Vol. 12, No. 2, pp. 660-672, 2022 DOI: 10.23960/jpp.v12.i2.202220

Jurnal Pendidikan Progresif

e-ISSN: 2550-1313 | p-ISSN: 2087-9849

http://jurnal.fkip.unila.ac.id/index.php/jpp/

# Evaluation of the Effectiveness of Online Training to Improve Lecturers' Ability in E-Learning Management Using the Kirkpatrick Model

**Yari Dwikurnaningsih, Marinu Waruwu**

Faculty of Teacher Training and Education, Universitas Kristen Satya Wacana, Indonesia

*Corresponding email: yari.dwikurnaningsih@uksw.edu

*Received: 10 March 2022* *Accepted: 19 April 2022* *Published: 20 May 2022*

**Abstract: Evaluation of the Effectiveness of Online Training to Improve Lecturers' Ability in E-Learning Management Using the Kirkpatrick Model. Objectives:** This study aims at the effectiveness of online training for lecturers in managing e-learning. This study uses an evaluation evaluation method with the Kirkpatrick model which includes evaluation of reactions, learning, behavior and results. **Methods:** The research approach is a mixed method with a sequential explanation model, where quantitative methods are used first and then qualitative methods are used in the next stage. Data collection techniques using questionnaires, and interviews. The research subjects are lecturers and students. Qualitative data were analyzed using the Miles and Huberman model and quantitative data were processed descriptively by calculating percentages and categorizing. **Findings:** The results showed that the reaction aspect was satisfied, learning was in the high category, behavior was in the moderate category and the results were in the good category. **Conclusion:** it works effectively, but needs improvement in the technical implementation of the training.

**Keywords:** evaluation, e-training, Kirkpatrick, e-learning

***Abstrak: Evaluasi Efektivitas Pelatihan Online untuk Meningkatkan Kemampuan Dosen Dalam Manajemen E-Learning Menggunakan Model Kirkpatrick.*** ***Tujuan:*** *Penelitian ini bertujuan untuk mengevaluasi efektifitas pelatihan secara online bagi dosen dalam mengelola e-learning. Penelitian menggunakan metode penelitian evaluasi dengan model Kirkpatrick yang meliputi evaluasi reaksi, belajar, perilaku dan hasil.* ***Metode:*** *Pendekatan penelitian adalah mix method dengan model sequential explanatory, di mana metode kuantitatif digunakan terlebih dahulu kemudian pada tahap berikutnya menggunakan metode kualitatif. Teknik pengumpulan data menggunakan angket, dan wawancara. Subjek penelitian adalah dosen dan mahasiswa. Data kualitatif dianalisis dengan model Miles and Huberman dan data kuantitatif diolah secara deskriptif dengan menghitung presentase dan pengkategorian.* ***Temuan:*** *Hasil penelitian menunjukkan bahwa aspek reaksi berada pada kategori puas, belajar pada kategori tinggi, perilaku pada kategori cukup dan hasil berada pada kategori baik.* ***Kesimpulan:*** *pelatihan berjalan efektif, namun perlu perbaikan pada teknis pelaksanaan pelatihan.*

***Kata kunci:*** *evaluasi, pelatihan, online Kirkpatrick, e–learning.*

***To cite this article:***

Dwikurnaningsih, Y., & Waruwu, M. (2022). Evaluation of the Effectiveness of Online Training to Improve Lecturers' Ability in E-Learning Management Using the Kirkpatrick Model. *Jurnal Pendidikan Progresif*, *12*(2), 660-672. doi: 10.23960/jpp.v12.i2.202220.

## INTRODUCTION

The COVID-19 pandemic has changed many aspects of life. One aspect of life that affected is the education sector (Aji, 2020; Noori, 2021). Prior to the COVID-19 pandemic, education management was carried out face-to-face. However, with the outbreak of Covid 19, education management is carried out online. This is as a result of government policies that emphasize learning from home by utilizing virtual face-to-face facilities such as zoom meetings and google meet, using a learning management system (LMS) with the MOODLE platform, google classroom, schoology, Microsoft teams, and the like and using various media (Ali, Hossain, & Ahmed, 2018; Ngabiyanto, Nurkhin, Mukhibad, & Harsono, 2021; Zalat, Hamed, & Bolbol, 2021). The pandemic situation has encouraged various learning innovations with technology. Although learning is done from home, learning innovation through technology has encouraged learning to continue by utilizing various technological innovations that have never existed before (Fidiantara, Lestari, Juniati, Syukur, & Jamaluddin, 2021; Marini & Milawati, 2020).

All universities in the world are trying to seize opportunities towards technological innovation with the Covid 19 outbreak. This opportunity can be seen in the total use of information technology facilities in the learning process. Learning is carried out online by utilizing various technological innovation applications (Lampong Klomkul, Phraratsutaporn, 2021; Rayuwati, 2020). One of the universities that seized this opportunity was the Faculty of Teacher Training and Education at the Satya Wacana Christian University, Salatiga, Indonesia. Since the emergence of the Covid-19 pandemic and to support government policies for social distancing, the faculty of teacher training and education has held lectures online. One of the main lecture facilities used is a MOODLE-based LMS, which is named flexible learning (Joan, 2013; Mawardi, 2020). In the process of preparing for the implementation of online-based learning requires the readiness of human resources. Every lecturer is expected to be able to manage LMS professionally. Therefore, the Faculty of Teacher Training and Education conducts training for lecturers. The training is conducted online (E-Training), using the Zoom meeting application. The purpose of the training is to improve the knowledge and skills of lecturers in managing flexible learning.

Online training was chosen because it has advantages, especially during the Covid 19 pandemic. E-training is online remote training that utilizes computer technology, computer networks, multimedia applications, and the internet (Luckyardi & Rahman, 2021; Zuhir et al., 2021). E-Training utilizes various virtual face-to-face facilities, social media such as whatsapp groups, google forms, email, and google drive (Dhawan, 2020; Husain, Idi, & Basri, 2021). Chen defines E-training as combining technology in learning that uses telecommunications and information technology, and the type of training delivered on a computer that supports learning and organizational goals (Kamal, Alaghbari, & Atteia, 2016). E-learning in training can cover several categories: purely online, mixed, or hybrid. The facilities are web-based, computer-based (CDROM), and video/audio cassettes, (e-text, eBooks, e-zines), video (video streaming, videocassette, satellite transmission, cable), audio (audio streaming, audio recording) , reviews and exams (electronic, interactive, paper), and communication (asynchronous, threaded discussions, weblogs, forums) or synchronous chat (video conferencing and teleconferencing). This online training (e-training) has advantages so that it gets the main attention. These advantages are reflected in that the implementation can be done anytime and anywhere, the schedule is more flexible and the

material is as needed, encourages independent learning,

assignments can be enriched with the latest knowledge obtained on the internet (Bali & Liu, 2018; Thanji & Vasantha, 2018). Another advantage is increasing access, but also increasing engagement, expanding the experience in exploring, and empowering participants, taking responsibility for scheduling and managing the learning process, learning can be accessed from any site using appropriate and effective technology, cost effective, improving services learning (Putranto, 2011).

However, based on a preliminary study, it shows that there are problems in the implementation of e-training. Many problems in the implementation of e-training are experienced when the practice of designing learning using LMS, participants experience internet problems, lack of reciprocal communication between participants and instructors, some participants cannot follow quickly. Constraints of e-learning are internet network disturbances, expensive internet quota fees, communication is not smooth, miscommunication often occurs in the training process, less interaction, less explanation of material (Arkorful & Abaidoo, 2015).

The gap that occurs between theory and preliminary studies and relevant research results indicates that there are problems in the implementation of online training. The success of e-training is very dependent on aspects of the readiness of human resources, technological facilities, organizational readiness and so on (Salamatina, 2020).

This study aims to analyze the effectiveness of online training programs to improve lecturers' ability to manage e-learning. The evaluation is carried out using the Kirkpatrick evaluation model which includes 4 (four) levels, namely 1) reaction; 2) learning; 3) behavior; 4) results (Maudsley & Taylor, 2020). This first level measures participants' reactions to the training and its related aspects (Jain, Sharma, & Shrivastava, 2021; Ragsdale et al., 2020). The level of learning is carried out to evaluate cognitive, affective, and psychomotor aspects (Dorri, Akbari, & Dorri Sedeh, 2016; Sahni, 2020). Behavioral level is carried out to assess the application of training materials in the workplace and transfer of experience to others (Zahro & Wu, 2016). Behavior level is carried out at least 3 (three) months after attending the training. The results level is carried out to evaluate the impact of training at the organizational level, and is related to the long-term results of whether the organizational goals are achieved after attending the training and have an impact on service to customers (Calvo, Morales, & Wade, 2019; Park & Jo, 2019).

## METHODS

### Research Design

This study uses an evaluation research method with the Kirkpatrick model. The approach used is a mix method with a sequential explanatory model, where the quantitative method is used first and then at the next stage using a qualitative method.

### Participants

The research subjects were all lecturers of the Satya Wacana Christian University Faculty of Teacher Training and Education who participated in the training totaling 29 lecturers. The student sample is 336 students who filled out the questionnaire distributed via google form.

### Materials and Instrument

The research procedure uses Kirkpatrick's 4-step evaluation model which includes evaluation of reactions, learning, behavior and results. Data collection techniques using questionnaires, and interviews. The questionnaire consists of four aspects of Kirkpatrick's training evaluation

model, namely first, the reaction aspect of the eight indicators and is represented by 10 (ten) question items. Second, the learning aspect includes nine indicators and is represented by 12 (twelve) question items. Third, aspects that include 7 (seven) indicators indicated by 9 (nine) question items. Fourth, aspects that include six indicators represented by 9 (nine) question items. The interview technique is carried out at the learning stage, the behavioral stage and the outcome stage. Indicators for each aspect can be seen in the details of Table 1.

**Tabel 1.** Research instruments

| Number | Aspect | Indicator | Question Items |
|---|---|---|---|
| 1 | **Reaction** | Training organizer | 1 |
| 2 | | Education and training teacher | 2.3 |
| 3 | | Material benefits | 4 |
| 4 | | Training method | 5 |
| 5 | | Online training media | 6 |
| 6 | | Facilities at LMS | 7.8 |
| 7 | | Ease of participating in online training | 9 |
| 8 | | Online assignment | 10 |
| 1 | **Learning** | Getting to know the features in LMS | 11 |
| 2 | | Understanding good e-learning design | 12.13 |
| 3 | | Understanding the steps to design e-learning | 14 |
| 4 | | Creating a course identity and description | 15 |
| 5 | | Uploading task | 16.17 |
| 6 | | Uploading material | 18 |
| 7 | | Uploading media | 20 |
| 8 | | Managing presence | 21 |
| 9 | | Managing test | 22 |
| 1 | **Behavior** | Teaching knowledge and skills to other people | 23 |
| 2 | | Applying knowledge and skills in teaching | 24.25 |
| 3 | | Designing learning with e-learning | 26 |
| 4 | | Optimizing existing facilities in LMS | 27 |
| 5 | | Ability to overcome difficulties in conducting learning with learning | 28.29 |
| 6 | | Feeling happy in conducting learning with e-learning | 30 |
| 7 | | By using e-learning, teaching motivation increases | 31 |

| | | | |
|---|---|---|---|
| 1 | **Result** | Access | 32 |
| 2 | | Display | 33.34 |
| 3 | | Interaction | 35.36 |
| 4 | | Control | 37 |
| 5 | | Form | 38.39 |
| 6 | | Ability | 40 |
| | | Items Total | 40 |

The interview instrument has been validated by 2 expert validators. The result is that there is a match between the questions and the indicators. Suggestions from the validator, there are several sentences in the question that need to be corrected so that there is no misinterpretation. The validity and reliability test of the questionnaire was carried out through trials of 15 lecturers and 20 students. All items in the questionnaire for lecturers are valid with the lowest correlation coefficient of 0.36 and Cronbach's Alpha reliability coefficient of 0.76. While the questionnaire for students all items proved valid with the lowest r score of 0.23 and Cronbach's alpha of 0.81.

### Data Analyses

Qualitative data analysis techniques were carried out through three stages, namely (1) data reduction, (2) data presentation, and (3) conclusions (Miles,M.B, Huberman,A.M, dan Saldana, 2014). Quantitative data is processed descriptively by calculating the percentage and making categorization

## RESULT AND DISCUSSIONS

The evaluation carried out using Kirkpatrick's 4-level model provides a complete picture of the training aspects. Kirkpatrick's complete model has provided the most valid and comprehensive framework for evaluating training programs (Jones et al, 2018). In this section, the results of the study are presented which include evaluation of reactions, namely participant satisfaction with the training program, evaluation of learning to determine the increase in knowledge, skills and attitudes of participants after participating in e-training, evaluation of participant behavior on the implementation of experience gained in training and evaluation of results which are the impact training on e-learning felt by students.

### Reaction Evaluation

The reaction evaluation data was obtained from a questionnaire filled out by the trainees, measuring how satisfied the participants were with the training they attended. Overall, the results of the reaction evaluation can be seen in Figure 1.

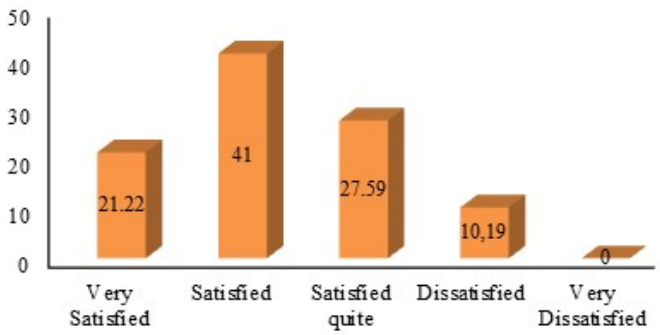


**Figure 1.** Reaction evaluation results

Based on the results of the evaluation of the reactions to the training participants, most of the participants or 41% said they were satisfied with the training they attended. In detail, the level of participant satisfaction based on the indicators measured is presented in table 2.

**Table 2.** Participant satisfaction with online training

| No | Indicator | (%) | Category |
|---|---|---|---|
| 1 | Training organizes | 79% | satisfied |
| 2 | Educating and training teacher | 78.6 % | satisfied |
| 3 | Material benefits | 77 % | satisfied |
| 4 | Training method | 70.3% | satisfied |
| 5 | Online training media | 76.2% | satisfied |
| 6 | Facilities at LMS | 80 % | satisfied |
| 7 | Ease of joining online training | 60 % | satisfied quite |
| 8 | Online assignment | 75 % | satisfied |
| | Average | 74.51% | satisfied |

Participants stated that the training method used was appropriate, after the theory was immediately put into practice designing e-learning according to the courses taught. Education and training teachers master the knowledge and skills being taught. The weakness is that some participants find it difficult to practice, because they feel it is too fast and they have to share screens to show the obstacles they are experiencing, so it takes quite a bit of time.

The reaction rate is good if participants have positive feedback on the training implementation (Paull, Whitsed, & Girardi, 2016). The results of the evaluation of the reactions in this study, the trainees stated that they were satisfied, the training was useful in designing and managing e-learning. Lecturers as training participants are motivated to use the flexible learning provided by the university. Satisfaction with the program will motivate students and will bring the success of a program (Dewi & Kartowagiran, 2018). Positive reactions from participants will lead to higher learning (Jain et al., 2021). Participants' satisfaction with the program can also encourage participants to acquire more knowledge and skills (Deodhar, M. and Powdwal, 2017). Research conducted by Mahmoodi et al., showed that overall, teachers were not completely satisfied with the quality of the training, but they believed they had learned a lot from the training (Mahmoodi, Rashtchi, & Abbasian, 2019). Reactions to training encourage teacher perceptions and satisfaction with the material provided (Eghtesadi & Hassanabadi, 2016). The ease of participating in online training was considered quite easy by the participants. Online training resulted in a lack of support from the instructor (Hussein, Daoud, Alrabaiah, & Badawi, 2020), participants did not get individual attention. On the other hand, technical constraints such as a poor network resulted in reduced participants' motivation. Problems that often occur in online learning are difficulties in accessing the internet (Baczek, Zaganczyk-Baczek, Szpringer, Jaroszynski, & Wozakowska-Kap³on, 2021) and lack of motivation (I. Dhull, 2017). Obstacles

during the training process affected the reactions of participants, as was the case with Firmansyah et al (2020)'s research that the training process affected students' reactions to the program they were participating in (Firmansyah & Aima, 2020).

**Learning Evaluation**

The results of the learning evaluation were obtained from a questionnaire given to the trainees, how high they gained knowledge and skills in participating in online training.

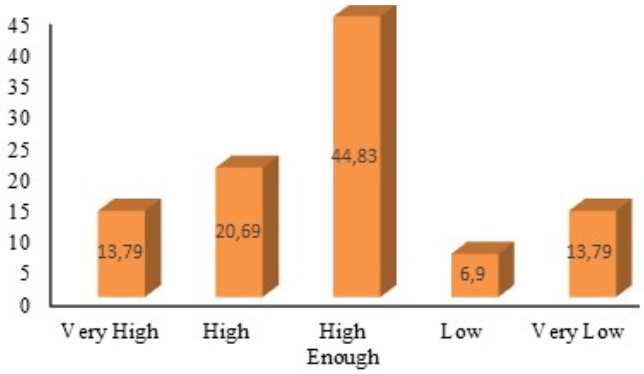


**Figure 2.** Learning evaluation results

Based on the results of data analysis, it was found that most of the participants or 44.83% stated that they got the knowledge and skills in the fairly high category. The results of the learning evaluation for each indicator are presented in Table 3.

**Table 3** Learning evaluation results based on measured indicators

| No | Indicator | (%) | Category |
|---|---|---|---|
| 1 | Getting to know the features in LMS | 65% | high |
| 2 | Understanding good e-learning design | 64% | high |
| 3 | Understanding the steps to design e-learning | 70% | high |
| 4 | Creating a course identity and description | 60% | high enough |
| 5 | Uploading task | 60% | high enough |
| 6 | Uploading material | 60% | high enough |
| 7 | Uploading media | 55% | high enough |
| 8 | Managing presence | 60% | high enough |
| 9 | Managing tets | 60% | high enough |
| | Average | 61.55% | high enough |

In Table 2 it can be seen that the indicators of learning outcomes in the knowledge aspect, namely numbers 1 to 3 are high. Meanwhile, the indicators on the skill aspect (numbers 4 to 9) are quite high. Based on the results of the interviews, several participants were able to attend the training well, and were able to practice smoothly. However, there were participants who missed out on the training, while the training continued according to the training schedule and flow. For participants who are completely new to the LMS used, they have difficulty following and if there are obstacles they do not immediately get direct assistance. There is no opportunity to

learn more about the features in the LMS and how to operate them.

Based on the learning evaluation, participants gain knowledge and skills in the fairly high category. Thus, training can improve the knowledge and skills of participants. Despite its limitations, e-training is able to increase knowledge, skills and attitudes, as is the case with the research results of (Ismail, Zaharudin, Hashim, & Ariffin, 2020) that e-training can improve the knowledge and skills of trainees. In this study, some participants experienced difficulties in designing practice, due to lack of interaction with the instructor and other participants. Paul et al., revealed that the learning environment needs to support the interaction and involvement of participants in the team. On the other hand, hands-on practice can provide participants with skills (Paull et al., 2016). The hope of the trainees is to do hands-on practice, not only theoretical tutorials (Zahro & Wu, 2016).

**Behavioral Evaluation**

Behavioral evaluation data were obtained through questionnaires to training participants, to measure the implementation of the material and experience gained through training in using e-learning in learning. The results of the behavioral evaluation can be seen in Figure 3.


**Figure 3.** Behavioral evaluation

Based on the results of the behavioral evaluation, the results obtained in the good and fairly good categories are the same, namely 31.03%. Based on the results of interviews with training participants, when implementing the experiences gained through training, some participants experienced difficulties and had to re-read the guidelines for using e-learning. They feel that attending one training session is not enough.

**Table 4.** Evaluation of behavior based on indicators

| No | Indicator | % | Description |
|---|---|---|---|
| 1 | Teaching knowledge and skills to other people | 40.3% | weak |
| 2 | Applying knowledge and skills in teaching | 75% | good |
| 3 | Designing learning with e-learning | 60.1% | good enough |
| 4 | Optimizing existing facilities in LMS | 60% | good enough |
| 5 | Ability to overcome difficulties in conducting learning with e-learning | 64.4% | good |
| 6 | Feeling happy in conducting learning with e-learning | 55.3% | good enough |
| 7 | By using e-learning, teaching motivation increases | 70.5% | good |
| | Average | 60.8% | good enough |

Based on data analysis on each behavioral indicator, the indicators for teaching the experience gained in training to others are in the low category. Based on the interviews, it was revealed that some participants still did not master the knowledge and skills well, so they could not teach them to others.

The results showed that the evaluation of behavior received an assessment with a fairly good category. In general, training is able to change the behavior of participants in the workplace. Participants believe that motivation, knowledge and skills, ability to overcome difficulties, LMS design ability and utilization of facilities have improved in the work environment. These results have similarities with Alsalamah & Callinan's research that in the behavioral evaluation aspect, participants experience increased skills and improved character traits needed in the workplace (Alsalamah & Callinan, 2021). Then the results of research by Ruskanda et al., that the evaluation of participant behavior is considered successful because the use of the acquired knowledge is almost fully implemented in the work environment (Ruskanda, 2018). This is in line with the behavioral evaluation theory revealed by Paull et al that behavioral evaluation is successful if the trainees are able to change their behavior at work (Calvo et al., 2019).

**Result Evaluation**

Evaluation of the results is done by distributing questionnaires to students who have used e-learning. The number of students who filled out the questionnaire was 335 students. Based on the questionnaire, data were obtained about students' perceptions of access, display, interaction, control, and the form of e-learning that had been designed by lecturers and used in learning. While the aspect of the ability of the lecturer is how the lecturer designs and uses it in learning. Based on these data, aspects of student access to e-learning are in the very good category, and the other 5 aspects are in the fairly good category.

**Table 5.** Evaluation table of student perceptions

| No | Evaluation Type | % | Description |
|---|---|---|---|
| 1 | Access | 87% | very good |
| 2 | Display | 80% | good |
| 3 | Interaction | 74% | good |
| 4 | Control | 72% | good |
| 5 | Form | 69% | good enough |
| 6 | Ability | 75% | good |
| | Average | 76.17 % | good |

Based on the results of interviews with students obtained information that access to the LMS is very easy. The disadvantages felt by students are the lack of interaction between lecturers and students and students with students, too many assignments are not proportional to the number of credits for the course, lecturer responses to student assignments are lacking.

The results showed that the evaluation aspect of the results received an assessment in the Good category. Thus, the training is considered to have an impact on the ability of participants to manage e-learning in terms of indicators of access, display, interaction, control, form and ability. These results are similar to the results of the two previous studies. The first research revealed by

Sari that training has an impact on service satisfaction and improving organizational performance (Sari, 2021). The results of the second study were revealed by Zain et al., who found that the aspects of the training outcomes helped and provided benefits for participants to get jobs after completing the training (Zain & Nurudin, 2016). Thus the research results have relevance to the theory developed by J. Kirkpatrick & W. Kirkpatrick that the evaluation aspect of training results is reflected in the effectiveness of an organization or environment (Kirkpatrick, J. & Kirkpatrick, 2009).

## ■ CONCLUSIONS

Based on the findings in this evaluation study, it can be concluded that 7 of the 8 indicators on the reaction aspect, participants expressed satisfaction. While 1 indicator, namely the ease of participating in online training, participants are quite satisfied. The difficulty experienced by the participants was when the instructor's practice of designing e-learning was too fast and when they encountered obstacles they could not be overcome immediately. The results of the learning evaluation, participants experienced mastery of knowledge in managing e-learning in the high category, but for practice in the fairly high category, namely in the skills of making identity and course descriptions, uploading assignments, uploading materials, uploading media, managing attendance and administering tests. In the behavioral aspect, namely teaching and implementing the experience gained in the work, it is in the sufficient category. Most of the participants have not taught others. In the aspect of results measured through student opinions on the management of e learning by lecturers, it is in the good category but on the form indicators, namely variations in the form of material and media, it is considered sufficient, and the interaction between lecturers and students is lacking. Recommendations based on the evaluation results are: in practical activities, small groups are made by utilizing the breakout room facility in zoom, so that each participant can be properly guided; training needs to be carried out in stages so that participants who are left behind during the training have time to learn; for lecturers, it is necessary to adjust the number of assignments to the number of credits and provide feedback on assignments as soon as possible; For further e-training, it is recommended to use a blended learning model where the practice is carried out face-to-face.

## ■ REFERENCES

Aji, R. H. S. (2020). Dampak Covid-19 pada Pendidikan di Indonesia: Sekolah, Keterampilan, dan Proses Pembelajaran {The Impact of Covid-19 on Education in Indonesia: Schools, Skills, and the Learning Process}. *SALAM: Jurnal Sosial Dan Budaya Syar-I*, *7*(5), 395–402.

Ali, M., Hossain, S. . K., & Ahmed, T. (2018). Effectiveness of E-Learning for University Students: Evidence from Bangladesh. *Asian Journal of Empirical Research*, *8*(10), 352–360.

Alsalamah, A., & Callinan, C. (2021). Adaptation of Kirkpatrick's four-level model of training criteria to evaluate training programmes for head teachers. *Education Sciences*, *11*(3).

Arkorful, V., & Abaidoo, N. (2015). The role of e-learning, advantages and disadvantages of its adoption in higher education. *International Journal of Instructional Technology and Distance Learning*, *2*(12), 29–42.

Baczek, M., Zaganczyk-Baczek, M., Szpringer, M., Jaroszynski, A., & Wozakowska-Kap³on, B. (2021). Student's Perception of Online Learning during COVID Pandemic. *Medicine*, *100*(7), 1–6.

Bali, S., & Liu, M. C. (2018). Students'

perceptions toward online learning and face-to-face learning courses. *Journal of Physics: Conference Series*, *1108*(1).

Calvo, S., Morales, A., & Wade, J. (2019). The use of MOOCs in social enterprise education: an evaluation of a North–South collaborative FutureLearn program. *Journal of Small Business and Entrepreneurship*, *31*(3), 201–223.

Deodhar, M. and Powdwal, S. (2017). Impact of Continuing Education Programs (CEPs) on LIS Professionals in Academic Libraries in Mumbai, India. *Library Management*, *38*(2/3), 117–130.

Dewi, L. R., & Kartowagiran, B. (2018). An evaluation of internship program by using Kirkpatrick evaluation model. *Research and Evaluation in Education*, *4*(2), 155–163.

Dhawan, S. (2020). Online Learning: A Panacea in the Time of COVID-19 Crisis. *Journal of Educational Technology Systems*, *49*(1), 5–22.

Dorri, S., Akbari, M., & Dorri Sedeh, M. (2016). Kirkpatrick evaluation model for in-service training on cardiopulmonary resuscitation. *Iranian Journal of Nursing and Midwifery Research*, *21*(5), 493–497.

Eghtesadi, A. R., & Hassanabadi, S. (2016). An Evaluation of In-Service Training Courses for the Seventh Grade English Package for Iranian Schools ( Prospect 1 ). *Journal of Applied Linguistics and Language Research*, *3*(5), 130–143.

Fidiantara, F., Lestari, A., Juniati, N., Syukur, A., & Jamaluddin, J. (2021). Innovation of learning methods during the covid-19 pandemic at junior high school in Mataram City and West Lombok Regency. *Jurnal Pijar Mipa*, *16*(4), 479–485.

Firmansyah, A., & Aima, H. (2020). Pengaruh pelatihan, kompensasi, dan motivasi kerja terhadap kinerja karyawan {The effect of training, compensation, and work motivation on employee performance}. *Journal FEB Unmul: Kinerja*, *17*(2), 172–185.

Husain, B., Idi, Y. N., & Basri, M. (2021). Teachers' Perceptions on Adopting E-Learning During Covid-19 Outbreaks; Advantages, Disadvantages, Suggestions. *Jurnal Tarbiyah*, *27*(2), 41–57.

Hussein, E., Daoud, S., Alrabaiah, H., & Badawi, R. (2020). Exploring undergraduate students' attitudes towards emergency online learning during COVID-19: A case from the UAE. *Children and Youth Services Review*, *119*, 105699.

I. Dhull, M. S. (2017). Online Learning. *International Education & Research Journal [IERJ]*, *3*(8), 32–34. https://doi.org/10.1007/978-3-030-33120-7_6

Ismail, A., Zaharudin, R., Hashim, N., & Ariffin, J. (2020). The Impact of e-NPQEL on the Continuance Intention of Using e-Training among Aspired School Leaders in Malaysia. *International Journal of Interactive Mobile Technologies*, *14*(19), 109–123.

Jain, G., Sharma, N., & Shrivastava, A. (2021). Enhancing training effectiveness for organizations through blockchain-enabled training effectiveness measurement (BETEM). *Journal of Organizational Change Management*, *34*(2), 439–461.

Joan, R. (2013). Flexible Learning As New Learning Design In Classroom Process To Promote Quality Education. *I-Manager's Journal on School Educational Technology*, *9*(1), 37–42.

Kamal, K., Alaghbari, M., & Atteia, M. (2016). E-training & employees ' performance a practical study on the ministry of education in the Kingdom of Bahrain E-Training &

Employees ' Performance a Practical Study on the Ministry of Education in the Kingdom of Bahrain. *Journal of Resources Development and Management ISSN 2422-8397 An International Peer-Reviewed Journal Vol.18*, *18*(March), 1–8.

Kirkpatrick, J. & Kirkpatrick, W. (2009). *The Kirkpatrick Model: Past, Present and Future*.

Lampong Klomkul, Phraratsutaporn. (2021). Technological Innovation for Online Learning during the Situation of COVID-19 Pandemic in Thailand. *Psychology and Education Journal*, *58*(1), 1578–1584.

Luckyardi, S., & Rahman, L. (2021). Application of E-Learning System in the World of Education. *Jurnal Teknologi Informasi Dan Pendidikan*, *14*(1), 47–52.

Mahmoodi, M., Rashtchi, M., & Abbasian, G. R. (2019). Evaluation of in-service teacher training program in iran: Focus on the Kirkpatrick model. *Education and Self Development*, *14*(4), 20–38. https://doi.org/10.26907/esd14.4.03

Marini, S., & Milawati, M. (2020). *Distance Learning Innovation Strategy in Indonesia During the COVID-19 Pandemic*. *488*(Aisteel), 416–421.

Maudsley, G., & Taylor, D. (2020). Analysing synthesis of evidence in a systematic review in health professions education: observations on struggling beyond Kirkpatrick. *Medical Education Online*, *25*(1).

Mawardi. (2020). Keefektifan Flexible Learning dalam Menumbuhkan Self-Regulated Learning dan Hasil Belajar Mahasiswa PGSD {The Effectiveness of Flexible Learning in Growing Self-Regulated Learning and Learning Outcomes of PGSD Students}. *Scholaria: Jurnal Pendidikan Dan Kebudayaan*, *10*(3), 251–262.

Miles,M.B, Huberman,A.M, dan Saldana, J. (2014). Qualitative Data Analysis, A Methods Sourcebook, Edition 3. *Sage Publications*. Retrieved from Terjemahan Tjetjep Rohindi Rohidi UI-Press

Ngabiyanto, Nurkhin, A., Mukhibad, H., & Harsono. (2021). E-learning evaluation using general extended technology acceptance model approach at schools in COVID-19 pandemic. *European Journal of Educational Research*, *10*(3), 1171–1180.

Noori, A. Q. (2021). The impact of COVID-19 pandemic on students' learning in higher education in Afghanistan. *Heliyon*, *7*(10), e08113. Retrieved from

Park, Y., & Jo, I. H. (2019). Factors that affect the success of learning analytics dashboards. *Educational Technology Research and Development*, *67*(6), 1547–1571.

Paull, M., Whitsed, C., & Girardi, A. (2016). Applying the Kirkpatrick model: Evaluating an Interaction for Learning Framework curriculum intervention. *Issues in Educational Research*, *26*(3), 490–507.

Putranto, A. (2011). Perancangan Training dengan E-Learning pada Perusahaan Manufacture (Planning Training with E-Learning in Manufacturing Companies}. *ComTech: Computer, Mathematics and Engineering Applications*, *2*(1), 317.

Ragsdale, J. W., Berry, A., Gibson, J. W., Herber-Valdez, C. R., Germain, L. J., & Engle, D. L. (2020). Evaluating the effectiveness of undergraduate clinical education programs. *Medical Education Online*, *25*(1).

Rayuwati, R. (2020). How educational technology innovates distance learning during pandemic crisis in remote areas in

Indonesia? *International Research Journal of Management, IT and Social Sciences*, *7*(6), 161–166.

Ruskanda, L. (2018). Implementation of the Kirkpatrick Model Training Program Evaluation. *International Journal of Advanced Research*, *6*(8), 878–892.

Sahni, J. (2020). Managerial training effectiveness: An assessment through Kirkpatrick framework. *TEM Journal*, *9*(3), 1227–1233.

Salamatina, Y. V. (2020). The use of e-learning resources in distance learning. *Journal of Physics: Conference Series*, *1691*(1).

Sari, A. U. (2021). Evaluasi Pelatihan Dengan Model Evaluasi Kirkpatrick Di Balai Perlindungan Dan Rehabilitasi Sosial Wanita {Training Evaluation Using Kirkpatrick Evaluation Model In Balai Women's Social Protection and Rehabilitation}. *Jurnal Manajemen Pendidikan Dan Pelatihan*, *5*(3), 269–274.

Thanji, M., & Vasantha, S. (2018). *A Study of Benefits and Limitations of e- Learning-A Learner 's Perspective*. *118*(5), 175–184.

Zahro, S., & Wu, M. C. (2016). Implementing of the employees training evaluation using Kirkpatrick's model in tourism industry-A case study. *International Journal of Innovation and Applied Studies*, *17*(3), 1042–1049.