Design And Implementation Android-Based Learning Using PjBL and Case Method in English Courses and Its Implications for Student Learning Outcomes in Guidance and Counseling Department of Universitas Negeri Medan in the Hybrid Learning Era

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Abstract. The purpose of this study is to identify the type of learning design. using the Project Based learning and case method by using the Android-based Mobile learning application "English for Counseling", describing the steps in implementing Hybrid learning using M-Learning and testing the impact of using M-Learning, case method, and Project based learning on students' competence of English courses in Guidance and Counseling Department of Universitas Negeri Medan (Unimed). Mixed Method Research (MMR) was the research methodology used in this study. MMR is a research method that is used when researchers have Questions to test results and processes and problems a combination of quantitative and qualitative methods in one study. Because focuses on results and processes. The learning design consists of the sequence of Learning Activities at each meeting, learning objectives, materials, and learning models used. There are 9 main materials in the design of learning English for Guidance and Counselling. The placement of the learning model is adjusted to the material and indicators of learning achievement. The acquisition of students' English proficiency scores before participating in Mobile-based learning "English for Counseling" using the case method and PjBl model is the highest score = 80, the lowest score = 44, the average value (M) = 62.13, Deviation Standard (DS) = 9.89. The acquisition of students' English proficiency scores after treatment get the highest score = 88, the lowest score = 56, average (M) = 76.8, and Standard Deviation (DS) = 9.08. The results of this research are the t-test = 0.05 and df = 30 -1 = 29 obtained t $_{table}$ = 1.69. T count > T table = 8.88 > 1.6 9 is the result of comparing t count with t table. The combination of Android-based learning with the case method and project-based learning, it is found, has an impact on the learning outcomes for English for guidance and counseling students.

Keywords: Case Method, Hybrid Learning, Project Based Learning, English, Guidance and Counselling

1 Introduction

English proficiency is a challenge for universities that create a workforce. Universities need to equip their graduates with a good knowledge of the English language if they want to survive in the competitive world of work. Apart from that, a good knowledge of English is very helpful

for students to do college assignments, especially reading English textbooks. English proficiency is also urgently needed for students of education courses who later become educators. Many schools use English as their language of instruction. This is also a challenge for future educators who do not come from the field of English to make an effort to master English so that they can use English as a language and conduct learning that is appropriate for their area of knowledge.

For the academic year 2021–2022, lecturers are required to use hybrid learning utilizing the case method and project-based learning (PBL) in accordance with Key Performance Indicator (IKU) number 7 as stated in Permendikbud Number 754/P /2020. Therefore, lecturers must create learning designs that use Project Based Learning and the case method as a reference.

The learning process during the Covid 19 pandemic is considered very ineffective, this is due to the total online learning. Some of the problems that the proposer found in the implementation of online learning were; 1) Students' learning character has not been fully formed to participate in online learning. This can be seen from the frequent students who are unable to answer the lecturer's questions regarding the material that has been explained, in other words it can be assumed that the students are not serious about listening to the lecturer's explanation, 2) Not all learning materials, especially in English courses, can be given online. For example, in the *Speaking* material which requires students to carry out counseling practice activities using English, 3) The internet network connection owned by students is often problematic, especially for students who live in remote rural areas. The problem of internet network connection often makes lecturers repeat two to three times for the same material. Some of these problems certainly also affect student learning outcomes and do not create a good teaching and learning process. The Chancellor's decision to implement Hybrid learning is a very good decision. Because learning is not only done online but also done face-to-face. Regarding the Project Based Learning and Case Method learning methods, the proposer is very interested in designing a Hybrid learning in English courses using the PBL method and the case method. The design that the proposer wants to make is to divide the material that is suitable to be taught with PBL and which is suitable to be taught using the case method.

When implementing the project-based learning (PBL) strategy, a project is a component of the learning process. The project approach of instruction gives pupils the chance to use elements of ordinary life as learning resources. Tries to pique the curiosity of the kids. The Latin term projectum, which means "purpose, design, and plan," is where the word project itself originates [1]. A teaching strategy known as "project-based learning" gives students the freedom to plan their studies, collaborate with others, and create products that can be exhibited to others. Based on these two viewpoints, the proposer believes that materials that can be effectively given in-person, such as speaking and listening materials, are appropriate for use in the

Learning tools for English courses in the Unimed Guidance and Counseling department are already based on ESP and are the results of the proposer's research in 2019 with the research title "Designing English teaching materials for Guidance and Counseling Students at Medan State University (An *English Study for Specific Purposes*)". Based on above explanation, it can be concluded that the *case method* is good and effective to use for English courses for Guidance and Counseling.

The Hybrid Learning model used in the teaching and learning process requires Internet-based learning media or often known as E-Learning. Medan State University has created an online learning website (LMS) that can be accessed by students on the sipda.unimed.ac.id page. Due of the limitations of face-to-face instruction during the Covid 19 epidemic era, this website is a great resource for lecturers. However, in 2020 the proposer felt that the LMS was not in accordance with the needs of online English learning so that the proposer made a study entitled

" Development of English Mobile Learning Applications ". Android-Based to Support Blended Learning Model in the Guidance and Counseling Department of Unimed", the research was also funded by the State University of Medan. An online learning program called "English for Counseling" built on the Android operating system is one of the items that came out of this research.

The researcher is interested in performing a study to ascertain the type of learning design utilizing the case method and project-based learning in light of the aforementioned explanation using the Android-based mobile learning application "English for Counseling", describing the steps and obstacles found in implementing Hybrid learning using M- Learning and assessing the effects of project-based learning, case methods, and mobile learning on the students in the Unimed Guidance and Counseling Department's learning outcomes. Therefore, the research title is " Design and implementation of M-learning android-based "English for counseling" using PBL and case method in the English language course and its implications for the outcomes of students majoring in BK Unimed in the age of hybrid learning ". This study sought to understand the design and implementation of mobile learning "English for Counseling" using the case method and project-based learning in English courses during the hybrid learning era as well as the impact of using Android-based mobile learning using the case method and project-based learning on the outcomes of English language learning for Unimed BK students during this period.

The following questions will be addressed by this study: 1) How effective are the project-based learning and case method in the "English for Counseling" M-Learning Android-based courses? What influence do case-based learning, project-based learning, and Android-based mobile learning have on the results of learning English for BK students at Unimed in the hybrid learning era? [20] How is the case approach and project-based learning used in the English courses at the BK Department of Unimed to implement application-assisted hybrid learning for "English for Counseling"?

1.1 Hybrid Learning

A hybrid learning model is a paradigm of learning that blends in-person and computer-assisted teaching techniques into an integrated learning strategy, both offline and online [4]. The best possible learning experience is what hybrid learning aims to deliver. Learning methods that mix in-person education with technology-mediated learning are frequently referred to as blended learning. Hybrid learning programs may improve student learning outcomes and reduce dropout rates compared to full online learning. We also found that mixed-based learning models outperform face-to-face learning [5]. The best aspects of both online and in-person learning are combined in a hybrid learning strategy. This could become a major model in the future and much more common than individual components [6].

1.2 Android Application "English For Counseling"

The Android Application "English For Counseling" is an application that developed by Albert Pauli Sirait, et al in 2019 in research entitled "Development of English-Based Mobile Learning Applications of Android To Support Blended Learning Models in Guidance and

Counseling Departments of Unimed"[7]. The application was developed using the approach research and development of the ADDIE model. There are several main menus in the application android, namely: 1) Class, 2) Material, 3) chat room, 4) 6 IQF Assignments, 5) Video, 6) Listening Audio, and 7) Upload Assignments. On the material menu, there is also an RPS (Plan Semester Learning).

1.3 Case Method

The learning models recommended for use in the 2013 curriculum are learner-centered (The Learning and Case Method project-based learning model is one of the learner-centered (student-centered) learning models that are advised for usage in the 2013 curriculum. In general, we can argue that case-based or problem-based learning is the ancestor of the case approach. Its use in supporting Student Centered Learning (SCL) through case design and pre-design is very pertinent. The utilization of the case-method learning approach seems to have a noteworthy influence on the development of problem-solving abilities.

The case method teaching is an extremely flexible instructional strategy that combines problem-based learning and fosters the enhancement of analytical skills. By presenting information in a narrative format along with questions and activities that stimulate group discussions and the resolution of complex problems, case studies facilitate the higher-level cognitive development according to Bloom's taxonomy. This approach goes beyond mere knowledge recall, encouraging analysis, evaluation, and application of acquired knowledge [8].

1.4 Project-Based Learning (PjBL)

This learning model emphasizes that the student is a centered on learning process. Where this allows students to work independently to build their own learning and will culminate in a realistic result, such as the work produced by students themselves [9]. Project Based Learning (PBL) is learning strategies that empower students to acquire new knowledge and understanding based on his experiences through various presentation. PjBL is an innovative learning model that emphasizes contextual learning through complex activities such as giving students the freedom to explore planning learning activities, carrying out projects collaboratively [10].

Based on the opinion above, we can be concluded that the Team Based Project is a learning model that focuses on mandatory projects done by students who are divided into several teams. Through the project It is hoped that students can freely explore abilities them, determine the schedule and stages of project implementation and through this model Students are required to think creatively, be innovative in a collaboration that is good.

2. The methods of Research.

Research technique utilized when investigations combine quantitative and qualitative methodologies when researchers have questions that need to be evaluated in terms of results and processes. Because we emphasize processes and outcomes. MMR is a study strategy that departs from conventional research methodology's underlying philosophies. In terms of methodology,

MMR offers suggestions for gathering and analyzing data as well as for combining her two techniques during the study process. This study's MMR design was an experimental one [7]. Exploratory design is performed in two phases or sequential design. Qualitative data are collected first, followed by a quantitative phase. The quantitative phase's data gathering was planned using the qualitative data analysis.

The research location that the researchers set was the Department of Guidance and Counseling, State University of Medan. The reason for the proposer to determine the location of the research is because the proposer is a lecturer who teaches English courses in the Guidance and counselling department and the course is runs in the even semester of the 2021-2022 academic year. The population in this study were all students of the class of 2021 who took English courses. Furthermore, to obtain a sample in this research proposal, the proposer used a sampling technique using a cluster system and obtained a sample of 30 students from the BK Department class B -2021.

3 Result and Discussion
3.1 Design and Implementation of Android Based Learning Mobile Learning "English for Counseling" Using *Case Method and Project-Based Learning*

There are English skills that must be achieved by students as the output of learning English for Guidance and Counseling, namely Listening, Speaking, Writing and Reading. The learning design is as follows:

a. Learning objectives

The purpose of learning English for Guidance and Counseling is to produce Guidance and Counseling graduates who are able to apply their abilities in the Guidance and Counseling field using English, not only in the practice of Guidance and Counseling services, but also in writing scientific papers in the Guidance and Counseling field.

b. Theory
1) The materials that will be discussed in the Android-based English learning "English for Counseling" are as follows:
2) Reading Comprehension, Vocabular and Simple English Pattern.
3) Reading Comprehension - Active and Passive Voice,
4) Reading Comprehension - Present and past tense,
5) Writing - Conversation text,
6) Listening (Listen the conversation between counselor and counselee)
7) Reading Comprehension, Vocabulary, Structure (Modals Auxiliaries).
8) Speaking - Watching the short video of Guidance and counseling process,
9) Writing - make a report text.

c. Learning Resources.

The learning resources used in learning English are the English textbook "English for Counseling" and other references that can be obtained from the internet.

d. Learning Model used.

e. The teaching strategies used in Counseling English Learning Android Based English include Case Method and Project Based Learning. Project-based learning (PJBL) makes use of challenges as the first step in absorbing and integrating new information based on experience and practical activities. The case method is a participatory discussion-based learning approach for handling situations and issues. By using this

strategy, one may hone and develop their critical thinking abilities for cooperation, creativity, and problem solving.
f. Sequence of Learning Activities.
    Learning activities in English courses are carried out for 16 meetings. The English learning material at each meeting is different based on the material that has been determined by the supporting lecturer.

3.2 The effect of using Android based Mobile Learning using the case method and PBL on the English language learning outcomes of Guidance and Counselling students in the Hybrid Learning Era.

Using the case method and PBL model, the researcher examined the impact of Android-based mobile learning "English for Counseling" by teaching the material to the sample of 30 students. The initial English proficiency of 30 samples, henceforth referred to as experiments, was assessed using a pretest before they began studying "English for Counseling" utilizing an Android-based mobile learning platform. Students take a final exam (posttest) after receiving instruction to ascertain how well they still speak English. The following is a description of the test's outcomes:

a. Students' English Skills Before Participating in Learning *Android Based Mobile learning* "English for Counseling" Using Case Method and PBL Models.

According to the experiment group's pre-test results, the highest score was 80 and the lowest was 44. The mean value was 62.13, and it had a standard deviation of 9.89. The following is a comprehensive description of Table 1's frequency distribution of student pretest scores.

Table 1. Distribution of Frequency *of Pre-test data*

N	Interval	Absolute Freq	Relative Freq.(%)
1	0 – 44	1	3
2	45-50	3	10
3	51-56	6	20
4	57-62	7	23
5	63-68	4	13
6	69-74	5	17
7	75-80	4	13
		30	**100**

Pre-test frequency distribution data for the experimental group (Table 1) can be described based on the predetermined class interval and the frequency of observations obtained from the study is shown in Figure 1 as follows.
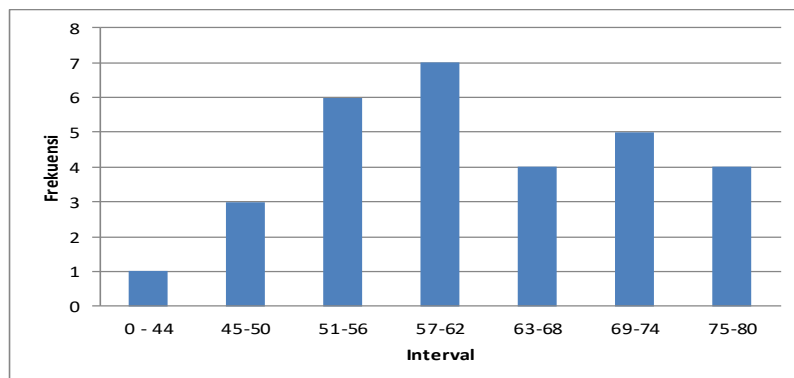
Fig. 1. Frequency Distribution Diagram of Pre-test Results.

The frequency distribution diagram shows that there are 7 student grade intervals. There is 1 student who gets a minimum score, namely in the class range of 0-44, then in the middle value, which is in the range of 57-62, there are 7 students and there are 4 students who are in the 75-80 interval which is the highest score range in the pretest test. in this research.

b. Students' English Ability After Participating in *Android Based Learning Mobile learning* "English for Counseling" Using Case Method and Project Based Learning Models.

The experimental group's students received the maximum score of 88, the lowest score of 56, the average (M) of 76,8, and the Standard Deviation (SD) of 9,08 on the post-test. Table 2 displays the frequency distribution of the student posttest results.

Table 2 Frequency Distribution of Student Posttest Scores

Class	Class Interval	Absolute Freq.	Relative Freq,(%)
1	0 – 56	1	3
2	57-61	1	3
3	62-66	1	3
4	67-71	6	20
5	72-76	5	17
6	77-81	5	17
7	82-86	5	17
8	87-91	6	20
		30	100

The distribution of the experimental class posttest frequency can be described based on the predetermined class interval and the frequency of observations obtained from the study in Figure 2 as follows.
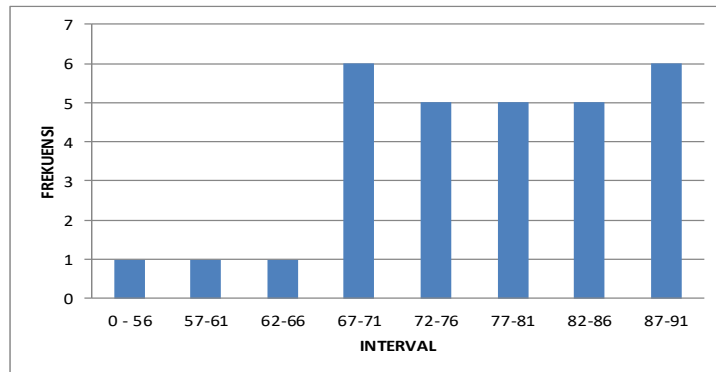
Fig. 2. Frequency Distribution Diagram of Post-test Results.

The frequency distribution diagram shows that there are 8 student grade intervals. There is 1 student who gets a minimum score, namely in the class range of 0-56, then in the middle value, which is in the range of 67-71, there are 6 students and there are also 6 students who are in the 87-91 interval which is the highest score range on the test. pretest in this study. When compared with the pretest scores, it is clear that the comparison of student scores is where the lowest score for pretest students is 44 then posttest is 56, then the highest score for students in pretest is 84 and at posttest the highest score is 88.

The purpose of conducting a Normality test, specifically using the Lilliefors test in this case with the assistance of the SPSS 16 program, is to assess whether the data follows a normal distribution, the data obtained are described as follows:

a.   Pre-test Normality Test

Table 3. Pretest Normality Test

	Kolmogorov-Smirnov [a]			Shapiro-Wilk		
	Statistics	Df	Sig.	Statistics	df	Sig.
Pretest	.151	30	.080	.955	30	.226
a. Lilliefors Significance						

Based on the results of the Lilliefors test conducted at a significance level of 0.05, with a sample size of 30, the obtained L value is 0.151. Comparing this value with the critical L value from the table (0.161), we observe that L 0 < L table (0.151 < 0.161). This indicates that the pre-test data of the experimental class follows a normal distribution. For further information and a visual representation, please refer to Figure 3 below.
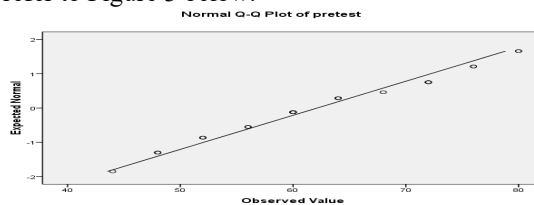

Fig. 3. Pre-test Normality Plot.

b.   Posttest Normality Test

Table 4. Normality test results of Posttest

	Kolmogorov-Smirnov [a]			Shapiro-Wilk		
	Statistics	df	Sig.	Statistics	df	Sig.
Postes	.159	30	.028	.898	30	.008
a. Lilliefors Significance Correction						

Based on the results of the Lilliefors test (Table 4) conducted at a significance level of 0.05, with a sample size of 30, the critical L value obtained from the table is 0.163. Comparing this with the calculated L value of 0.159, we can see that L 0 < L table (0.159 < 0.163). Therefore, we can conclude that the posttest data of the experimental class are normally distributed. Therefore, we use parametric statistics for hypothesis testing in this study. For more details, the post-test normality data chart is shown in Figure 4 below.
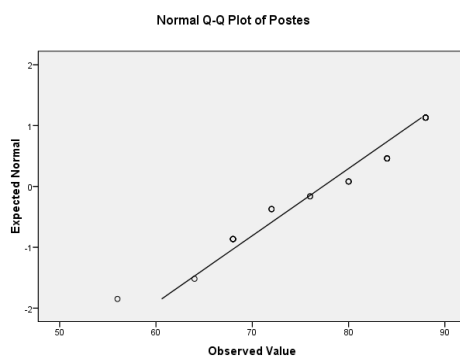

Fig. 4. Post-test Normality Plot.

The t-test result is 1.69 with a 0.05 significance level and df = 30-1 = 29. T count > T table = 8,88 > 1,6 9 when t count is compared to t table. Because H_a is accepted and H_0 is rejected, it can be inferred that the English language proficiency of the Guidance and Counseling students at Universitas Negeri Medan who served as the study's samples is affected by mobile learning-based "English for Counseling" using the PBL Learning Model and Case Method.

4   Conclusion

The results of this research lead to the following conclusions:
  a.   The design of learning English for Guidance and Counseling uses nine key resources.
  b.   The sequence of learning activities at each meeting, learning objectives, resources, and learning models are all included in the learning design for the case method and project-based learning models in the "English for Counseling" application.

c. Depending on the topic matter and learning achievement indicators, the learning model's placement is updated.

d. The average value (M) was 62.13, the standard deviation (DS) was 9.89, the highest score was 80, the lowest was 44, and the average value (M) was achieved prior to the students' participation in mobile-based learning "English for counseling" sessions.

e. Following their participation in the project-based learning and case method modelled "English for Counseling" mobile learning program, students' English proficiency scores were determined. The average (M) was 76.8, the standard deviation (SD) was 9.08, the highest score was 88, the lowest score was 56.

f. When t count and t table are compared, the outcome is that t count > t table equals 8,88 > 1,6 9. The usage of Android-based mobile learning that includes project-based learning and the case method benefits the guidance and counseling students at Universitas Negeri Medan in the Hybrid Learning Era.

Acknowledgement

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