the blended learning model is more effective than conventional models, primarily in terms of improving critical thinking.

With regard to the subject of Hadith Studies, it is essential to combine it with the application medium, *Kutub al-Tis'ah*. This serves as both a medium and a source of learning at the stage of application and at the time of deepening the material, at the extension stage. As previously stated, the application contains a multitude of features that can serve as a comprehensive substitute for numerous books. Given the necessity of *Takhrîj* hadith prior to the commencement of any application, it appears unfeasible to provide S.1 students with hadith research material, given the requirement to utilise a plethora of Arabic-language books, the quality of which is, at times, questionable. In this context, the application "*Kutub al-Tis'ah*" fulfils the dual function of serving as both a medium and a source of learning materials.

The application of *Kutub al-Tis'ah* serves the dual function of a medium of learning and a source of learning. The application will facilitate the undertaking of Takhrîj Hadith and its associated research, as it encompasses the requisite features for the examination and evaluation of the quality and quantity of its sanad. The process of Takhrîj hadith was previously only accessible to experts in the field of Hadith Studies. However, this application has the potential to democratise access to this practice, enabling individuals who do not speak Arabic to utilise it. In this context, Kurt Lewin posited that

[44] Ha Thi Lan Huong, "Devise Integrated Theme Assignment Oriented to Ability Development and the Application of Knowledge in Realistic Problem Solving for Secondary School Student," *American Journal of Educational Research* 6, no. 5 (2018).

proximity to the subject matter is a key driver of motivation, with greater proximity leading to stronger motivation and vice versa. The subject under discussion is the psychological domain of the learning environment of the learner. Similarly, Dale posited that the greater the elevation of the cone in his conceptual representation, the more abstract the medium conveying the message, and conversely, the lower the elevation, the more concrete the message. This implies that direct experience-based learning media offer information and ideas derived from the experience itself, engaging the senses of sight, hearing, feeling, smell, and touch.[45]

Conclusion

In light of the findings presented in the preceding research, it can be posited that blended learning represents a pedagogical approach that integrates diverse methodologies, pedagogical models, and learning styles, thereby facilitating a multifaceted array of media and dialogue between instructors and learners. Blended learning may also be defined as a combination of face-to-face and online teaching. In this study, blended learning is defined as the integration of the ICARE learning model in a face-to-face setting, while the flipped classroom model is employed in an online context.

The blended learning model is more effective for enhancing students' critical thinking abilities, as it offers opportunities for learners throughout the learning process, which can be broadly defined as student-centred learning (SCL). The Blended Learning model based on the *Kutub al-Tis'ah* application has been demonstrated to be an effective approach for the study of hadith. The proposed model will facilitate the identification of hadith and an evaluation of their quality (*sahih*, *hasan*, and *da'if*).

References

Agung, Et.al. "Pengaruh Model Pembelajaran Flipped Classroom Terhadap Kemampuan Berpikir Kritis Siswa Pada Mata Pelajaran Sejarah Kelas XI-3 Sma Negeri 15 Surabaya." *Avatara: e-Journal Pendidikan Sejarah* 11, no. 1 (2021).

Al-Mahali, Ahmad Jalalluddin. "Pengembangan Model Pembelajaran ICARE Pada Ekspansi Kelas Yang Sesuai Dengan Kultur Dan Karakter Siswa Di SDN Gedongan 2 Dan SDN Meri 2 Kota

[45]Azhar Arsyad, *Media Pembelajaran* (Bandung: Raja Grafindo Persada, 2013).

Mojokerto." *Progressa: Journal of Islamic Religious Instruction* 1, no. 1 (April 16, 2017): 59.

Anderson, L.W. *Kerangka Landasan Untuk Pembelajaran, Pengajaran, Dan Asesmen Revisi Taksonomi*. Yogyakarta: Pustaka Pelajar, 2010.

Arsyad, Azhar. *Media Pembelajaran*. Bandung: Raja Grafindo Persada, 2013.

Bergmann, J., and A Sams. "Flip Your Classroom Reach Every Student in Every Class Every Day ." *International Society for Technology in Education* (2012): 120–130. Accessed January 5, 2022. https://www.scirp.org/(S(oyulxb452alnt1aej1nfow45))/reference/ReferencesPapers.aspx?ReferenceID=1791200.

Cahyono, Budi. "Analisis Ketrampilan Berpikir Kritis Dalam Memecahkan Masalah Ditinjau Perbedaan Genderlah Ditinjau Perbedaan Gender." *Aksioma : Jurnal Matematika dan Pendidikan Matematika* 8, no. 1 (August 9, 2017): 50–64. Accessed January 5, 2022. http://journal.upgris.ac.id/index.php/aksioma/article/view/1510.

Carni, J. Maknun, and P. Siahaan. "An Implementation Of Icare Approach (Introduction, Connection, Application, Reflection, Extension) to Improve The Creative Thinking Skills." *JPhCS* 812, no. 1 (March 29, 2017): 012022. Accessed January 5, 2022. https://ui.adsabs.harvard.edu/abs/2017JPhCS.812a2022C/abstract.

Chukwuyenum, Asuai Nelson. "Impact of Critical Thinking on Performance in Mathematics among Senior Secondary School Students in Lagos State." *IOSR Journal of Research & Method in Education* 3, no. 5 (2013): 18–25. Accessed January 5, 2022. www.iosrjournals.orgwww.iosrjournals.org18%7C.

Dewi, Ni Putu Risma. "Efektivitas Model ICARE Berbantuan Geogebra Untuk Meningkatkan Kemampuan Pemecahan Masalah Matematis Siswa." *JNPM (Jurnal Nasional Pendidikan Matematika* 3, no. 1 (2019).

Dimyati. "Belajar Dan Pembelajaran." Jakarta: Rineka Cipta, 2009.

Dwijayani, Ni Made. "Pengembangan Media Pembelajaran ICARE." *Kreano: Jurnal Matematika Kreatif Inovatif* 8, no. 2 (2017): 127.

Ekayati, Rini. "Implementasi Metode Blended Learning Berbasis Aplikasi Edmodo." *EduTech: Jurnal Ilmu Pendidikan dan Ilmu*

Sosial 4, no. 2 (October 5, 2018). Accessed January 5, 2022. http://jurnal.umsu.ac.id/index.php/edutech/article/view/227.

Febrianti, Dinda, and et.al. "Meningkatkan Kemampuan Berpikir Kritis Siswa SMP Dalam Pembelajaran Tari Secara Daring Melalui Model Flipped Classroom." *Ringkang* 1, no. 3 (2021).

Fisher, Alec, and Benyamin Hadinata. *Berpikir Kritis: Sebuah Pengantar*. Edited by Gugi Sagara. Cet. 2. Jakarta: Erlangga, 2008. Accessed January 5, 2022. https://pustakaaceh.perpusnas.go.id/detail-opac?id=40700.

Handayani, Eka Aprilya. "Penggunaan Internet Sebagai Media Penggunaan Internet Sebagai Media Literasi Pada Mahasiswa STKIP Muhammadiyah Bulukumba: Tantangan Pendidikan Abad 21." In *Seminar Nasional Kedua Pendidikan Berkemajuan Dan Menggembirakan (The Second Progressive and Fun Education Seminar)*, n.d.

Huong, Ha Thi Lan. "Devise Integrated Theme Assignment Oriented to Ability Development and the Application of Knowledge in Realistic Problem Solving for Secondary School Student." *American Journal of Educational Research* 6, no. 5 (2018).

Imania, Kuntum An Nisa, and Siti Husnul Bariah. "Pemanfaatan Program Pembelajaran Lovaas (ABA) Dengan Pendekatan ICARE Dalam Meningkatkan Kemampuan General Life Skill Anak Autis." *Jurnal Petik* 4, no. 1 (2018). Accessed January 5, 2022. https://www.scribd.com/document/486116485/7-50-1-PB-pdf.

Jamun, Yohannes Marryono. "Dampak Teknologi Terhadap Pendidikan." *Jurnal Pendidikan dan Kebudayaan Missio* 10, no. 1 (January 28, 2018): 48–52. Accessed January 5, 2022. http://unikastpaulus.ac.id/jurnal/index.php/jpkm/article/view/54.

Johnson, Elaine B. *CTL Contextual Teaching & Learning: Menjadikan Kegiatan Belajar-Mengajar Mengasyikan Dan Bermakna* . Edited by Ida Sitompul and Ibnu Setiawan. Bandung: Kaifa, 2010. Accessed January 5, 2022. https://opac.perpusnas.go.id/DetailOpac.aspx?id=528508.

Juned, Daniel. "Ilmu Hadis Paradigma Baru Dan Rekonstruksi Ilmu Hadis." Jakarta, n.d.

Kurniawan, Fatra Hadi. "Pengembangan Sistem Pembelajaran Berbasis Flipped Classroom Dengan Media LSN Pada Mata

Pelajaran Biologi Kelas Xi Di SMA Negeri 1 Plosoklaten Kabupaten Kediri / Fatra Hadi Kurniawan" (July 20, 2017).

Maulidah, Irna Setiani. "Efektivitas Penerapam Model Pembelajaran Flipped Classroom Pada Peningkatan Kemampuan Berpikir Kritis Siswa." *Edutcehnologia* 3, no. 2 (2013).

Muhasim, Muhasim. "Pengaruh Tehnologi Digital Terhadap Motivasi Belajar Peserta Didik." *Palapa* 5, no. 2 (November 30, 2017): 53–77.

Munir, Humaerah. "Upaya Penanggulangan Dampak Negatif Teknologi Informasi Dan Komunikasi Pada Peserta Didik Kelas X MAN 2 Kota Parepare dalam Perspektif Pendidikan Islam." *Istiqra`: Jurnal Pendidikan dan Pemikiran Islam* 7, no. 1 (September 27, 2019). Accessed January 5, 2022. https://jurnal.umpar.ac.id/index.php/istiqra/article/view/167.

Nasional, Kementerian Pendidikan. *Buku 1 Panduan Pengembangan Pendekatan Belajar Aktif*. Jakarta, 2010.

Noge, Maria Desidaria. "Efektivitas Model Pembelajaran ICARE Berbasis Media Autentik "Berbabe" Terhadap Hasil Belajar Bahasa Inggris Siswa Sekolah Dasar." *Jurnal Tunas Bangsa* 4, no. 2 (August 30, 2017): 198–210. Accessed January 5, 2022. https://ejournal.bbg.ac.id/tunasbangsa/article/view/642.

Purnamasari, Irene Andita. "Analisis Proses Berpikir Kritis Siswa Dalam Pemecahan Masalah Soal Cerita Materi Persamaan Linear Satu Varoabel Yang Memuat Nilai Mutlak Ditinjau Dari Minat Belajar Matematika Siswa Kelas X Semester 2 SMAN 1 Klaten Tahun Ajaran 2016/2017." *Pendidikan Matematika* (October 16, 2017).

Rahayu, Lenia Puri. "Efektivitas Strategi Pembelajaran Flipped Classroom Pada Materi Pythagoras SMP Kelas VIII Ditinjau Berdasarkan Gender." In *Prosiding SI MaNis (Seminar Nasional Integrasi Matematika Dan Nilai-Nilai Islami)*, 2017.

Redhana, I Wayan. "Mengembangkan Keterampilan Abad 21 Dalam Pembelajaran Kimia." *Jurnal Inovasi Pendidikan Kimia* 13, no. 1 (February 10, 2019). https://journal.unnes.ac.id/nju/index.php/JIPK/article/view/17824.

Roehl, Amy. "The Flipped Classroom: An Opportunity to Engage Millenial Students through Active Learning Strategies." *Journal of Family & Consumer Science* 105, no. 2 (n.d.).

Rokhmania, Farida Tsalatsatur, and et.al. "Efektivitas Penggunaan E-Modul Berbasis Flipped Classroom Untuk Melatih Keterampilan Berpikir Kritis." In *Prosiding Seminar Nasional Fisika (SNF)*, 2017.

Roudlo, Misfalla P. A. "Kemampuan Berpikir Kritis Dan Kemdirian Belajar Melalui Model Pembelajaran Flipped Classroom Dengan Pendekatan STEM." In *Prosiding Seminar Nasional Pascasarjana UNNES*, 2020.

Sanjaya, Wina. *Penelitian Tindakan Kelas*. Jakarta: Prenada Media, 2016.

Septikasari, Nurul, and Rendy Nugraha Frasandy. "Keterampilan 4C Abad 21 Dalam Pembelajaran Pendidikan Dasar." *Tarbiyah al-Awlad* 8, no. 2 (2018): 107–117. Accessed January 5, 2022. https://ejournal.uinib.ac.id/jurnal/index.php/alawlad/article/view/1597.

Siregar, Zakaria, and Topan Bilardo Marpaung. "Pemanfaatan Teknologi Informasi Dan Komunikasi (TIK) Dalam Pembelajaran Di Sekolah." *BEST Journal (Biology Education, Sains and Technology)* 3, no. 1 (April 10, 2020): 61–69. Accessed January 5, 2022. https://jurnal.uisu.ac.id/index.php/best/article/view/2437.

Syahputra, Edi. "Pembelajaran Abad 21 Dan Penerapannya Di Indonesia." In *Seminar Nasional Sains, Teknologi, Humaniora Dan Pendidikan*. Medan, 2018. Accessed January 5, 2022. https://www.researchgate.net/publication/331638425_Pembelajaran_Abad_21_dan_Penerapannya_di_Indonesia.

Triani, Liliek, Sri Wahyuni, Elly Purwanti, Atok Miftachul Hudha, Diani Fatmawati, and Husamah Husamah. "Pembelajaran I-CARE Berbantuan Praktikum: Peningkatan Problem-Solving Skills Dan Hasil Belajar Siswa Pada Materi Jaringan Hewan." *Jurnal Inovasi Pendidikan IPA* 4, no. 2 (October 10, 2018): 158–168. Accessed January 5, 2022. https://journal.uny.ac.id/index.php/jipi/article/view/21826.

Wardah, Rikhatul, and Hernik Farisia. "Pembelajaran Daring Pada Masa Pandemi Covid-19: Implementasinya Pada Sekolah Menengah Pertama." *Edukatif: Jurnal Ilmu Pendidikan* 3, no. 4 (August 2, 2021): 2008–2017. Accessed January 6, 2022. https://www.edukatif.org/index.php/edukatif/article/view/908.

Wulandari, Desi, Fitria Dwi Prasetyaningtyas, and Sri Hartati.

"Pengembangan Pembelajaran Icare-K Berkarakter Untuk Membekali Kemampuan Keterampilan Proses Ipa Mahasiswa Calon Guru SD." *Elementary School Journal Pgsd Fip Unimed* 7, no. 3 (December 19, 2017): 337–345. Accessed January 5, 2022. https://jurnal.unimed.ac.id/2012/index.php/elementary/article/view/8169.

Wulansari, Nadya Treesna, and et. al. "Pengaruh Penerapan Model Pembelajaran Flipped Classroom Terhadap Hasil Belajar Kognitif Mahasiswa Keperawatan Dalam

Materi Ajar Mikrobiologi." *Jurnal Bioeducation* 5, no. 2 (2018).