Blended Learning to Improve Vocational Life Skills in Making Batik for Disabilities

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A B S T R A K

Strategi pembelajaran yang diterapkan pendidik masih konvensional, termasuk dalam pembelajaran keterampilan vokasional. Tujuan penelitian ini menguji pengaruh blended learning terhadap peningkatan keterampilan hidup vokasional siswa disabilitas. Penelitian ini merupakan penelitian pre-eksperimen. Rancangan penelitian ini one group pre test-post test design. Subyek penelitian adalah siswa disabilitas Sekolah Menengah Atas Luar Biasa (SMLAB). Pengumpulan data menggunakan tes kinerja. Analisis data menggunakan uji jenjang bertanda wilcoxon (match pairs test). Hasil penelitian menunjukkan keterampilan hidup vokasional siswa disabilitas setelah pembelajaran dengan blended learning lebih meningkat dibanding sebelum pembelajaran dengan blended learning. Pembelajaran dengan blended learning memberikan pengaruh lebih baik dan positif pada keterampilan hidup vokasional siswa disabilitas. Implikasi penelitian ini yaitu penerapan blended learning dapat meningkatkan kemampuan siswa, sehingga berdampak pada hasil belajar siswa yang meningkat. Dalam proses pembelajaran siswa lebih aktif, konstruktif, komunikatif, bisa mengikuti perkembangan teknologi, berpartisipasi sehingga meningkatkan keterampilan dan kemampuan berpikir siswa secara divergen, dalam hal ini kemampuan berpikir yang berkaitan dengan keterampilan vokasional.

A B S T R A C T

The learning strategies applied by educators are still conventional, including learning vocational skills. This research aims to examine the effect of blended learning on improving the vocational life skills of students with disabilities. This research is pre-experimental. This research design is a group pre-test-post-test design. The research subjects were students with disabilities at the Special High School (SMLAB). Data collection uses performance tests. Data analysis used the Wilcoxon signed-rank test (matched pairs test). The research results show that the vocational life skills of students with disabilities after learning with blended learning have improved more than before learning with blended learning. Learning with blended learning has a better and more positive influence on the vocational life skills of students with disabilities. This research implies that blended learning can improve students' abilities, increasing learning outcomes. In the learning process, students are more active, constructive, communicative, able to follow technological developments, and participate to improve their divergent thinking skills and abilities, in this case, thinking abilities related to vocational skills.

1. INTRODUCTION

Learning vocational life skills can increase work productivity, in essence it is oriented towards efforts to prepare oneself for work because work is a basic activity and an essential part of human life. (Lia et al., 2017; Rafikayati &jauhari, 2021). Learning in the era of globalization should make students independent, including students with disabilities, so they can carry out daily life activities and be able to face real life problems. (Elvira & Delsiana, 2019; Saputra & Andrizal, 2018; Saputra et al., 2018). One form of learning that can accommodate this is learning vocational life skills so that education with real life values is relevant (Diputera et al., 2022; Lia et al., 2017). The new learning paradigm for the 21st century should follow developments in science and technological trends. Learning strategies related to technology include blended learning, a learning process that combines face-to-face learning and technology carried out online

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with the help of the internet. Blended learning provides opportunities and makes learning easier for students so they can find as much information as possible with the help of the internet (Kaban et al., 2021; Muawanah & Muhid, 2021; Wulandari et al., 2020).

Vocational skills provide skills related to job market needs, business opportunities and economic potential that exist in society. Vocational skills are used to face various problems in daily life, work and earn income for survival. Learning life skills can improve self-esteem and communication (Jung et al., 2019; Kazemi, R. et al., 2014). An effective life skills program ensures the transfer of knowledge and development of positive behaviors such as assertiveness, self-awareness, decision making, communication, problem solving, innovative thinking. (Buchert, 2014; Nasheeda et al., 2019). These various relevant research results serve as an empirical basis that strengthens this research, which shows that vocational life skills are very important for individuals, including those with disabilities.

Individuals with disabilities have functional limitations or physical obstacles that result in their opportunities to participate in social life being less than optimal. Disability includes activity disorders related to bodily functions, participation, and individual involvement in limited life situations. Disability should be considered both as a distinctive human rights dimension and as a cross-cutting dimension within general equality measurement systems (Aji & Haryani, 2017; Salmah & Tamjidnoor, 2019). The right of every person with a disability to participate in the social life of the community in which he or she lives and enjoy living conditions equal to those of other citizens, including an equal share in the improvement in living standards resulting from social and economic development (Bakhtiar, 2022; Greer et al., 2014). In this regard, it is important to teach vocational skills to people with disabilities as preparation for work in real life. Vocational skills for students with disabilities also need to be trained through planned, gradual and sustainable learning as preparation for becoming skilled, independent and responsible citizens in their lives. (Lia et al., 2017; Rafikayati &jauhari, 2021).

Problems related to vocational skills with disabilities, including the learning strategies applied by educators are still conventional, including learning vocational skills (in this research making batik) not yet implementing blended learning. Many people with disabilities cannot continue their education to a higher level. It is difficult for people with disabilities to find work because the number of job seekers is very large compared to the limited job opportunities, so they need vocational skills to make batik that sells well in the community to earn income after school. Apart from that, people with disabilities like internet-based learning so they don't get bored and fed up. Current reality also shows that most students with disabilities prefer learning via the internet. Disabilities have difficulty carrying out activities and interacting with the world around them. Individuals with disabilities have deficiencies/barriers so that their vocational skills are not optimal, including the vocational skills of making batik.

Vocational life skills are needed by individuals with disabilities as provisions for living life.Vocational skills are related to the world of work which is dynamic and develops following technological developments, requiring individuals, including those with disabilities, to have work competencies that match their potential and are relevant to current work and the world of work in the future. Vocational skills learning develops specific work-related skills, preparing students to enter the world of work. Simultaneously, general education teaches students broad knowledge, basic mathematics and communication to complement vocational skills (Hampf & Woessmann, 2017; Mane & Corbella, 2017). Information and communication technology can be used for learning, can make it easier and help students and teachers in learning. Vocational skills learning must also follow the current digital and 4.0 era. Vocational learning that uses digital-based teaching materials that are integrated with e-learning and the internet can improve learning outcomes (Lia et al., 2017; Zwart et al., 2017). One effort to overcome problems and improve the quality of learning vocational skills for disabilities is the implementation of blended learning.

Blended learninglearning that combines face-to-face classes and online classes to complete part of the learning assignments on the computer or online and the other part is face-to-face involved with the teacher or classmates (Maimunah & Cinantya, 2021; Satar & Akcan, 2018). Blended learningintegrating face-to-face learning with online activities, teaching independent thinking, utilizing modern technology so that students can make good use of online/e-learning and face-to-face learning (Kurniawati et al., 2019; Miyanti, 2021). Blended learning can improve learning outcomes, student satisfaction, connectedness with educators and increase online learning activities (Greer et al., 2014; Mahande et al., 2017). Blended Learning is one of the effective new approaches to familiarize students with continuous learning, allowing students to educate themselves and enriching student information. Blended learning enriches classroom learning and to redesign the learning environment with a higher degree of freedom for students (Alsalhi et al., 2021; Smith & Hill, 2019). Blended learning, apart from face-to-face, is also online, digital and internet based. In implementing skills learning, students are given the opportunity to use mobile devices in learning to achieve goals and improve learning outcomes (Dangwal, 2017; Mahande et al., 2017).

Blended learning is a combination of various modalities (on-site, independent and web based learning), delivery media (internet, lectures, power point presentations, textbooks); learning (face-to-face or technology-based/online sessions) and web-based technology (blogs, textbooks, online courses). Blended learning is also effective in improving student learning achievement (Ndlovu & Mostert, 2018; Surjono et al., 2017). Blended learning provides personalized and differentiated learning for a group of students. Students in formal blended learning programs study partly online, but have the benefit of full-time study and meeting their own needs. Blended learning provides a combination of various online and face-to-face learning activities. The combination is carried out depending on the learning objectives, material, experience, learning style, and characteristics of the students (Van Laer & Elen, 2017; Zavaraki & Schneider, 2017).

Previous research findings also suggest that Blended learning offers flexibility to accommodate student diversity in learning pace and time (Chen & Yao, 2016; Garrison & Vaughan, 2013). Other research also states that blended learning will make it easier for students to learn and increase flexibility in student learning and student control in their learning environment (Hrastinski, 2019; Vanslambrouck et al., 2019). Blended learning Blended learning increases student involvement in learning and student learning outcomes. Based on the background above, in learning related to vocational life skills for students with disabilities, research needs to be carried out to test the effect of blended learning on improving the learning outcomes of vocational life skills for students with disabilities. The application of this learning aims to obtain learning outcomes related to vocational life skills more optimally and better. Blended learning has theoretically been proven to improve learning outcomes and student performance, but there has been no research that specifically discusses the application of blended learning for students with disabilities in special schools. So the latest in this research is applying blended learning to develop individual abilities, learning outcomes and performance of students with disabilities. The aim of this research is to examine the effect of blended learning on improving the vocational life skills of students with disabilities.

2. METHOD

This research is a pre-experimental research with a one-group pretest-posttest design. The research subjects were students with disabilities at Special High Schools (SMALB) (Ahmaddien, Iskandar. Syarkani, 2019; Utomo, 2022). In this research, a pre-test was carried out on research subjects before they were treated with blended learning, then a post-test was carried out after treatment by applying blended learning. This aims to compare the conditions before and after treatment. Providing pre-tests and post-tests to measure vocational life skills for disabilities before and after treatment with blended learning in the form of performance tests. The performance test instrument is in the form of giving assignments to make products related to vocational life skills in the form of batik. The skills test instrument used in this research contains nine aspects according to the correct steps in making Jumputan batik. This aspect is divided into three main things, namely the preparation stage, implementation stage and completion stage. The preparation stage consists of two aspects, namely preparation of tools and materials. Next, the implementation stage is divided into five aspects which include the activities of making batik patterns, the batik coloring process and the batik melting process. Meanwhile, the finishing stage consists of two aspects, namely the process of rinsing and drying the batik cloth. The assessment criteria for the test instrument are in the form of giving a score ranging from 1 to 4. The assessment grid for the test instrument for students in carrying out vocational life skills (making jumputan batik) includes: (1) Score 1 if they are able to do it with verbal and non-verbal help; (2) Score 2 if able to do it with non-verbal help; (3) Score 3 if able to do it with verbal assistance; (4) Score 4 if able to do it independently without help. Data analysis used the Wilcoxon signed-rank test (matched pairs test) with a significance level of 5%.

3. RESULT AND DISCUSSION

Result

In this research, test data on vocational skills learning outcomes for students with disabilities were obtained after implementing learning treatment by implementing blended learning. Data on the results of learning vocational skills by applying blended learning, the results showed that the highest frequency of learning outcomes of vocational skills for students with disabilities by applying blended learning was in the 75-90 score interval of 5 students with a percentage of 50.00%, while the lowest frequency was in the score < 40 with a percentage of 0%. This means that with the implementation of blended learning, the vocational skills learning outcomes of students with disabilities tend to be good because they get a percentage of 50%. Apart from that, the increase in vocational skills learning outcomes for students with disabilities after implementing blended learning is also presented in Figure 1.
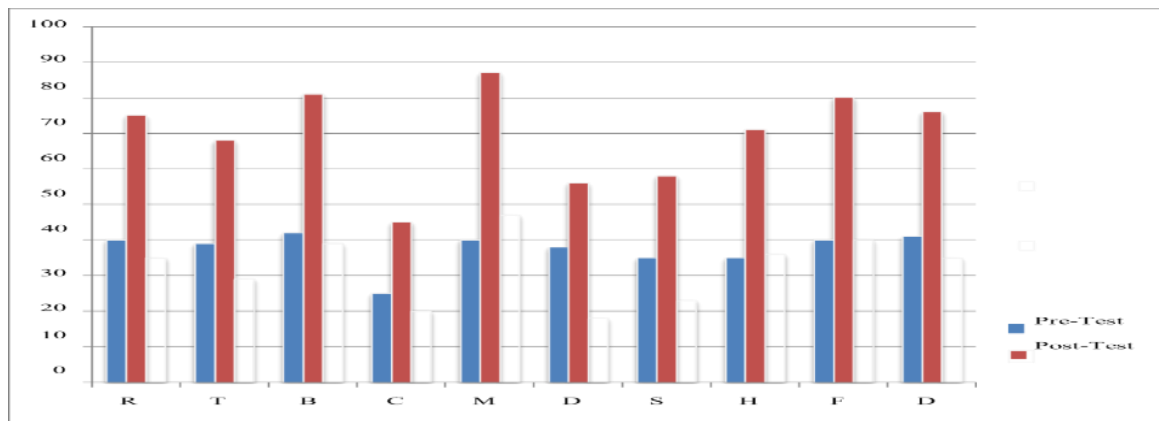
Figure 1. Chart of Distribution of Data on Vocational Skills Learning Outcomes with Disabilities

Based on the data in the graph above, calculate the average learning outcomesVocational skills for making batik for students with disabilitiesshows the average score before treatment with blended learning is 37.5 and after treatment is 69.7. Based on the calculation results, it can be concluded that there is an increase in learning outcomesvocational skills of students with disabilities after treatment with blended learning. Meanwhile, the results of statistical calculations using the Wilcoxon signed levels test (match pairs test) with a significance level of 0.05 show that Zh=2.80 (the (-) value is not taken into account because the absolute value) is greater than the Z table value with a significance value of 5%, namely 1.96. The Z value obtained in the calculation (Zh) is 2.80, which is greater than the significance value of Ztable 5% (Zt), namely 1.96 (Zh > Zt), so H0 is rejected and Ha is accepted. This means that there is an influence of blended learning on improving results. learning vocational life skills for students with disabilities.Testing this hypothesis shows that there is a difference in the improvement in vocational life skills learning outcomes for students with disabilities who are better after implementing blended learning compared to before implementing blended learning.

Discussion

Research resultswhat has been explained above is in line with previous research which proves that the application of blended learning has a significant effect on improving the learning outcomes of vocational life skills for students with disabilities. Theoretically and empirically, it has been explained that the application of blended learning in the learning process has a significant effect on improving student learning outcomes. Apart from that, it is also strengthened by supporting data from data analysis results, hypothesis testing results, and also supported by expert opinions. The findings of this study demonstrate superiority blended learning which can improve student learning outcomes. Blended learning is able to train students to be actively involved, independent, learn continuously, learn according to their needs by utilizing technology. Theoretically and empirically, the findings of this research are in accordance with the results of relevant previous research. Blended learning helps students gain a higher quality learning experience and improves student learning outcomes (Garrison & Vaughan, 2013; Yu & Du, 2019). Blended learning has a positive impact on learning, improving student performance and learning outcomes. Blended learning effectively increases effective learning and learning experiences for teachers and students. Blended learning is useful for providing appropriate, continuous, flexible learning time. Blended learning combines experience and a learning environment so as to increase student independence (Prasad et al., 2018; Yu & Du, 2019). Blended learning provides more flexible education for students and improves students' learning experience, improves student performance, effective for full-time learning or independent e-learning (Behjat et al., nd; Chen & Yao, 2016).

Blended learning (BL) is a model in teaching and learning activities that involves face-to-face teaching and online learning so that it can facilitate interaction between teachers and students (Ndlovu & Mostert, 2018; Philipsen et al., 2019; Prasad et al., 2018). Blended learning can provide experiences and opportunities for students to explore and reflect ideas from previous concepts and provide feedback and interaction between teachers and students. Blended learning increases independence, can provide communicative and interesting skills for students as well as the latest authentic content that allows the development of necessary skills; and learn independently (Arkhipova et al., 2018; Borba et al., 2016). The online learning environment has enabled the expansion of blended to become increasingly popular so that it can make learning more effective and increase interaction between students. Efforts must continue to be made to improve students' digital literacy skills, one of which is by using blended learning. The benefits of

blended learning include easier access to information, more student involvement, efficiency and ease of revision of learning material. Apart from that, some research also states the importance of interaction in technology-based learning, including blended learning. In implementing blended learning, there needs to be good interaction so that it can support improving student learning outcomes. Blended learning needs to accommodate social aspects and social interactions in order to improve student performance. Interaction is important in blended learning because it supports students' emotional and cognitive involvement (Blaine, 2019; Prasad et al., 2018).

Learning in the current era should combine conventional learning with technology to make it easier for students to understand the material and make student learning outcomes more optimal. Blended learning is the delivery of learning that combines face-to-face classroom learning and online learning which provides flexibility in time and place of access to the learning management system. In learning activities, students' motivation and interest in learning about the use of technology needs to be increased through appropriate learning strategies. Blended learning increases students' motivational ability to learn independently at their own pace and time (Chaidam & Poonputta, 2022; Tang & Chaw, nd). Blended learning that accommodates textual content, hyperlinks, and interactive test features is profitable and useful in learning. Learning is also expected to support students to construct knowledge, experience, skills actively, independently, study with sufficient and continuous time and easily access information so that learning outcomes improve. Blended learning is useful in learning related to time and place, overcoming learning limitations with online use, increasing student satisfaction and learning outcomes. Learning is also structured systematically to make it easier for students to participate in learning activities, be more active and create a different learning atmosphere than before. Blended learning helps students learn in a fun way, attracts attention, inspires students and is technology-based so that learning outcomes improve (Kızıl, 2014; Namaziandost et al., nd). Technology-assisted active learning can increase student enthusiasm and involvement so that learning outcomes increase. Blended learning gives students the opportunity to learn at their pace, increases student involvement in learning, gives students the opportunity to concentrate on the material being studied. Blended learning increases student activity in the learning process (Jin, 2014; Van Laer & Elen, 2017).

The research findings and research results described above show that blended learning has an influence on improving student learning outcomes and can improve student performance, including the vocational life skills of students with disabilities. Blended learningcan help students in learning so that they can improve student learning outcomes. The implication of this research is that the application of blended learning can improve students' abilities so that it has an impact on improving student learning outcomes. In the learning process students are more active, constructive, communicative, able to follow technological developments, participate so as to improve students' divergent thinking skills and abilities, in this case thinking abilities related to vocational skills. The limitation of this research is that the implementation of the experiment was only given at SMALB. So, to strengthen the findings of this research and to obtain more complete results, it is recommended to carry out similar experiments at different school levels.

4. CONCLUSION

Based on the results of data analysis, it shows there is a difference in the increase in learning outcomes for vocational life skills before and after implementing blended learning. Learning outcomes for students with disabilities' vocational life skills increased or became better after implementing blended learning. The results of this research show that blended learning has a significant effect on the vocational life skills of students with disabilities. Theoretically and empirically, the findings of this research are in accordance with the results of relevant previous research where blended learning helps students obtain a higher quality learning experience and improves student learning outcomes.

5. REFERENCES

Ahmaddien, Iskandar. Syarkani, Y. (2019). Statistika Terapan Dengan Sistem SPSS. *ITB Press*.

Aji, A. L. D., & Haryani, T. N. (2017). Diversitas dalam Dunia Kerja: Peluang dan Tantangan bagi Disabilitas. *Spirit Publik: Jurnal Administrasi Publik*, *12*(2), 83. https://doi.org/10.20961/sp.v12i2.16246.

Alsalhi, N. R., Al-Qatawneh, S., Eltahir, M., & Aqel, K. (2021). Does blended learning improve the academic achievement of undergraduate students in the mathematics course?: A case study in higher education. *EURASIA Journal of Mathematics, Science and Technology Education, 17*(4). https://doi.org/10.29333/ejmste/10781.

Arkhipova, M. V., Belova, E. E., Gavrikova, Y. A., Lyulyaeva, N. A., & Shapiro, E. D. (2018). Blended learning in teaching EFL to different age groups. *Advances in Intelligent Systems and Computing, 622*(3), 380–

386. https://doi.org/10.1007/978-3-319- 75383-6_49.

Bakhtiar, A. M. (2022). Pengembangan Media Busy Book Untuk Materi Membilang Benda Anak Tunagrahita Ringan. *DIDAKTIKA: Jurnal Pemikiran Pendidikan*, *28*(2), 103–108. https://doi.org/10.30587/didaktika.v28i2.3702.

Behjat, F., Yamini, M., & Bagheri, M. S. (n.d.). Blended learning: A ubiquitous learning environment for reading comprehension. *International Journal of English Linguistics*, *2*(1), 97–104. https://doi.org/10.5539/ijel.v2n1p97.

Blaine, A. M. (2019). Interaction and presence in the virtual classroom: An analysis of the perceptions of students and teachers in online and blended advanced placement courses. *Computers & Education*, *132*(1), 31–43. https://doi.org/10.1016/j.compedu.2019.01.004.

Borba, M. C., Askar, P., Engelbrecht, J., Gadanidis, G., Llinares, S., & Aguilar, M. S. (2016). Blended learning, e-learning and mobile learning in mathematics education. *ZDM - Mathematics Education*, *48*(5), 589–610. https://doi.org/10.1007/s11858-016-0798-4.

Buchert, L. (2014). Learning needs and life skills for youth: An introduction. *International Review of Education*, *60*(2), 163–176. https://doi.org/10.1007/s11159-014-9431-3.

Chaidam, O., & Poonputta, A. (2022). Learning Achievement Improvement of 1st Grade Students by Using Problem-Based Learning (PBL) on TPACK MODEL. *Journal of Education and Learning*, *11*(2), 43. https://doi.org/10.5539/jel.v11n2p43

Chen, W. S., & Yao, A. Y. T. (2016). An empirical evaluation of critical factors influencing learner satisfaction in blended learning: A pilot study. *Universal Journal of Educational Research, 4*(7), 1667–1671. https://doi.org/10.13189/ujer.2016.040719.

Dangwal, K. L. (2017). Blended learning: An innovative approach. *Universal Journal of Educational Research, 5*(1), 129–136. https://doi.org/10.13189/ujer.2017.050116.

Diputera, A. M., Damanik, S. H., & Wahyuni, V. (2022). Evaluasi Kebijakan Pendidikan Karakter Profil Pelajar Pancasila dalam Kurikulum Prototipe untuk Pendidikan Anak Usia Dini. *Jurnal Bunga Rampai Usia Emas*, *8*(1), 1. https://doi.org/10.24114/jbrue.v8i1.32650.

Elvira, & Delsiana. (2019). Canva Sebagai Media Pembelajaran Pada Mata Pelajaran Dasar Listrik Dan Elektronika. *Jurnal Vokasional Teknik Elektronika dan Informatika*, *7*(2), 80–81. https://doi.org/10.24036/voteteknika.v7i2.104261.

Garrison, D. R., & Vaughan, N. D. (2013). Institutional change and leadership associated with blended learning innovation: Two case studies. *The Internet and Higher Education, 18*(1), 24–28. https://doi.org/10.1016/j.iheduc.2012.09.001.

Greer, D., Rowland, A. L., & Smith, S. J. (2014). Critical considerations for teaching students with disabilities in online environments. *Teaching Exceptional Children*, *46*(5), 779–791. https://doi.org/10.1177/0040059914528105.

Hampf, F., & Woessmann, L. (2017). Vocational vs. general education and employment over the life cycle: New evidence from PIAAC. *CESifo Economic Studies*, *63*(3), 255–269. https://doi.org/10.1093/cesifo/ifx012

Hrastinski, S. (2019). What do we mean by blended learning? *TechTrends*, *63*(5), 564–569. https://doi.org/10.1007/s11528-019-00375-5.

Jin, S. (2014). Implementation of smartphone-based blended learning in an EFL undergraduate grammar course. *Multimedia-Assisted Language Learning*, *17*(4), 11–37. https://doi.org/10.15702/mall.2014.17.4.11.

Jung, C. S., Jeong, J. C., & Kim, S. N. (2019). Impact of vocational education and training on adult skills and employment: An applied multilevel analysis. *International Journal of Educational Development*, *66*(2), 129–138. https://doi.org/10.1016/j.ijedudev.2018.09.007.

Kaban, R. H., Anzelina, D., Sinaga, R., & Silaban, P. J. (2021). Pengaruh Model Pembelajaran PAKEM terhadap Hasil Belajar Siswa di Sekolah Dasar. *Jurnal Basicedu*, *5*(1), 102–109. https://doi.org/10.31004/basicedu.v5i1.574.

Kazemi, R., Momeni, S., & Abolghasemi, A. (2014). The effectiveness of life skill training on self-esteem and communication skills of students with dyscalculia. *Procedia-Social and Behavioral Sciences*, *114*(2), 863–866. https://doi.org/10.1016/j.sbspro.2013.12.798.

Kızıl, A. Ş. (2014). Blended instruction for EFL learners: Engagement, learning and course satisfaction. *Jaltcall Journal*, *10*(3), 175–188. https://doi.org/10.29140/jaltcall.v10n3.174.

Kurniawati, M., Santanapurba, H., & Kusumawati, E. (2019). Penerapan Blended Learning Menggunakan Model Flipped Classroom Berbantuan Google Classroom Dalam Pembelajaran Matematika Smp. *EDU-MAT: Jurnal Pendidikan Matematika*, *7*(1), 8–19. https://doi.org/10.20527/edumat.v7i1.6827.

Lia, N., Syamwil, R., & Widayani, S. (2017). Model Pembelajaran Keterampilan Vokasional Berbasis Potensi

Lokal di SMA Wilayah Kalimantan. *Journal of Vocational and Career Education*, *2*(2). https://doi.org/10.15294/jvce.v2i2.13836.

Mahande, R. D., Susanto, A., & Surjono, H. D. (2017). The dynamics of mobile learning utilization in vocational education: Frame model perspective review. *Turkish Online Journal of Educational Technology-TOJET*, *16*(4), 65–75.

Maimunah, & Cinantya, C. (2021). Pelatihan Implementasi Blended Learning di Taman Kanak-kanak pada Guru TK Negeri Pembina Banjarmasin Timur. *Bubungan Tinggi : Jurnal Pengabdian Masyarakat*, *3*(3), 224–229.

Mane, F., & Corbella, T. (2017). Developing and running an establishment skills survey: Guide to anticipating and matching skills and jobs. *Publications Office of the European Union*, *5*(1). https://doi.org/10.2816/413514.

Miyanti, I. N. (2021). Blended Learning Menggunakan Whatsapp Untuk Pembelajaran Anak Usia Dini. *Jurnal PG-PAUD Trunojoyo : Jurnal Pendidikan Dan Pembelajaran Anak Usia Dini*, *8*(1). https://doi.org/10.21107/pgpaudtrunojoyo.8i1.9810.

Muawanah, E. I., & Muhid, A. (2021). Strategi Meningkatkan Motivasi Belajar Siswa Selama Pandemi Covid-19. *Jurnal Ilmiah Bimbingan Konseling Undiksha*, *12*(1), 90–98. https://doi.org/10.23887/JJBK.V12I1.31311.

Namaziandost, E., Neisi, L., & Momtaz, S. (n.d.). The effectiveness of flipped classroom model on listening comprehension among Iranian upper-intermediate EFL learners. *Journal of Applied Linguistics and Language Research*, *6*(4), 129–139.

Nasheeda, A., Abdullah, H. B., Krauss, S. E., & Ahmed, N. B. (2019). A narrative systematic review of life skills education: Effectiveness, research gaps and priorities. *International Journal of Adolescence and Youth*, *24*(3), 326–379. https://doi.org/10.1080/02673843.2018.1479278.

Ndlovu, M. C., & Mostert, I. (2018). Teacher perceptions of moodle and throughput in a blended learning programme for in-service secondary school mathematics teachers. *Africa Education Review*, *15*(2), 131–151. https://doi.org/10.1080/18146627.2016.1241667.

Philipsen, B., Tondeur, J., Pareja Roblin, N., Vanslambrouck, S., & Zhu, C. (2019). Improving teacher professional development for online and blended learning: A systematic meta-aggregative review. *Educational Technology Research and Development*, *67*(5), 1145–1174. https://doi.org/10.1007/s11423-019-09645-8.

Prasad, P., Maag, A., Redestowicz, M., & Hoe, L. S. (2018). Unfamiliar technology: Reaction of international students to blended learning. *Computers & Education*, *122*(2), 92–103. https://doi.org/10.1016/j.compedu.2018.03.016.

Rafikayati, A., & Jauhari, M. N. (2021). Studi Tentang Pembelajaran Vokasional Bagi Anak Tunarungu Di SMPN 28 Surabaya. *Special and Inclusive Education Journal (SPECIAL)*, *2*(1), 77–83. https://doi.org/10.36456/special.vol2.no1.a3888.

Salmah, S., & Tamjidnoor. (2019). Aksesibilitas Pendidikan Bagi Kaum Disabilitas Pada Madrasah Ibtidaiyah Negeri (Min) Di Kota Banjarmasin. *Al-Banjari: Jurnal Ilmiah Ilmu-Ilmu Keislaman*, *18*(1). https://doi.org/10.18592/al-banjari.v18i1.2995.

Saputra, & Andrizal. (2018). Pengaruh Motivasi Terhadap Hasil Belajar Siswa SMK. *Jurnal Inovasi Vokasional Dan Teknologi*, *18*(1), 25–33. https://doi.org/10.24036/invotek.v18i1.168.

Saputra, H. D., Ismet, F., & Andrizal, A. (2018). Pengaruh Motivasi Terhadap Hasil Belajar Siswa SMK. *INVOTEK: Jurnal Inovasi Vokasional dan Teknologi*, *18*(1), 25–30. https://doi.org/10.24036/invotek.v18i1.168.

Satar, H. M., & Akcan, S. (2018). Pre-service EFL teachers' online participation, interaction, and social presence. *Language Learning and Technology*, *22*(1), 157–184.

Smith, K., & Hill, J. (2019). Defining the nature of blended learning through its depiction in current research. *Higher Education Research & Development*, *38*(2), 383–397. https://doi.org/10.1080/07294360.2018.1517732.

Surjono, H. D., Muhtadi, A., & Wahyuningsih, D. (2017). The implementation of blended learning in multimedia courses for undergraduate students in Indonesia. *International Journal of Information and Education Technology*, *7*(10), 783–786. https://doi.org/10.18178/ijiet.2017.7.10.972.

Tang, C. M., & Chaw, L. Y. (n.d.). Digital literacy: A Prerequisite for effective learning in a blended learning environment? *Electronic Journal of E-Learning*, *14*(1), 54–65.

Utomo, B. (2022). Analisis validitas isi butir soal sebagai salah satu upaya peningkatan kualitas pembelajaran di madrasah berbasis nilai-nilai islam. *Jurnal Pendidikan Matematika (Kudus)*, *1*(2). https://doi.org/10.21043/jmtk.v1i2.4868.

Van Laer, S., & Elen, J. (2017). In search of attributes that support self-regulation in blended learning environments. *Education and Information Technologies*, *22*(4), 1395–1454.

https://doi.org/10.1007/s10639-016-9505-x.

Vanslambrouck, S., Zhu, C., Pynoo, B., Thomas, V., Lombaerts, K., & Tondeur, J. (2019). An in-depth analysis of adult students in blended environments: Do they regulate their learning in an 'old school'way? *Computers & Education*, *128*(3), 75–87. https://doi.org/10.1016/j.compedu.2018.09.008.

Wulandari, I. G. A. A. M., Sudatha, I. G. W., & Simamora, A. H. (2020). Pengembangan Pembelajaran Blended Pada Mata Kuliah Ahara Yoga Semester II di IHDN Denpasar. *Jurnal Edutech Undiksha*, *8*(1), 1. https://doi.org/10.23887/jeu.v8i1.26459.

Yu, W., & Du, X. (2019). Implementation of a blended learning model in content-based EFL curriculum. *International Journal of Emerging Technologies in Learning (Online)*, *14*(5), 188–199. https://doi.org/10.3991/ijet.v14i05.8546.

Zavaraki, E. Z., & Schneider, D. (2017). Blended learning approach for students with spe- cial educational needs: A systematic review. *Journal of Education & Social Policy*, *6*(3), 75–86. https://doi.org/10.30845/jesp.v6n3p12.

Zwart, D. P., Van Luit, J. E., Noroozi, O., & Goei, S. L. (2017). The effects of digital learning material on students' mathematics learning in vocational education. *Cogent Education*, *4*(1). https://doi.org/10.1080/2331186X.2017.1313581.