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Effectiveness of Online Education and Training for Outbreak Management on Rapid Action Team in DIY

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Abstract

Ministerial Regulation No. 1501 of 2010, Article 21(2), highlights the formation of a Rapid Action Team (RAT) as a part of Indonesia's outbreak control strategies. However, due to the massive spread and increase in Covid-19 cases, the education and training for RAT was carried out online. This study aims to identify determinant factors influencing the effectiveness of education and training using the online method for RAT community health centers. It employed a quasi-experimental design one-group pretest-posttest. The sample consisted of all training participants, totaling 60 individuals, from 12 health centers in the Special Region of Yogyakarta. Data analysis involved both simple and multiple linear regression tests. Research findings indicated that: 1) a significant difference existed in participants' knowledge scores before and after receiving education and training using the online method; 2) Determinant factors related to effectiveness included the quality of assignments, participant satisfaction with facilitator performance, and participant engagement. Continuation of online education and training methods can be achieved through ongoing monitoring of task quality, participant engagement, and facilitator performance. Technical challenges can be addressed by recording activities, testing content, and preparing contingency plans.
Keyword: effectiveness, education, training, outbreak, online

Efektifitas Pendidikan dan Pelatihan Daring untuk Penanggulangan Wabah pada Tim Aksi Gerak Cepat

Abstrak

Permenkes Nomor 1501 Tahun 2010 pasal 21(2) menyatakan bahwa salah satu upaya penanggulangan kejadian luar biasa (KLB) dan wabah di Indonesia adalah pembentukan Tim Gerak Cepat (TGC). Namun, wabah dan peningkatan kasus Covid-19 menyebabkan pendidikan dan pelatihan TGC dilakukan secara daring. Tujuan penelitian ini adalah untuk mengetahui faktor determinan yang mempengaruhi efektivitas pendidikan dan pelatihan dengan metode daring pada TGC puskesmas. Penelitian ini menggunakan desain kuasi eksperimen one-group pretest-posttest. Sampel adalah seluruh peserta pelatihan yang berasal dari 12 puskesmas Daerah Istimewa Yogyakarta (DIY) sebanyak 60 orang. Analisis data menggunakan uji regresi liner sederhana dan berganda (α=0,05). Hasil penelitian menujukkan bahwa: 1) Ada perbedaan signifikan nilai pengetahuan peserta sebelum dan setelah diberikan pendidikan dan pelatihan dengan metode daring; 2) Faktor determinan yang berhubungan dengan efektivitas kegiatan adalah kualitas penugasan peserta, kepuasan peserta terhadap performa fasilitator, dan keaktifan peserta. Pendidikan dan pelatihan metode daring dapat tetap dilanjutkan dengan monitoring terhadap kualitas tugas dan keaktifan peserta serta performa fasilitator. Kendala teknis dapat diselesaikan dengan merekam selama kegiatan berlangsung, menguji konten, dan menyiapkan rencana cadangan.
Kata Kunci: *efektivitas, daring, pendidikan, pelatihan, wabah*

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Introduction

Outbreaks of infectious diseases and food poisoning are still a public health problem because they can cause a lot of morbidity and mortality that absorb a very large budget in efforts to overcome them. These diseases also have an impact on the economic sector and tourism and have the potential to spread widely across districts/cities, provinces, and even between countries (Borgdorff & Motarjemi, 2005). Several emerging infectious diseases, such as diarrhea, measles, diphtheria, dengue fever, and food poisoning are types of diseases that often cause outbreaks in Indonesia (Regulation of the Minister of Health of the Republic of Indonesia Number 1501/MENKES/Per/X/2010 concerning certain types of infectious diseases that may cause outbreaks and containment efforts, 2010). Other types of outbreaks that have occurred in Indonesia are outbreaks of polio, hand, foot, and mouth disease (HFMD), malaria, and the disease that is currently engulfing the whole world, namely the Covid-19 pandemic (Ministry of Health of Indonesia, 2020a). The first case of Covid-19 in Indonesia was reported on March 2, 2020, from Depok City, West Java Province. The emergence of the first case was followed by the detection of new cases which were the first cluster and in a short time other Covid-19 cases were found in several areas spread across almost all provinces in Indonesia (Nuraini, 2020), (Ministry of Health of Indonesia, 2020b).

Indonesia, through the Ministry of Health, continues to strive for preparedness, early vigilance, and response to emerging infectious diseases and the efforts made are inseparable from the role of the Rapid Action Team (RAT) in Primary Health Centers (Ministry of Health of Indonesia, 2020a). Based on the Minister of Health Regulation No. 1501 of 2010 article 21 paragraph 2 concerning certain types of infectious diseases that can cause outbreaks and efforts to overcome them, the RAT was formed. However, due to the massive spread and increase in Covid-19 cases, this activity must be carried out online to avoid activities that involve many people. RAT consists of medical personnel, health epidemiologists, sanitarians, health entomologists, and laboratory personnel, involving personnel in related programs/sectors as well as the community (Regulation of the Minister of Health of the Republic of Indonesia Number 1501/MENKES/Per/X/2010 concerning certain types of infectious diseases that may cause outbreaks and containment efforts, 2010). According to the Minister of Health Regulation No. 82 of 2014 concerning the control of infectious diseases, the RAT has the task and function of carrying out early detection of outbreaks; carrying out an outbreak response; as well as reporting and making recommendations for countermeasures (Peraturan Menteri Kesehatan Republik Indonesia Nomor 82 Tahun 2014 Tentang Penaggulangan Penyakit Menular , 2014).

Outbreaks of emerging infectious diseases not only have the potential to cause large numbers of human deaths but also have a major social and economic impact because the world is now interconnected. Effective communication and risk management play an important role in ensuring that these emerging infectious diseases are detected early, reported quickly, and managed properly (Kemendagri RI, 2020). On this basis, it is urgently needed to increase the capacity of the primary health center to carry out early detection, respond, report, and make recommendations for handling outbreaks. Many partners, the World Health Organization, and the European Union have organized this training program on a multi-national basis and simulation exercises (WHO, 2005), (EU Healthy Gateways, 2018).

This education and training activity is very much needed by health workers at the primary health center and should be carried out offline. The things that support the implementation of education and training in an accredited training organization are places, facilities and infrastructure, learning methods, and media, and instructors or resource persons (Pribadi, 2020). Education and training carried out online lead to changes and adjustments in their implementation.

Several obstacles namely the technology available for online education sometimes create many difficulties such as download errors, internet network problems, installation, login problems, audio and video problems, and others. Sometimes participants find online method education uninteresting. The concentration of participants is also a big problem faced by online education and training because two-way interaction is difficult to implement. The learning process is not fully able to reach their potential in practicing what they learn. Lack of a learning community, technical problems, and difficulties in understanding instructional objectives are the main barriers to online learning (Song et al., 2004). In one study, it was found that participants were not adequately prepared to balance their work, family, and social life with an online learning environment (Parkes, Stein, and Reading, 2015).

There are many problems with online education and training, but we cannot ignore its benefits in times of crisis. Based on this background, the objectives arise in this study, namely: 1) to determine the effectiveness of online education and training methods in increasing the knowledge of RAT participants regarding the management of infectious disease outbreaks; 2) to determine the determinant factors related to the effectiveness of online education and training methods.

Method

The research was conducted at the Operational Section, Health Training Center, DIY Health Office, which is responsible for organizing health training in the DIY Province. This study uses a quasi-experimental research design: One-Group Pretest-Posttest (G, J, and L, A, 2019). The sample of this research is all the training participants from 12 health centers in the Special Region of Yogyakarta Health Office as many as 60 people. The sampling technique is purposive sampling with the following criteria:

a. Participants from the Primary Health Center are prioritized as RAT members.
b. Each Primary Health Center assigns a minimum of three people, preferably doctors, epidemiological surveillance, and laboratory institutions, or can send five people consisting of doctors, epidemiological surveillance, laboratory institutions, health educators, and sanitarians.
c. Minimum education Diploma in Health
d. Preferably State Civil Apparatus
e. A letter from the supervisor that after attending the training the person concerned will continue to work at a RAT Primary Health Center for at least 2 (two) years.
f. Participants follow the training until it's finished

The training for handling outbreaks for RAT Primary Health Center during the Covid-19 pandemic was carried out using an online method. The delivery of theory for 28 hours of lessons and assignments for 19 hours of lessons. The delivery of the training uses various methods that involve all participants to play an active role in achieving competence, namely: lectures, questions, and answers, brainstorming, discussions and case studies, simulations, video screenings, role-plays, games, simulations, and Table Top Exercise (TTX). The learning technology used is the Learning Management System application with BEST (Bapelkes E-Learning System) and video conference, namely Zoom Cloud Meeting.

Univariate analysis used the mean and standard deviation. The data normality test was carried out on all research variables using the Kolmogorv Smirnov. The test results show that the pre-test and post-test scores on education and training participants are declared to be normally distributed. Bivariate analysis using paired sample t-test and to determine the factors related to the effectiveness of training using a simple linear regression test (α=5). Multivariate analysis to find a predictive model of factors that affect the effectiveness of education and training using multiple linear regression by including several variables that meet the criteria as candidate models, namely $p < 0.25$. The use of this value is because the possibility of these variables being covert (p=0.00–0.24) is substantially important to interact with each other in the multivariate model. This research has received permission from Bapelkes (Health Training Center) Yogyakarta with the letter number: 070/01492.

Result and Discussion

Evaluate the Value of The Process During Education and Training

The value of the process during the training is measured based on the activity, attitude, and quality of the assignment shows the average value of participants during education and training on

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KLB management delivered by the facilitator using the online method and assignments through the Bapelkes E-Learning System (BEST)/LMS gave very good results.

Participants' Satisfaction with The Implementation of Education and Training

The value of the satisfaction of the RAT team participants with the implementation of education and training for handling outbreaks using the online method is measured by 12 indicators, which can be seen in Table 1 below:

Table 1. Indicators of Participant Satisfaction with Training Implementation

Satisfaction	Mean	Std. Deviation
Learning experience	89,23	4,93
Motivation level	89,67	4,69
Training benefits	90,10	4,86
Use of learning methods	91,03	5,27
Mechanism of training implementation	91,33	4,55
Preparation and service of learning materials	89,07	5,03
Secretariat service	88,80	5,25
Information communication services	90,10	5,22
Complaint service	90,23	4,49
Audio-video quality	89,73	4,69
Easy access to training management	88,43	5,58
Ease of accessing the BEST/LMS website	90,17	5,04

The lowest satisfaction value of 88.43 is found in the indicator of the ease of accessing the training management system and the highest satisfaction with a value of 91.33 is found in the indicator of the training implementation mechanism.

Participants' satisfaction with the facilitator's performance

The value of the satisfaction of the RAT team participants with the performance of the training facilitators is measured by 12 indicators, which can be seen in Table 2 below:

Table 2. Participant Satisfaction with the Performance of the Training Facilitator

Facilitator Performance	Mean	Std. Deviation
Material mastery	89.67	2,46
Punctuality	88.88	1,87
Systematic presentation	88.65	1,25
Use of training methods, media, and tools	88.36	2,27
Empathy, style, and attitude towards participants	89.13	2,55
Giving the motivation to learn	89.67	0,07
Teamwork	88.63	1,25
Achievement of general learning objectives	88.79	1,22
Question and answer opportunity	88.63	3,49
Ability to present	89.53	2,69
Neatness of clothes	89.47	2,58
Language use and voice volume	89.35	1,04

Table 2 shows that most RAT team participants stated they were very satisfied with the performance of the training facilitators, with an average score of over 88. The lowest value of satisfaction is 88.36, which is found in the indicators of the use of methods, media, and training aids. The highest satisfaction value of 89.67 is found in the indicators of mastery of the facilitators' material, which is easy to understand, and the provision of learning motivation to participants during education and training. According to the standard on the facilitator's assessment at Bapelkes DIY, the facilitator's assessment with a score of 86 is included in the very good category. The lowest satisfaction value of 88.36 is found in the indicators of the use of methods, media, and training aids. The highest satisfaction value of 89.67 is found in the indicators of mastery of the facilitators' material, which is easy to understand, and the provision of learning motivation to participants during education and training.

Differences in participants' knowledge before (pre-test) and after education and training (post-test)

Comparison of the knowledge of participants during education and training on KLB management with the online method is done by analyzing the value of knowledge on the pre-test compared to the value of knowledge on the post-test, with the results in Table 3.

Table 3. Knowledge of Participants Before and After Education and Training

Knowledge Value	N	Mean	Std. Deviation	Range	P-Value
Before Education and Training (Pre-Test)	60	49.42	7.44	34,29 - 49,43	0,000
After Education and Training (Post-Test)	60	87.29	9.09	87,29 - 100,00	

Table 4. Factors related to the knowledge value of participants after education and training (post-test)

Variable	Knowledge value of participants after education and training (post-test)						
	Mean	CI 95%	SD	P-Value	Pearson Correlation	R-Square	Line Equation
Satisfaction with the training implementation	87,90	85,94-89,86	7,57	0,217	-0,162	0,026	104,37+(-0,19)
Participant's Attitude	95,83	95,75-96,01	0,49	0,012	0,324	0,105	-478,870+5,91
Quality of assignments	92,26	91,52-92,99	2,84	0,000	0,981	0,962	-202,34+3,32
Participant activity	91,77	91,51-92,02	0,99	0,012	0,324	0,105	-183,64+ 2,95
Participant satisfaction with the facilitator performance	87,09	86,14-88,04	3,67	0,000	0,683	0,466	-60,103+1,69

Table 5. Prediction model of factors that affect participants' knowledge after education and training

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	-124.618	17.720		-7.033	.000
	Participants' Activity During Education and Training	-.970	.208	-.106	-4.666	.000
	Quality of Participant Assignment	3.616	.109	1.130	33.130	.000
	Participant Satisfaction with Training Implementation	-.016	.028	-.013	-.579	.565
	Participant Satisfaction with Facilitator's Performance	-.359	.085	-.145	-4.230	.000
2	(Constant)	-126.550	17.299		-7.315	.000
	Participants' Activity During Education and Training	-.972	.207	-.107	-4.704	.000
	Quality of Participant Assignment	3.604	.107	1.126	33.758	.000
	Participant Satisfaction with Facilitator's Performance	-.339	.077	-.137	-4.399	.000

a. Dependent Variable: Participants' knowledge after education and training

Table 3 explains that outbreak control education and training activities carried out using online methods during the Covid-19 pandemic showed that the average knowledge value of participants before training (pre-test) was only 49.43 with a standard deviation of 7.44. The range of minimum and maximum values is 34.29-68.57. Comparison with the average value of participants' knowledge after training (post-test) shows an increase of 87.29 with a standard deviation of 9.09. The range of minimum and maximum values also showed an increase of 70.00-100.00. The results of the statistical test showed a significant difference in the knowledge value of participants before and after being given education and training to control the outbreak with the online method based on the P-value of 0.000 <0.05.

The provision of pre-test and post-test is intended to determine the participants' understanding of the learning that will be given so that the readiness of participants for the lesson and the final test will be better. The results of the pre-

test and post-test can be used as feedback to increase participants' motivation and serve to see the effectiveness of education and training. Effendy stated that the results of this value comparison can also show the level of understanding of the participants and the level of success of the material that has been delivered (Effendy & Hamid, 2016). Effendy also argues that giving a post-test at the end of each meeting will be very helpful in repeating or drawing conclusions during the lessons that have been followed by participants so that the absorption of material will last longer in participants' memories (Effendy & Hamid, 2016).

Before the implementation of the pre-test, all participants must have prepared for the material to be received so that the process of integrating or assimilation (assimilation) of the material that has been mastered with the material that has just been taught can make the development of participants better. This is following the opinion of Piaget cit Suciati, namely: the learning process must be adjusted to the stages of cognitive development that the participants go through. The learning process consists of three stages, namely assimilation, accommodation, and equilibration (balancing). The process of assimilation is the unification (integration) of new information into cognitive structures that already exist in the minds of participants. The accommodation process is the adjustment of cognitive structures into new situations, the equilibration process is a continuous adjustment between assimilation and accommodation (Suciati & Prasetya, 2001).

The effectiveness of this activity follows the results of previous research which stated that online education and training methods were quite effective during the COVID-19 pandemic (Supriadi & Putri, 2020), (Zulfikar et al., 2019), (Fuadi, 2021). Several obstacles were found in online education and training, but to maintain the effectiveness so that the educational and training objectives are achieved, various preparations are needed before this method is implemented. Technical problems can be solved by recording during the education and training process, testing content, and always preparing Plan B so that the education and training process is not hampered. Activities are made dynamic, interesting, and interactive by setting a time limit on delivering material and doing assignments. The committee and training controllers actively remind participants to always focus and give full attention during education and training.

The facilitator also gives personal attention to the participants so that they can easily adapt to the online learning environment. Facilitators can use discussion forums through the WhatsApp application to facilitate communication between participants, organizers, and facilitators. This follows Partlow & Gibbs' statement, that online education programs must be designed in such a way that they are creative, interactive, relevant, participant-centered, and group-based (Partlow & Gibbs, 2003).

Factors related to the knowledge value of participants after education and training (post-test)

The results of the analysis of factors related to participants' knowledge during education and training on coping with outbreaks using the online method were measured in several variables, namely satisfaction with the training implementation, participant attitudes, quality of assignments, participant activity, and participant satisfaction with facilitator performance. The results of this analysis can be seen in Table 4:

Table 4 shows that there are 4 factors related to the value of participants' knowledge during education and training for handling outbreaks with online methods, namely: 1) the quality of the assignment results has a Pearson correlation value of 0.981. This value shows a very strong positive relationship, meaning that the better the quality of assignments carried out by the participants, the better the value of knowledge after education and training. The R-square value is 0.962, meaning that the line equation obtained can explain the knowledge value of participants after education and training of 96.2%. 2) Participants' satisfaction factor on the facilitator's performance with a Pearson correlation value of 0.683. This value shows a strong positive correlation, meaning: that the better the performance of the facilitator in providing education and training materials, the better the knowledge value of the participants. The R-square value is 0.683, meaning that the line equation obtained can explain the knowledge value of participants after education and training of 68.3%. 3) Attitude factor and 4) participant activity factor with a Pearson correlation value of 0.324. This value shows a strong positive correlation, meaning that the better the attitude and activity

during the training, the better the knowledge value of the participants after education and training. The R-square value is 0.324, meaning that the equation of the line obtained can explain the knowledge of the participants after the education and training of the participants by 32.4%.

The quality factor of the results of the assignments carried out by the participants is related to the effectiveness of education and training in handling outbreaks with online methods. There are two types of assignments given by the facilitator to participants, namely making a resume based on the material that the facilitator has uploaded through the LMS before the education and training begins and making assignments according to the facilitator's directions after the material. The assignment is an educational method that can generate the interest and motivation of participants in carrying out learning activities. Giving assignments gives participants the desire and demands to carry out learning activities, namely the need to complete tasks according to the material that has been given. The process of assigning tasks to participants must be carried out in a planned manner, i.e. the format of the tasks given must be designed and arranged systematically with the specified achievement goals must be clear (Sardiman, 2005).

The learning method with assignments is very appropriate for adult learning that uses the principles of Andragogy, namely the science and art of helping adults learn. Learning in adults should be task-centered, namely learning that is centered on the tasks it carries. Learning will be easier if it is associated with things they are used to in carrying out their work (Triati, 2019). This has been implemented in the full online training for the Management of Outbreaks and Outbreaks of Infectious Diseases at the Puskesmas Rapid Action Team (RAT). The assignment given is a driving factor in increasing the ability of participants during the training. The assignment method given can increase Knowledge, Affective, and Psychomotor (KAP), such as case studies, simulations, video screenings, role-plays, games, and tabletop Exercise (TTX).

Several previous research results also show that the assignment method can have a good influence and has a strong correlation with improving learning outcomes(Sabriani, 2013), (Aldila & Mulyanratna, 2013), (Erpidawati et al., 2021), (Makmur, Andi, Amal & Agunawan, 2021). To get quality assignments using the online method from trainees, it must be supported by a variety of features in the LMS (Gabrina & Rahmawati, 2019), (Gustina et al., 2020). This statement follows the LMS facility provided by Bapelkes as the organizer in BEST. Various features related to online assignments can be used by participants and facilitators, such as a) Direct assessment from the facilitator; b) Prompt feedback from the facilitator; c) Time reminders so that participants are disciplined in uploading assignments; d) Flexibility, and which means that participants can do assignments anywhere as long as they have a user name and password to enter BEST; e) online submission of assignments; f) Notifications that can serve as reminders, and f) Can upload many types of documents such as pdf, word, and jpg.

The performance of the facilitator to the participants is related to the effectiveness of education and training in dealing with outbreaks using online methods. The facilitator must spend a lot of time developing effective strategies that emphasize group learning, role-playing, case-based, practice, and simulation through online instruction. Effective online instruction should facilitate feedback to participants, get participants to ask questions, and broaden participants' knowledge (Keeton, 2004). The online learning method implemented by Bapelkes follows Kim & Bonk's statement that institutions must focus on pedagogical issues and emphasize collaborative, case-based, and project-based learning through online instruction(Kim & Bonk, 2006). The challenge for institutions is not only finding new technologies and using them but also reorganizing their education, thereby assisting participants and facilitators in guiding increasing digital literacy.

The results of this study show that two indicators show participants' satisfaction with the performance of the facilitators, namely: mastery of the facilitators' material that is easy to understand, motivation to learn participants during education and training, and punctuality to attend online rooms. Two-way communication and the ability to use ICT during education and training are key when facilitators have difficulty reaching participants via text or other messaging applications(Notably, 2016). Participants' interactions with teachers and peers can make online learning effective because absenteeism and inaccuracy in learning time make students withdraw (Astleitner, 2000). Shraim and Khlaif

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also noted in their research that 72% of teachers lacking skills in utilizing ICT-based learning components in computer and internet applications can lead to failure in e-learning (Shraim & Khlaif, 2010). Collaborative and cognitive learning as well as participant interaction with the facilitator are important factors for achieving successful online education and training. This study is also by previous research which states that there is a relationship between student-teacher interaction and online learning satisfaction (Alvira Pascawati & Baskoro Tunggul Satoto, 2022), (Swan, 2001), (Eom, Wen, and Ashill, 2006).

The activeness factor of the participants is related to the effectiveness of education and training to overcome the outbreak with the online method. The activeness of the participants depends on self-motivation because participants who are active during the training tend to have a higher knowledge value than participants who tend to be passive. Some literature shows that active students tend to have higher learning motivation and can complete assignments well in courses compared to those who are less active (Dembo & Eaton, 2000), (Frankola, 2001), (LaRose & Whitten, 2000)

To increase the activity of participants during the training, the facilitator carries out several participant-centered activities, such as Before the meeting, the facilitator reflects by asking participants to present the material from the previous meeting. At the beginning of the meeting, the facilitator asks what the participants know and understand regarding the topic of the material to be delivered. During the training process, the facilitator always asked questions to the group of participants and asked about the participants' experiences regarding the material. Participants respond, and the facilitator follows up by providing additional comments and information with positive sentences, such as:

"Good response"
"Good opinion, does anyone have any other comments?"

Other times, participants may give inaccurate/shallow answers and the facilitator wants a more in-depth answer by saying something like:

"Yes, now can you tell me more?"
"Okay, now I want to know your experience"
"Good start, what more can you say about that?"

This process is carried out by the facilitator to confirm and convey to the participants that more information is desired by the facilitator from the question. A more difficult situation is when the participant's answer is wrong, then the facilitator should not immediately state that he does not agree or does not support the answer, because it can reduce motivation in participating in the training so that they no longer want to give their opinion. The form of feedback from the facilitator when participants give the wrong response without demotivating them, such as:

"I understand what you're saying, however, it has more to do with..."
"You can paraphrase the response and show that it has more to do with something other than the current subject"
"I will repeat or clarify my question"

The facilitator will then ask it in another way. What the facilitator does is follow McCain's statement, that the teacher or education facilitator must do everything possible to encourage students to be active during learning, and be tactful, but not accept wrong, incomplete, or shallow answers. The role of the facilitator is to ensure that the responses have been given in full by the discussion group. This feedback technique can also be used in a virtual classroom environment because it is possible to get direct feedback from students (McCain, 2015).

At the end of the meeting, the facilitator gives assignments that can increase participant activity, such as using the role-play method, simulation, and practice, all of which are done online. Several studies have shown that the application of the role-play learning model makes students happier to work in teams to solve problems (Black, 2010), increases student activity, and increases student achievement (Riry, 2012), (O'Callaghan, Elson, and Walker, 2012). The learning process by asking questions to participants is also needed to achieve maximum mastery of concepts and get a learning experience. This follows the opinion expressed by Hisyam and Aryani that learning something new will be more effective if the student is actively asking questions rather than just accepting what is conveyed by the teacher (Hisyam & Aryani, Sekar, 2005). Hisyam also said that asking questions and answering questions is a very good strategy used to involve students in repeating the subject matter. This strategy is appropriate to do at the end of the meeting, which is in the last 15 minutes as a summary or repetition of all the material that has been given (Hisyam & Aryani, Sekar, 2005).

Prediction model of factors that affect the value of knowledge of participants after education and training

Multivariate analysis with multiple linear regression was conducted on five variables that were declared feasible, namely: satisfaction with the training implementation, participant attitudes, assignment quality, participant activity, and participant satisfaction with facilitator performance with the results in Table 5:

The results of the simulation of participants' knowledge during education and training on outbreak management using the online method based on Table 5 shows that there are 2 stages in multivariate analysis to produce predictive models. In the first model, there are 4 independent variables, namely: participant activity, assignment quality, participant satisfaction with the training implementation, and participant satisfaction with facilitator performance. The second model shows that participants' satisfaction with the training implementation was excluded because it has the largest P-value value, so it can be concluded that 3 main factors affect the achievement of participants' knowledge values after being given education and training, namely: the quality of assignments carried out by the training participants, participant satisfaction. On the performance of the facilitator and the level of participation of the participants during the education and training. The linear regression equation for the achievement factor of participants' scores after being given education and training, namely:

Participants' knowledge after education and training = -126,550+3,604* Quality of Participant Assignment +(-0,339)* Participant Satisfaction with Facilitator's Performance +(-0,972)* Participants' Activity During Education and Training

Based on the above equation, if Bapelkes as the organizer of education and training activities for handling outbreaks with the online method expects a participant's passing score of 80, then the value of assignment and activeness of participants during training and education is at least 90, and participant satisfaction with the facilitator's performance reaches a minimum score of 90.

Conclusion

There is a significant difference in the knowledge value of participants before and after being given education and training using the online method. The determinant factors related to the effectiveness of education and training using online methods, namely: the quality of assignments carried out by participants, participants' satisfaction with the performance of the facilitators, and the activeness of participants during education and training. Education and training on online methods to increase the capacity of the Public Health Center RAT can be continued by monitoring the quality of tasks, the activeness of participants, and the performance of the facilitators. Technical problems can be solved by recording during education and training, testing content, and always preparing some plans so that the education and training process is not hampered. Online method learning systems can be considered by every health training center to be an effective training method to achieve learning objectives, efficient in terms of space and time, provide a variety of learning programs, and economical in terms of financing.

References

Aldila, H., & Mulyanratna, M. (2013). Pengaruh Pemberian Tugas Terstruktur dalam Model Pembelajaran Kooperatif TIpe Stad Hasil Belajar Siswa pada Materi Fluida Statis di Kelas XI IPA SMA Negeri 1 Maospati. *IPF: Inovasi Pendidikan Fisika*, *2*(2). https://ejournal.unesa.ac.id/index.php/inovasi-pendidikan-fisika/article/view/3005

Alvira Pascawati, N., & Baskoro Tunggul Satoto, T. (2022). Parent satisfaction when schools from home during the COVID-19 pandemic. *International Journal of Public Health Science (IJPHS)*, *11*(3), 746–755. https://doi.org/10.11591/ijphs.v11i3.21223

Astleitner, H. (2000). *Dropout and distance education. A review of motivational and emotional strategies to reducedropout in web-based distance education*. In Neuwe Medien in Unterricht.

Black, A. (2010). Gen Y: Who They Are and How They Learn. *Educational HORIZONS*, *88*(2), 92–101.

Borgdorff, M. W., & Motarjemi, Y. (2005). *Surveilans penyakit bawaan makanan: Sistem apa saja yang dapat digunakan?* Jenewa: Unit

Kemanan Pangan, Organisasi Kesehatan Dunia. Available at: https://apps.who.int/iris/bitstream/handle/10665/63479/WHO_FSF_FOS_97.3_ind.pdf;sequence=2

Dembo, M. H., & Eaton, M. J. (2000). Self-regulation of academic learning in middle-level schools. *Elementary School Journal*, *100*(5), 472–490. https://doi.org/10.1086/499651

Effendy, I., & Hamid, M. A. (2016). Pengaruh Pemberian Pre-Test dan Post-Test Terhadap Hasil Belajar Mata Diklat HDW.DEV.100.2.A pada Siswa SMK Negeri 2 Lubuk Basung. *Jurnal Ilmiah Pendidikan Tehnik*, *1*(2), 81–88. https://jurnal.untirta.ac.id/index.php/VOLT/article/view/2873

Eom, S. B., Wen, H. J., & Ashill, N. (2006). The Determinants of Students' Perceived Learning Outcomes and Satisfaction in University Online Education: An Empirical Investigation*. *Decision Sciences Journal of Innovative Education*, *4*(2), 215–235. https://doi.org/10.1111/j.1540-4609.2006.00114.x

Erpidawati, Susanti, E., Putri, Silvia, A., Azwir, Vivi, N., & Wibowo, H. (2021). Pelatihan Daring Tenaga Administrasi Sekolah Di Era Pandemi Covid-19 di SMK Teknologi Muhammadiya Kota Bukittinggi. *Jurnal Salingka Abdimas*, *1*(1), 2–6. Available at: https://www.jurnal.umsb.ac.id/index.php/jsam/article/view/2816

EU Healthy Gateways. (2018, May). *COVID-19: EU Healthy Gateways advice for cruise ships operation*. EU Healthy Gateways Joint Action Preparedmess and Action. https://www.healthygateways.eu/

Frankola, K. (2001, June). *Why Online Learners Drop Out* . Workforce.Com. https://workforce.com/news/why-online-learners-drop-out

Fuadi, A. (2021). Efektivitas Pembelajaran Daring Wawasan Kebangsaan. *Andragogi: Jurnal Diklat Teknis Pendidikan Dan Keagamaan*, *9*(1), 13–23. https://doi.org/10.36052/andragogi.v9i1.194

G, J, P., & L, A, D. (2019). *Quasy-Experimental and Single-Case Experimental Designs," in Research Methods for Education*. SAGE Publications, Inc.

Gabrina, P. A. S., & Rahmawati, F. (2019). Exploring the Use of Edmodo in an EFL Classroom. *Journal of Foreign Languange Teaching and Learning*, *4*(2), 106–125. https://doi.org/10.18196/ftl.4241

Gustina, Ananda, A., Kosasih, A., Zakirman, & Ardimen. (2020). Contribution Of Edmodo Smartphone Application To Support Assessment Activities In The Social Science Learning Process; Students Review. *International Journal of Scientific & Technology Research*, *9*(3), 774–777.

Hisyam, Z., & Aryani, Sekar, A. (2005). *Strategi pembelajaran aktif*. CTSD.

Keeton, M. T. (2004). Best online instructional practices: Report of phase I of an ongoing study. *Journal of Asynchronous Learning Network*, *8*(2), 75–100. https://doi.org/10.24059/olj.v8i2.1829

Kim, K.-J., & Bonk, C. J. (2006). The Future of Online Teaching and Learning in Higher Education: The Survey Says... *Educause Quarterly*, 22–30.

LaRose, R., & Whitten, P. (2000). Re-thinking instructional immediacy for web courses: A social cognitive exploration. *Communication Education*, *49*(4), 320–338. https://doi.org/10.1080/03634520009379221

Makmur, Andi, Amal, H., & Agunawan. (2021). Efektifitas Pelatihan Online di Balai Besar pelatihan Pertanian (BBPP) Batangkaluku. *Inspiration: Jurnal Teknologi Informasi Dan Komunikasi*, *11*(1), 71–79.

McCain, D. V. (2015, November). *Critical Factors for Effective Training Facilitation*. ATD Links. https://www.td.org/newsletters/atd-links/critical-factors-for-effective-training-facilitation

Ministry of Health of Indonesia (2020a) *Kurikulum Pelatihan Penanggulangan KLB dan Wabah untuk Tim Gerak Cepat (TGC) di Puskesmas*. 1st edition. Jakarta: Direktorat Surveilans dan Karantina Kesehatan.

Ministry of Health of Indonesia (2020b) *Keputusan Menteri Kesehatan Republik Indonesia tentang Protokol Kesehatan bagi Masyarakat di Tempat dan Fasilitas Umum dalam Ranga Pencegahan dan Pengendalian Corono Virus Disease 2019 (COVID-19)*. 1st edition. Jakarta: Direktorat Surveilans dan Karantina Kesehatan.

Notably. (2016). *Quality standards in education and trainning activities of the Youth Department of the Council of Europe* . 1–12. moz-extension://7f87a5f7-46c0-4642-9b78-fe511e473c47/enhanced-reader.html?openApp&pdf=https%3A%2F%2Frm.coe.int%2F1680703013

Nuraini, R. (2020, February). *Kasus Covid-19 Pertama, Masyarakat Jangan Panik*. Portal Informasi Indonesia. https://indonesia.go.id/narasi/indonesia-dalam-angka/ekonomi/kasus-covid-19-pertama-masyarakat-jangan-panik

O'Callaghan, S., Elson, R., & Walker, J. (2012). Using role play as an experiential learning tool to introduce students to auditing. *ABD Journal*, *4*(2), 1–24.

Parkes, M., Stein, S., & Reading, C. (2015). Student preparedness for university e-learning environments. *Internet and Higher Education*, *25*, 1–10. https://doi.org/10.1016/j.iheduc.2014.10.002

Partlow, K. M., & Gibbs, W. J. (2003). Indicators of constructivist principles in internet-based courses. *Journal of Computing in Higher Education*, *14*(2), 68–97. https://doi.org/10.1007/BF02940939

Pribadi. (2020). *Desain dan Pengembangan Program Pelatihan Berbasis Kompetensi* (Y. Rendy (ed.); 3rd ed.). Kencana.

Peraturan Menteri Kesehatan Republik Indonesia Nomor 82 Tahun 2014 tentang Penaggulangan Penyakit Menular , Pub. L. No. Nomor 82 Tahun 2014, Berita Negara Republik Indonesia (2014). www.peraturan.go.id

RI, Kemendagri. (2020). Pedoman Umum Menghadapi Pandemi Covid-19 bagi Pemerintah Daerah Pencegahan, Pengendalian, Diagnosis dan Manajemen. In *Kementerian Dalam Negeri*.

Peraturan Menteri Kesehatan Republik Indonesia Nomor 1501/MENKES/Per/X/2010 tentang Jenis Penyakit Menular Tertentu yang dapat Menimbulkan Wabah dan Upaya Penaggulangan, Pub. L. No. 1501/MENKES/Per/X/2010, (2010).

Riry, M. (2012). Peningkatan keaktifan dan hasil belajar siswa dalam pembelajaran akuntansi materi junral penyesuaian pada siswa kelas XI IPS 3 SMA Negeri 3 Bukittinggi dengan metode bermain peran. *Pakar Pendidikan*, *10*(2), 151–162.

Sabriani, S. (2013). Application of Giving Assignment Structurally with Feedback on Direct Learning to Improve Motivation and Learning Results of Students (Focus on Atom Structure Class X 6 SMA Negeri 3 Watampone). *Chemica: Jurnal Ilmiah Kimia Dan Pendidikan Kimia*, *13*(2), 39–46. https://doi.org/10.35580/CHEMICA.V13I2.625

Sardiman, A. (2005). *Interkasi dan Motivasi Belajar Mengajar*. Raja Grafindo Persada, 2005.

Shraim, K., & Khlaif, Z. (2010). An e-learning approach to secondary education in Palestine: Opportunities and challenges. *Information Technology for Development*, *16*(3), 159–173. https://doi.org/10.1080/02681102.2010.501782

Song, L., Singleton, E. S., Hill, J. R., & Koh, M. H. (2004). Improving online learning: Student perceptions of useful and challenging characteristics. *Internet and Higher Education*, *7*(1), 59–70. https://doi.org/10.1016/j.iheduc.2003.11.003

Suciati, & Prasetya, I. (2001). *Teori Belajar dan Motivasi*. PAU-PPAI, Universitas Terbuka.

Supriadi, & Putri, P. (2020). Jurnal Administrasi Bisnis Terapan. *Jurnal Bisnis Terapan*, *2*(2), 130–137.

Swan, K. (2001). Virtual interaction: Design factors affecting student satisfaction and perceived learning in asynchronous online courses. *Distance Education*, *22*(2), 306–331. https://doi.org/10.1080/0158791010220208

Triati, E. (2019). Optimalisasi Peran Widyaiswara dalam Pelaksanaan Pendidikan, Pengajaran, dan Pelatihan. *Quantum: Jurnal Ilmiah Kesejahteraan Sosial*, *14*(1), 42–50.

WHO. (2005). *Strengthening health security by implementing the International Health Regulations (2005): Ports, airports and groundcrossings* (1st ed., Vol. 1). World Health Organization. https://www.who.int/publications/i/item/9789241580410

Zulfikar, A. F., Muhidin, A., Pranoto, Suparta, W., Trisetyarso, A., Abbas, B. S., & Kang, C. H. (2019). The effectiveness of online learning with facilitation method. *Procedia Computer*

Science, *161*, 32–40. https://doi.org/10.1016/j.procs.2019.11.096