International Journal of Chemical and Biochemical Sciences
(ISSN 2226-9614)

Journal Home page: www.iscientific.org/Journal.html

Analysis of the Impact of Learning Communication Effectiveness on Training Participants in Primary Health Care Center Management Training

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Abstract

This research aims to analyze the impact of learning communication on the level of understanding among participants in healthcare management training within the primary healthcare center field and to compare the differing impacts of two distinct learning models. The method employed is quantitative research utilizing a Quasi-Experimental design with a Non-Equivalent Control Group model. Two training class groups formed one receiving treatment with the Blended Learning model for Primary Health Care Center Management training, and the other without treatment through Face-to-Face Primary Health Care Center Management training. Data was collected through pre and post-response questionnaires, and statistical analysis was conducted using frequency statistics, descriptions, paired t-tests, and independent t-tests. The results indicate a significant impact of learning communication effectiveness on the level of understanding among participants in both the Blended Learning and Face-to-Face models, with no significant difference observed in the impact of learning communication effectiveness on understanding level between the two class models. These findings provide a foundation for policies and strategies in organizing Primary Health Care Center Management training at Healthcare Training Institutions and can serve as branding in building credibility regarding the implementation of effective and quality training programs.

Keywords: Effectiveness of Learning Communication, Quasi-Experimental, Blended Learning, Face-to-Face Learning

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Doi # https://doi.org/10.62877/74-IJCBS-24-25-19-74

1. Introduction

Learning communication in health training plays a vital role in teaching and learning activities, particularly in providing trainees with a clear understanding of the conveyed messages, which are the learning materials or content designed according to the current curriculum. In this regard, effective and high-quality learning communication is necessary to achieve the learning objectives outlined in the curriculum. According to Burhanuddin in [1], the learning process is effective only when there exists a quality relationship and communication between educators and learners. This ensures that the transformation of messages (material/knowledge) aligns with the expectations of each communication participant. Effective learning communication is achieved through an information exchange between educators and learners, coupled with appropriate responses from both parties. Effective learning communication in health training guarantees that the transfer of knowledge and skills aligns with objectives, thereby aiding healthcare professionals in comprehending and improving the skills and knowledge necessary for their job responsibilities.

The Blended Learning (BL) model is a teaching approach that has emerged because of digital technology development and widely used by educational and training institutions today. Gamage dan Wei in [2] states that Blended Learning (BL) is a combination of home and classroom learning. Furthermore, in the research, this approach encourages students to take more responsibility for their learning and provides them with more challenges in the learning process. BL is a student-centered learning method that combines traditional face-to-face classroom activities, which are synchronized learning activities, with electronic

learning activities, which are asynchronous learning activities [3]. Driscoll in [4] argues that Blended Learning has adopted several approaches, such as combining web-based technology modes, pedagogical approaches, learning technologies, and actual job tasks [4]. Notes that nearly all forms of education incorporating elements of both face-to-face and online learning, including inclusive definitions and learning models, are classified as BL in certain literature. Learning with the BL model offers the potential to enhance learning effectiveness through various advantages such as flexibility in time and space, as well as diverse interactions between participants and learning materials. Flexibility is a key advantage of this model, enabling learners to access content from any location and at any time on online platforms during the online phase. Furthermore, BL strategies are considered practical as they merge synchronous and asynchronous learning methods. Asynchronous learning may involve pre-class activities like viewing brief lecture videos or reading modules and materials shared on online platforms. Conversely, synchronous learning occurs during face-to-face sessions, reinforcing previously provided materials through thorough discussions, exercises, practical applications, role-playing, and interactive engagements. Face-To-Face learning refers to classroom-based education where the instructor or professor physically teaches in a classroom setting, facilitating spontaneous verbal communication among students in a fixed physical environment [5]. This learning approach is commonly referred to as the traditional model [6], where the trainer plays a central role in the learning process, although this model has adapted over time to suit the needs of students. Bonk and Graham in [7] state that face-to-face learning is a conventional teaching model that aims to impart knowledge to students by bringing teachers and students together in a learning space. This model is characterized by its planned nature, place-based orientation, and social interaction. In face-to-face learning, both teachers and students can use intonation, facial expressions, body language, and other elements to convey various emotions or feedback [6]. In face-to-face classroom learning, there are meaningful and real interactions between students and between students and instructors that cannot replaced or found in online learning [8]. According to [2], face-to-face learning is the preferred choice for students who enjoy learning with peers and because of the use of cognitive strategies that involve monitoring in this classroom model.
Studies on the effectiveness of learning communication in various learning models have previously been conducted by other researchers, including [1-9-11]. Research comparing the effectiveness of different teaching methods has also been explored previously, including studies by [5-12-15].

These studies analyze the effectiveness of communication in a particular learning model, both in education and training contexts. Furthermore, some studies delve into the differences in effects among several learning models such as online, blended, and face-to-face, within the field of education and learning. This study aims to examine the influence of communication effectiveness on health training outcomes especially Primary Health Care Center Management Training using both Blended Learning and face-to-face models, focusing on trainees' level of understanding. The results of this study are expected to provide insights into the advancement of learning methods and strategies within health educational and training institutions, particularly in improving trainees' comprehension and skills. Furthermore, these results will serve as valuable branding material for health training institutions in empowering the community to participate in training programs aimed at enhancing skills and abilities.

2. Materials and methods

This study employs a quantitative research approach using a Non-Equivalent Control Group Design Quasi-Experimental Design method, which involves creating two sample groups: 1) an experimental class that receives treatment and 2) a control class without treatment. The participants in this study are trainees enrolled in the Primary Health Care Center Management training program organized by the Health Training Center Makassar. The sample groups consist of the experimental class, which follows the Primary Health Care Center Management Training Blended Learning (BL) model with 25 participants, and the control class, which follows the Primary Health Care Center Management Training Face-To-Face model with 22 participants. In the BL model class, participants receive online training materials for 5 days followed by face-to-face training for 5 days. In contrast, participants in the control class receive full face-to-face training for 10 days. Both training sessions were conducted between November and December 2023.

Data collection for this study was conducted using questionnaires, where respondents were asked about their perceptions regarding the effectiveness of learning communication and their experiences during the learning process, which served as primary data. The questionnaire was administered twice: initially at the start of the learning process as Pre-Respond data and then after the training after participants had completed all learning activities as Post-Respond data. The questionnaire comprised 24 attitude statements in Likert scale format (ranging from Strongly Disagree to Strongly Agree) for respondents to select their responses. To analyze the questionnaire results, the researcher established qualification standards, categorizing responses into four levels: Very Low, Low, High, and Very High. The highest score is derived from the multiplication of the number of questionnaire items by the highest scale, and the lowest score is derived from the multiplication of the number of questionnaire items by the lowest scale. The data of respondents were then tabulated quantitatively and presented in a frequency distribution table by matching the calculations obtained with the established qualification standards.

In this study, validity and reliability tests were performed on the questionnaire to ensure its true validity and consistency as a measurement tool. The questionnaire, having undergone validation and reliability testing, was subsequently employed as the data collection instrument. Following this, classical assumption tests were carried out on the research data to evaluate data normality, and homogeneity tests were conducted to ascertain equivalence among data groups or if they stemmed from a homogeneous population. Subsequently, respondent data was tabulated in quantitative format, presented in frequency distribution tables, and hypothesis testing was conducted to assess the impact of learning communication effectiveness on trainee comprehension levels. The research design should be clearly described and appropriate for the purpose of the study.

3. Results and Discussions

3.1. Results

3.1.1. Participants

The respondents in this study are participants of the Primary Health Care Center Management training, divided into two classes: the Blended Learning model with 25 trainees and the Face-To-Face model with 22 trainees. The Respondent's characteristics can be seen in Table 1.

3.1.2. Validity and Reliability Questionnaire

Content validity testing was conducted by constructing the questionnaire based on theories regarding communication effectiveness, especially in learning. The questionnaire consisted of 24 attitude statements and respondent perspectives divided into several indicators: The Communication Skills Trainers, Participant Activity, Interaction in Learning, and Participant Understanding Level Indicators. After the questionnaire was prepared, a construct validity test was conducted by testing the questionnaire on 31 samples and then calculating the Pearson correlation scores for each question item with the total score of all items. A high correlation indicates the function of each question item toward the overall scale. The correlation coefficient obtained will be compared with the significance level at the 5% level.

The criterion is if r_{Table} (5%) > $r\_{calculation}$ obtained or if the obtained sig. value in the SPSS application is < 0.05, then the item is considered valid and can be used in the research. From the calculations using SPSS 22, the significance value of each item variable (statement) with the total score of all items is less than 0.05, thus it concluded that the variable items that became statements in the questionnaire meet the validity assumption and are used in the research. Reliability testing in this study was conducted by calculating the Cronbach's Alpha value from the distribution of 31 samples in the pilot test. The calculation results were done through SPSS 22 and will be compared with the criterion that obtaining a Cronbach's Alpha value above 0.6 means the questionnaire is considered reliable. The obtained Cronbach's Alpha value is 0.757 > 0.6, therefore it is concluded that the questionnaire is reliable.

3.1.3. Normality Test

The normality test is conducted to determine whether the research data follows a normal distribution or not, as a requirement for processing parametric statistical data. This is done by calculating the Shapiro-Wilk value, where the Shapiro-Wilk normality test is used for data with sample sizes less than 50. The hypothesis to be tested is data follows a normal distribution (H_0). The testing criterion is to reject H_0 if the Shapiro-Wilk significance value obtained is less than 0.05 in the SPSS calculation results. The calculation results can be seen at Table 2. From the table 2, it is obtained that the significance value of Shapiro-Wilk for both Pre-Respond and Post-Respond data is greater than 0.05, thus H_0 is accepted, indicating that the data for the Primary Health Care Center Management training class Blended Learning model and Face-To-Face model are normally distributed.

3.1.4. Homogeneity Test

In this study, the Levene Test used to test the homogeneity of the two sample data groups, the BL class and the Face-To-Face class. The data entered are the Post-Respond data from each data group and are processed using SPSS 22. The hypothesis to be tested is Data variances are homogeneous (H_0). The testing criterion is to reject H_0 if the significance value of Levene Based on Mean is less than 0.05. The calculation results can be seen in Table 3. Based on table 3, it is obtained that the significance value of the Levene Test Based on Mean is greater than 0.05, specifically 0.595>0.05, thus H_0 is accepted, meaning that the variances of both data groups are homogeneous or the two data groups are from equivalent populations.

3.1.5. Descriptive Statistic

To see the effectiveness of learning communication in both class models and their comparison, refer to Table 4. Based on the data presented in Table 4, it can be concluded that the level of learning communication effectiveness in the BL class mostly falls into the Very High category, reaching 95.5%, with an additional 4.5% in the High category. There were no assessments in the Low or Very Low categories for the BL class. Meanwhile, in the Face-To-Face class, the majority also has a Very High level of communication effectiveness, at 96%, with an additional 4% in the High category. Similar to the BL class, there were no assessments in the Low or Very Low categories for the Face-To-Face class. As for the level of understanding in both class models and their comparison, refer to Table 5. Based on the analysis of the trainees' understanding level, it can be concluded that the BL class shows a very good level of understanding, with 68.2% of trainees reaching the Very High category and 31.8% reaching the High category. Meanwhile, the Face-To-Face class also demonstrates a good level of understanding, with 60% of trainees in the Very High category and 40% in the High category.

3.1.6. Hypothesis Test

The hypothesis test used in this study is the Paired T-test to analyze the influence of learning communication on participants' understanding levels within each sample group. The hypothesis to be tested is the influence of learning communication effectiveness on the trainee understanding level in the Blended Learning and Face-To-Face training model. The testing criterion is to reject H_0 if the obtained significance value is less than 0.05. The test results can be seen in table 6. From table 6, it is evident that the paired T-test significance value at BL class is 0.00, which is less than 0.05 (0.00 < 0.05), therefore rejecting H_0. There is an influence of learning communication effectiveness on the trainee understanding level in the Primary Health Care Center Management Blended Learning training model. Meanwhile, in the Face-To-Face class, the paired T-test resulted significance value is 0.00, which is less than 0.05 (0.00 < 0.05). Therefore, we reject H_0.

There is an influence of learning communication effectiveness on the trainee understanding level in the Primary Health Care Center Management Face-To-Face training model. To determine if there is a significant difference in the influence of learning communication effectiveness on participants' level of understanding in both training models, an Independent Samples T-test calculation conducted. The hypothesis to be tested is there is a difference in the influence of learning communication effectiveness on the trainee understanding level in the Face-To-Face and

blended learning training models. The test results can see in the table 9. From the table 9, it is observed that the significance value of the Independent T Sample test is 0.619, which is greater than 0.05 (0.619 < 0.05), therefore, we accept H_0. There is no difference in the influence of learning communication effectiveness on trainee understanding levels between the Primary Health Care Center Management Face-To-Face and blended learning training models.

3.1.7. Effect Size

The Effect Size test serves to determine the extent of influence or strength of effect from variables or indicators. In this study, the influence of learning communication effectiveness indicators on the level of understanding in each training model will measured. The categories of N-Gain can be seen in Table 7. An influence test was conducted to determine the extent of the effect of the variables studied in both the BL class and the Face-To-Face class. The N-Gain size test results are in the table 8. From Table 8, it can be seen that the influence of indicators on participants' understanding BL Model falls into the large category, with the most influential indicator being the Communication Skills of Trainers. In the Face-To-Face class, the influence of indicators on participants' understanding falls into the medium category, with the most influential indicator also being the Communication Skills of Trainers.

3.2. Discussion

3.2.1. Learning Communication Effectiveness

Effective learning communication characterized by the learners' perceived understanding of the materials provided by the trainers, resulting in an increased knowledge and understanding of science and technology or a positive change in behavior. In this study, the effectiveness of learning communication assessed through three indicators: Trainers' Communication Skills, Participant Activeness, and Learning Interaction. This study aims to examine whether learning communication in two different class models, Blended Learning (BL) and Face-To-Face, has varying effects on the trainees' understanding levels. Based on the calculations and the distribution table, it can observed that both the BL and Face-To-Face classes received assessments predominantly in the Very High category. This indicates that both BL and Face-To-Face classes have a good and high level of learning communication effectiveness. Although there is a slight difference in the effectiveness percentages between the Face-To-Face and BL classes, both models show very positive results in learning communication. The BL class, with a Very High effectiveness percentage of 95.5%, shows that integrating technology into learning (online and offline) can provide an effective learning experience for participants. On the other hand, the Face-To-Face class, with a Very High effectiveness percentage of 96%, demonstrates that the traditional face-to-face learning approach remains effective in conveying information and facilitating trainee understanding. Trainers' Communication Skills refer to the trainers' ability to convey information and materials to the trainees. In this study, this includes several aspects, namely the trainers' mastery of the learning materials, ability to explain the materials, empathy towards the needs of the trainees, use of easily understood language, use of expressions that aid participants, implementation of enjoyable teaching methods, and mastery of instructional media. In this study, it found that in the BL class, the influence of the trainers' communication skills indicator, according to the effect size calculation of N Gain, falls into the high category, while in the Face-To-Face class; it falls into the medium category. This indicates that both learning models demonstrate good effectiveness in helping participants understand the provided materials. The integration of technology in BL and face-to-face interaction in classical learning each have their advantages that can utilized to enhance the quality of training. The results of the study by found that there is a positive and significant relationship between educators' communication skills and students' adjustment and academic well-being. Research through meta-analysis by [16] found that there is a positive correlation between the clarity of educators and student learning outcomes, with an average correlation of 36%, explaining 13% of the variability in learning outcomes. The relationship between educators and students also significantly influences student development. Educators can serve as a secure base for students to develop confidence and competence, including in forming relationships with peers [17]. In this context, it will influence how the learning environment is formed and how that environment will help participants in understanding the information and messages of the learning materials, as noted in the research [18]. Which, states that effective communication from the instructor one of the important characteristics of learning as perceived by students and can significantly influence their educational experience. Participants' activeness in learning signifies the enthusiasm and interest they feel towards the given material. Effectiveness in participant activeness means that participants actively engage fully in the learning process. The participants' activeness in this study refers to their attendance, active involvement in class for question-and-answer sessions or group activities, ability to express themselves both verbally and in writing, motivation, active access to learning materials, active completion of assignments, and active search for additional references. In the influence test calculations, the activeness indicator in the BL class received a medium category influence rating, while in the Face-To-Face class it was rated as medium category influence. This activeness serves as an indicator that learning communication is occurring, as participant activeness reflects the achievement of training goals. Furthermore, participant activeness also indicates open communication that supports an effective learning environment. To achieve successful learning, students must participate actively, giving their full attention to what they are learning, developing their ability to manage the curriculum, collaborating with other students, completing projects on time, utilizing feedback from peers and teachers, self-motivating, and possessing good self-confidence [19].

Active participation of participants tends to engage them in the material, increase-learning motivation, and the willingness to delve deeper into the given material. This enhances the effectiveness of communication as participants pay attention to the message, making it easier for them to understand it. Learning Interaction in this study refers to the interactions between participants and trainers in the form of discussions, collaboration, and question-and-answer sessions. The influence of the Learning Interaction indicator obtains the medium category of Effect Size value compared in both classes. This may be due to Trainers encouraging and providing opportunities for trainees to engage in various

learning activities. In the BL class, participants can directly interact with the Trainer and fellow participants through Zoom media and it is further emphasized during offline meetings. Participants from both class models can also access learning materials distributed by organizers through WhatsApp groups. This can create a dynamic and collaborative learning environment where participants can share knowledge, experiences, and understanding of the training material. Through this interaction, trainees can strengthen their understanding of the concepts taught and receive direct feedback from trainers and fellow trainees. Thus, interaction in learning not only enhances mastery of the material but also promotes the development of important social, collaborative, and problem-solving skills for trainees' development in an educational context. The better the interaction created in learning, both among participants and between participants and Trainers, the more effective the communication between them. Good interaction between Educators and students will create a positive relationship in the class and contribute to effective learning [20]. The involvement of students in interaction with educators, peers, and the learning environment can stimulate creative and innovative thinking and create a conducive learning atmosphere. There is a strong positive relationship between teacher-student interaction and learning comfort, which means that when the interaction between educators and students is good, learning comfort will exist [20]. Comfort in learning will imply a good and enjoyable communication flow. Furthermore, relevant topics and providing flexibility to participants will stimulate higher learning engagement and comfort, encouraging participants to think critically, consider various perspectives, and allow sufficient time for reflection, which can enhance communication and interaction in online learning.

3.2.2. Understanding Level

The trainee understanding levels in the BL class predominantly rated as Very High at 68.2%, while in the Face-To-Face class, they predominantly rated as Very High at 60%. Therefore, both types of classes show satisfactory understanding levels from the trainees. A High level of understanding indicates that trainees understand the learning material well, can re-describe it, and can connect the learning material to real-life cases they will encounter in the field very effectively. The understanding level in this study is based on Bloom's Taxonomy levels, where understanding involves building meaning from oral, written, and graphic messages through interpretation, examples, classification, summarization, inference, comparison, and explanation [21]. Understanding the learning material means understanding the meaning of the messages conveyed by the trainers and being able to provide examples, classify, summarize, compare, and explain it back. The trainee understanding level describes how the message acceptance process, processing, cognitive engagement, and interpretation of messages occur in the learning process. A study by [22] that the information processing model successfully directs and supports students' interests in learning, including helping students remember information in learning and understand the instructions given by the teacher.

3.2.3. The Influence of Learning Communication Effectiveness on Understanding Level

To see the influence of learning communication effectiveness on the trainee understanding level, a dependent sample t-test is used. In the BL class, the significance value of the paired T-test is 0.00, which is less than 0.05 ($0.00 < 0.05$), indicating that there is an influence of learning communication effectiveness on the trainee understanding level in the Blended Learning training model. With highly effective learning communication, participants can experience clarity and usefulness of the information conveyed by trainers and actively engage in interactions with trainers and fellow participants. As a result, participants demonstrate a very good level of understanding of the learning material. This indicates that high communication effectiveness in the context of Blended Learning can significantly enhance participants' understanding, creating a conducive learning environment for deep and sustained understanding. Similarly, in the Face-To-Face class, the significance value of the paired T-test is 0.003, which is less than 0.05 ($0.003 < 0.05$), leading to the conclusion that there is an influence of learning communication effectiveness on the trainee understanding level in the Face-To-Face training model.

This means that training participants experience the effectiveness of communication that occurs in learning, namely the effectiveness of communication conducted by trainers, participant activeness, and the presence of interactions in the class. Regarding the level of understanding, the results show that participants in this class are categorized as having a high level of understanding. In this case, the effectiveness of learning communication in the Face-To-Face class model has a positive influence on participants' level of understanding. Highly effective communication allows participants to experience clarity and benefits from the information conveyed during learning, as well as actively engage in interactions with trainers and fellow participants. This is also reflected in the high level of understanding participants have of the learning material. Overall, this indicates that effective learning communication in the context of the Face-To-Face class model is also capable of enhancing deep and comprehensive understanding for participants. These results are consistent with the study by [23], which found that effective communication significantly affects student learning outcomes, and the study by [24], which suggests that interpersonal and group communication applied to middle school students can improve understanding.

From the calculations using the independent sample t-test, it found that there is no significant difference in the influence of learning communication effectiveness on the trainee understanding level in the Face-To-Face and blended learning training models. Although the average values of participants in the BL class are higher than in the Face-To-Face class, this difference is considered not to have a significant effect on the trainee understanding level. This means that both learning models have almost the same effectiveness in communicating learning material to the trainee. In the BL class with a Very High communication effectiveness percentage of 95.5%, it shows that integrating communication and information technology into learning can provide a learning experience for participants.

Table 1. Respondent Characteristics

	Gender	Age (Years)	Position	Affiliation
Blended Learning	F: 72% M: 28%	21 – 30: 16% 31 – 40: 32% 41 – 50: 48% Over 50: 4%	Head of the Health HR Sect. Dep. of Health: 4 % Head of the Community Health Center: 28% Head of the Health Services Sect. Dept. Of Health: 4 % Head of Administration Community Health Center 15% Nutrition Manager Health Dep. : 4 % Staff of the Community Health Center: 44%	Department of Health: 16% Community Health Center: 84%
Face-To-Face Learning	F: 86.4% M: 13.6%	21 – 30: 22.7% 31 – 40: 9.1% 41 – 50: 40.9% Over 50: 27.3%	Head of the Community Health Center: 27.3% Head of Administration Community Health Center: 36.4% Staff of the Community Health Center : 36.4%	Community Health Center: 100%

Source: Compilation of Primary Data, 2024

Table 2. Normality Test

		Saphiro-Wilk (Sig.)
Blended Learning	Pre-Respond	0.361
	Post Respond	0.068
Face-To-Face Learning	Pre-Respond	0.640
	Post Respond	0.141

Source: Compilation of Primary Data, 2024

Table 3. Homogeneity Test

	Levene Statistic	**Sig.**
Based on Mean Score	0.069	0.595

Source: Compilation of Primary Data, 2024

Table 4. Comparison of Learning Communication Effectiveness between BL Class and Face-To-Face Class

No	**CATEGORY**	**Blended Learning**		***Face-To-Face Learning***	
		N	**%**	N	%
1	Very Low	0	0	0	0
2	Low	0	0	0	0
3	High	1	4.5	1	4
4	Very High	21	95.5	24	96
	Total	**16**	**100**	**16**	**100**

Source: Compilation of Primary Data, 2024

Table 5. Comparison of Understanding Level between BL Class and Face-To-Face Class

No	**Category**	**Blended Learning**		***Face-To-Face Learning***	
		N	**%**	N	%
1	Very Low	0	0	0	0
2	Low	0	0	0	0
3	High	7	31.8	10	40
4	Very High	15	68.2	15	60
	Total	**16**	**100**	**16**	**100**

Source: Compilation of Primary Data, 2024

Table 6. Paired Samples T-Test

No	Class	Pair	T	Df	Sig.
1	Blended Learning	PreRespond - PostRespond	-5.532	24	0.00
2	Face-To-Face	PreRespond – PostRespond	-8.348	21	0.00

Source: Compilation of Primary Data, data, 2024

Table 7. N Gain Score Category

N-Gain	Category
$G \geq 0.7$	High
$0.3 < G < 0.7$	Medium
$G \leq 0.3$	Low

Source: [27}

Table 8. The Effect Size Test of Learning Communication Effectiveness Indicators

NO	Class	Indicator	N-Gain (%)	Category
1	Blended Learning	Communication Skills of Trainers	71.1	High
		Participant Activeness	43.8	Medium
		Learning Interaction	58.2	Medium
2	Face-To-Face Learning	Communication Skills of Trainers	61.2	Medium
		Participant Activeness	53.2	Medium
		Learning Interaction	62.6	Medium

Source: Compilation of Primary Data, data, 2024

Table 9. Independent T Samples Test BL and Face-To-Face Class

No	Independent Sample Group	T	DF	Sig.
1	BL and Face-To-Face	-0.799	46	0.619

Source: Compilation of Primary Data, data, 2024

A previous study [25] mentioned the advantages of the BL model that may affect the effectiveness of learning communication in this study, namely that learning through ICT allows classroom exercises. It provides more room for communication (both online and face-to-face), and participants develop stronger professionalism with self-motivation, responsibility, and discipline in a competitive learning environment in both online and traditional classes. In the Face-To-Face class, the communication effectiveness percentage also falls into the Very High category at 96%. This indicates that the face-to-face learning approach remains effective in conveying and providing understanding to trainees. [6] Noted that amidst the onslaught of online or blended learning, Face-To-Face or face-to-face learning is still a preferred model for students because of direct interaction. In face-to-face learning, both teachers and students can use intonation, facial expressions, body language expressions, and other elements differently to convey various emotions or feedback [6].

Although in BL learning, this method is still perceived by trainees during Face-To-Face stages, the use of ICT may affect some trainees, considering that each individual's ability to master technology differs. While BL learning requires an understanding of communication technology, the Face-To-Face model may be easier for some trainees to access information, examples, and direct illustrations in the class throughout the training. The results of this study are similar to the study by [12], which stated that there is no significant difference in the knowledge level between Blended Learning and Face-To-Face learning in nurse training. Furthermore, research conducted by [26] concludes that there is no significant difference between face-to-face, blended learning, and e-learning classes in terms of clinical skills assessment among dentists. Meanwhile, the study by [15] on the comparison of Blended Learning and traditional learning in health education found that BL learning could have a positive effect on the acquisition of knowledge related to health professions. However, the study also states that there is no significant difference in academic achievement or grade dispersion between the BL and traditional models.

Several studies have observed that the success of blended learning is closely related to the ability to participate in blended training [15]. The implications of the findings in this study can used as a basis for consideration in organizing similar training in the future that in both learning models, learning communication is proven to have an effective impact on the trainee's understanding level, especially on the trainer's communication skills, participant activity, and the presence of interaction in learning. In addition, these results can serve as a branding opportunity in marketing training with an effective learning model, especially regarding participants' proficiency levels. Furthermore, both learning models are not more effective than each other, so in the future, other factors can be considered in selecting a learning model, such as budget, participant factors, and others [27].

4. Conclusions

From this research, it can concluded that the effectiveness of communication in learning affects the level of understanding of participants in the Primary Health Care Center Management training in both the Blended Learning model and the Face-to-Face model. The indicators are the Communication Skills of the Trainers, Participant Activeness, and Learning Interaction. The indicator with the highest influence on the level of understanding of training participants in both models is the Communication Skills of the Trainers. No significant difference was found between the effectiveness of communication in learning and the level of understanding of participants in both training models of Primary Health Care Center Management. These results can used as evaluation material and in the development of learning strategies to maximize the understanding level of health training participants. Moreover, this can serve as a market strategy for branding training institutions to influence healthcare professionals to develop skills and expertise through quality training. For further research development, studies can conducted with a larger number of respondents and variables that more varied to discover the relationship between the effectiveness of communication in health training and other indicators.

Acknowledgments

We would like to express our gratitude to the Health Training Center Makassar for providing the research location and necessary assistance. We also extend our thanks to all the lecturers in the Master of Communication Department, Faculty of Social and Political Sciences, Hasanuddin University.

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