

The Implementation of Team-based Learning IDLE Digital Technology-based Devices in Developing Speaking Skills

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Abstract

This study aims to enhance students' speaking skills in an academic setting by applying the Team-based Learning Model and describe how they perceive the implementation of IDLE digital technology-based devices in the application of the team-based learning model. Mixed Method research is used in this investigation. An experimental method was used to collect quantitative data, applying the Team-based Learning model to teach speaking skills to two student groups, which were selected using a probability sampling technique. Questionnaires and oral tests were used to gather quantitative data, while qualitative data was collected through focus group discussions and interviews. The quantitative data was analyzed using descriptive statistics with SPSS for Windows, and the qualitative data, which focuses on the problems and the objectives of the research, was analyzed using Content Analysis. The results of the data analysis show more students passed the Speaking in Academic Context Course than the students did in the previous academic years. The passing scores are between 71 to 76 and 86 to 100, or grades B (Good) and A (Very Good). According to the findings of data analysis on student perceptions obtained from questionnaires, students used several IDLE digital technology-based devices to complete projects, used the IDLE digital technology-based devices for fairly effective periods, between 30 minutes and over an hour per day, and used them for both receptive and productive activities individually and in group. The findings imply that the effective selection of teaching models and instructional media, especially the application of IDLE digital technology-based devices, is needed to motivate students to learn individually and in groups.

Keywords: *Learning Model, team-based, informal digital learning of English, Speaking in Academic Context*

Introduction

Speaking Skills is a compulsory course in the curriculum of the English Department at the Faculty of Teacher Training and Education, Tadulako University. The course is oriented towards the mastery of productive skills programmed in four levels and four consecutive semesters (semester one to semester four). Speaking in Academic Context (SIAC), which is offered in semester 4, is the most complex course among the Speaking Courses since it teaches students how to communicate in an academic setting in addition to speaking in general English. Topics discussed in this course are directly related to issues in learning language components and language skills, as well as possible solutions

to overcome the previously identified issues in teaching and learning speaking skills. In other words, students can only pass the SIAC course if they can communicate not only in general English but also in academic English. Students' achievements in the SIAC course so far have not been satisfying, so they still need to improve their speaking skills, especially in an academic setting related to describing, analyzing, and interpreting data or facts (Based on the SIAC Course Outline, 2024). Based on the results of the preliminary study, the achievement of students in the SIAC Course in the previous academic years, only around 75% of students were able to communicate well in general English, and still, only around 50% of students were able to communicate well in both General English and Academic English (Based on the results of the document analysis as the SIAC Course Supervisor).

The implementation of the oriented Indonesian Nasional Curriculum Framework (KKNI) and the launch of the *MBKM* Curriculum within the Ministry of Research, Technology, and Higher Education, teaching and learning is product-oriented and outcome-based. Through the implementation of innovative teaching models, Team-Based Learning, Problems-based, and Case-Method learning models, the problems of achieving learning objectives in the SIAC course can be minimized and even resolved through the implementation of more flexible learning methods and realistic learning materials (Sarifa, 2020; Tomlinson, 2017). The implementation of an innovative learning model, Team-Based Learning, and Informal Digital Learning of English (IDLE) digital technology-based devices are needed so that the learning process is more flexible and on target (Pramesti et al., 2023; Lee & Drajati, 2019). Through the application of innovative learning, students become more active and motivated (Pertiwi et al., 2022; Keiler, 2018), overcome differences among students (Fauzia & Ramadan, 2023; Moningka, 2022), and change the roles of teachers to become facilitators make classes more interactive and oriented towards meeting students' needs both based on curriculum objectives and individual student needs (Mahasneh & Alwan, 2018; Wahyuni, 2022). The application of innovative learning models initiated by the Ministry of Research, Technology and Higher Education, Team-based Learning, Problem-based Learning, and Case Method, makes the learning and teaching process student-centered (Keengwe et al., 2009; Astawa et al., 2017; Pertiwi et al., 2022), and oriented towards products which are the learning objectives of Industry 4.0, namely Outcome-Based Education (OBE) (Damit et al., 2021).

Several researchers have applied the Team-based Learning or PBL model in learning both languages and other fields (Aryanti et al., 2017; Kavlu, 2020; Nguyen, 2021; Poonpon, 2017; Pramesti et al., 2023; Supriatna, 2020; Wardono et al., 2018). Aryanti et al. (2017) and Nguyen (2021) reported that the implementation of PBL has a significant effect on improving communication skills and problem-solving skills as well as critical thinking skills, Pramesti et al. (2023) reported that high school English learners significantly improve vocabulary mastery through the implementation of PBL, and Poonpon (2021) reported that the implementation of PBL improves the macro language skills including listening, speaking, reading, and writing. In addition to language learning, PBL has also succeeded in improving student achievement in other fields of study such as Natural Sciences (Supriatna, 2020; Wahyuni, 2022), and in mathematics (Santoso & Soedjoko, 2019). Furthermore, Nibulan et al. (2022) reported that the implementation of PBL combined with ICT can improve entrepreneurial competence, and Santoso & Soedjoko (2019) reported that PBL combined with ICT can improve problem-solving skills. In general, researchers conclude that the implementation of PBL can significantly improve student achievement and can also be combined with

Information and Communication Technology (ICT)-based learning media so that the learning process is more flexible and interesting (Beckett & Slater, 2018; Francese et al., 2015; Mabe et al., 2022; Rohmatulloh et al., 2022; Serostanova, 2020). The use of ICT, especially digital technology devices, in both formal and informal learning, is increasingly significant in improving communication skills, known as Informal Digital Learning of English (IDLE) which is divided into two parts, namely receptive and productive activities (Astawa et al., 2017; Lee & Drajati, 2020; Manurung et al., 2023).

Although there have been many studies examining the application of team-based learning in language learning and combining it with advances in ICT, there are still few studies that specifically examine English language skills in the academic context based on IDLE digital technology devices. By integrating IDLE into the English learning process, interest and motivation to communicate increase (Manurung, 2015; Lee & Drajati, 2020). This study aims to improve students' speaking skills in an academic context through the application of Team-based Learning IDLE digital technology-based devices, and describe students' perceptions of the IDLE digital technology-based devices. By integrating IDLE digital technology-based devices into the English learning process, interest and motivation to communicate increase (Lee & Drajati, 2020), and learning is more contextual (Sarifa, 2020)..

This research is useful for language learners and teachers in implementing more flexible and contextual language learning models. The presence of an Innovative Team-based Learning model fulfills the needs of learners individually and in groups (Shin, 2018) and alters the roles of teachers from teachers to facilitators (Mahasneh & Alwan, 2018). By combining the Team-based Learning model with IDLE digital technology-based devices, learners are motivated to learn individually or in groups to improve receptive and productive skills (Lee & Drajati, 2019).

Method

The method used is Mixed Method Research (MMR). Mixed research combines quantitative and qualitative methods to answer research problems (Cohen et al., 2005; Cresswell, 2009; Creswell & Plano-Clark, 2011) and strengthen the accuracy of conclusions or research results (Brown, 2014; Johnson & Christensen, 2017). Quantitative data, the learning achievement in Speaking in Academic Contexts, were collected through quantitative methods using oral tests, and data on student perceptions were collected through questionnaires, focus group discussions, and interviews. 34 Students who are the research sample consists of two groups or classes that programmed the Speaking in Academic Context Course in the English department in the 2023/2024 academic year drawn using the probability Samples technique (Cohen et al., 2005; Cresswell, 2009). Quantitative data were analyzed using descriptive statistics using SPSS for Windows, while qualitative data were collected through interviews and focus group discussions and analyzed based on content analysis according to the research problems and objectives (Cresswell, 2009; Hashemnezhad, 2015). Student achievement assessment is described using the assessment system used in the English Department as in Table 1.

Table 1: Scoring Sytem

Figure	Score	Grades	Description
86-100		A	Very Good
81-85		A-	
76-80		B+	
71-75		B	Good
66-70		B-	
61-65		C	Enough
56-60		D	Poor
≤55		E	Very Poor

Results

The Implementation of Team-Based Learning

The results of the data analysis show that all students (100%) who took the Speaking in Academic Context Course passed based on the passing criteria used in the English Department. The lowest score is B (Good), with a score ranging between 71 (seventy-one) and 75 (seventy-five), and no students scored lower than 71 (Seventy-one), and the highest score is A (Very Good) or between 86 (eighty-six) and 100 (One hundred). The passing grade percentage is described in Table 2.

Table 2. Passing Grade Percentage

Figure	Score	Grades	Frequency	Percentage (%)	Description
86 sd. 100		A	9	26,47	Passed
81 sd. 85		A-	14	41,18	Passed
76 sd. 80		B+	8	23,53	Passed
71 sd. 75		B	3	8,82	Passed
66 sd. 70		B-	0	0	Passed
61 sd. 65		C	0	0	Passed
56 sd 60		D	0	0	Failed
<55		E	0	0	Failed

The data in Table 4.2 shows that 9 (nine) or 26.47% of students obtained an A (Very Good) with a score ranging between 86 and 100, 14 or 41.18% of students obtained an A- (Very Good) with a score ranging between 81 and 85, 8 (eight) or 23.53% of students obtained a B+ (Good) with a score ranging between 76 and 80, and 3 (three) students obtained a B (Good) with a score ranging between 71 and 75.

The Use of IDLE Digital Technology-based Devices

Types of IDLE digital technology-based devices used

Types of Informal Digital Learning of English (IDLE) digital technology-based devices used by the students during the Speaking in Academic Context Course are all students (31 or 100%) use smartphones, 17 or 54.8% of students use laptops, 1 or 3.2% of students using a desktop computer, 1 or 3.2 students using a television, and no student uses an iPad or Tab.

Use of IDLE digital technology-based devices period

Time of use of IDLE digital technology-based devices period during Speaking in Academic Context Course is 4 (four) or 12.9% of students use IDLE digital technology

devices for less than 30 minutes in one day, 4 (four) or 12.9% of students use IDLE digital devices for more than 30 minutes in one day, 1 (one) or 3.2% of students use IDLE digital devices in one day, and 24 or 77.4% of students use digital devices for more than 1 (one) hour in one day.

Receptive activities conducted using IDLE digital technology-based devices

Receptive activities carried out by students using IDLE devices during Speaking in Academic Context Course is 25 or 80.6% of students listen to songs in English, 22 or 64.71% students watch English-language films, 17 or 54.8% students play games in English, 9 (nine) or 29% listen to podcasts in English, 8 (eight) or 25.8% of students watch or read online comics, 5 (five) students or 16.1% of students listen to news in English, and 5 (five) or 16.1% of students watch sports matches in English.

Productive activities conducted using IDLE digital technology-based devices

Productive activities carried out by students using IDLE digital technology-based devices during Speaking in Academic Context Course is 24 or 77.4% of students chat via IDLE digital technology devices in English, 11 or 35.5% of students share content in English online, 9 (nine) or 29% of students use digital technology to connect with non-native English speakers, 7 (seven) or 22.6% of students use digital technology to connect with native English speakers, 4 (four) or 12.9% of students send e-mails in English, and 1 (one) or 3.2% of students use Skype in English with other people.

Perception on IDLE digital technology-based devices

To obtain students' perceptions in implementing team-based learning based on IDLE digital technology devices, interviews and focus group discussions were conducted with eight (8) students. Students were asked about the benefits of using IDLE digital technology devices as a support for improving English language skills, especially speaking. Students' answers were analyzed and adjusted to the research problems and objectives.

Students' answers related to the use of IDLE digital technology-based devices generally support what they have been filled in the questionnaire. In general, students are able to choose and even combine a variety of digital technology devices in searching for learning materials, a student stated:

"... in working on a project, I can choose technology devices such as a smart phone or cellular phone or laptop to search for materials to complete assignments or projects. That's also what we do during group discussions".

Students said that the use of digital technology devices is easily accessible so that the necessary learning materials, which are in accordance with the objectives of the project, can be obtained quickly and this motivates students to work on the project, a student argued:

"... I personally and the group members are motivated to work on the project, we already know the objectives of the project, when searched using a cellphone it is immediately there, this motivates us to learn and discuss"

Students also said that students get various benefits when using digital technology devices, especially the authenticity of the material obtained, a student revealed:

"... the material obtained is contextual, and authentic, in accordance with real life, in every day activities, so it is easy to remember and apply."

Students also said that digital technology devices have been used in receptive and productive activities to support language skills. Student reported receptive activities:

"... there are many things I can do with a cellphone or laptop, I often listen to songs and watch movies... I listen to English songs... in English."

Likewise with productive activities the student reported using digital technology devices in their free time or weekends, student said:

"... if I don't have any assignments I chat with friends and family, or if group members can't meet for discussion we chat and give ideas about the project... on weekends I also chat or video call with friends and family."

Discussion

The Application of Team-based Learning IDLE digital Technology-Based Devices

The first part of the research objective, namely improving student achievement in speaking skills through the implementation of the Team-based Learning IDLE digital technology-based devices, is achieved by analyzing student achievement scores at the end of the semester, where all students passed Speaking in Academic Context Course with a score ranging between B (Good) and A (Very Good) or the lowest score is seventy-one (71) based on the scoring system applied in the English Department. In other words, the achievement at the *Very Good* level was 23 or 67.65% and at the *Good* level was 11 or 32.35%. Thus, it can be concluded that the implementation of the Team-Based Learning IDLE digital technology-based increases the number of the students passed the Speaking in Academic Context Course compared to the students' achievement in the previous academic years. The increase in the student achievement in the Speaking in Academic Context Course with the implementation of the Team-based IDLE digital technology-based is in line with the results of previous studies where the implementation of team-based learning or project-based learning can improve students' productive skills (Astawa et al., 2017). Likewise, Serostanova (2014) stated that the integration of information and communication technology in the foreign language learning process can increase student motivation. This is in line with the statement that by integrating IDLE in the English learning process, students' interest and motivation to communicate increases (Lee & Drajati, 2020). It can be concluded that Team-Based Learning (TBL) IDLE digital technology-based devices is an effective learning method to improve speaking skills. The application of TBL IDLE digital technology-based devices in teaching speaking skills not only improves students' speaking skills but also their collaboration and problem-solving skills in groups.

Perception on the Application of IDLE Digital Technology-based Devices

The purpose of the second part of the study was to obtain an overview of the use of IDLE digital technology devices in developing speaking skills. A questionnaire consisting of fifteen (15) items, and divided into four (4) parts, first Type of IDLE digital technology device used by students, Period or duration of use of IDLE digital technology devices, Receptive activities carried out by students using IDLE digital technology devices, and Productive activities carried out by students using IDLE digital devices (Lee & Drajati, 2019; 2020) were distributed to students after the learning and teaching process took place.

Type of Digital Device (IDLE). The increase in students' achievement in Speaking in Academic Context Course is influenced by the type of digital devices used by students as a learning support that is carried out during the implementation of the Team-based Learning model. All students use smartphones as a learning support, and besides using smartphones, 50% of students also use laptops, and only one student uses a desktop in addition to a smartphone, and 1 student uses a television in addition to a smartphone. This shows that the integration between the learning model, team-based learning, with

IDLE digital technology devices, can improve the students' speaking skills and ultimately passed the Speaking in Academic Context course. This is in accordance with the opinion of a researcher who argue that the integration of information and communication technology in the foreign language learning process increase student motivation (Serostanova, 2020).

Period or time of use of IDLE Digital technology-based devices. The increase in student achievement through the implementation of the Team-Based Learning model is also influenced by the length or period of time of use of IDLE technology devices every day. There are 24 or 77.4% of students who use IDLE digital technology devices for more than one hour a day and only 4 or 12.9% who use IDLE digital devices for less than half an hour a day. The use of IDLE digital devices regularly and well-planned in accessing various learning resources make individual and group assignments or projects better. More importantly, the systematic planned use of IDLE digital technology devices trains the students to be more independent learner, and are able to manage the time accordingly to an individual learning or in groups. This is in line with research findings highlighting that the use of information and communication technology fosters independent learning strategies for students and improves critical thinking skills (Aryanti et al., 2017).

Productive and Receptive Activities usning IDLE digital technology-based devices. Macro language skills, listening, speaking, reading, and writing, are increased by mutual support between receptive and productive skills. This indicates the need for integrated learning between language skills both in groups and individually integrated with instructional media. The improvement of students' speaking skills in Speaking in Academic Context Course after the implementation of Team-based Learning IDLE digital technology-based devices is achieved due to the intense use of productive activities carried out by students such as chatting via IDLE digital devices in English, sharing content in English online, using digital technology to connect with non-native English speakers, using digital technology to connect with native English speakers, sending e-mails in English, and using Skype in English with others. The more the tudents practice the better their achievement will be particularly when the activities are contextual. The results of this study are in accordance with the opinions of previous researchers who reported that the application of Problem Based Learning assisted by Information and Communication Technology can improve students' critical thinking skills in completing tasks (Nibulan et al., 2022), and the integration of IDLE in learning increases students' creativity and motivation (Lee & Drajati, 2020). In can be summed up that when various activities and practices are carried out in the speaking teaching and learning process, the language become habit, the language is stored in the long term memory, and they are easily recalled when needed.

Conclusion

The implementation of Team-Based Learning IDLE digital technology-based devices aims to improve language skills achievement in the Speaking in Academic Context course objectives. The results of the study showed that there was an increase in the student achievement by comparing the percentage of the students who passed the course from the previous academic years. The passing grades are between 71-76 and 86-100 or B (Good) and A (Very Good). This increase in achievement occurred because the implementation of Team-based learning model is integrated with IDLE digital technology-based devices, where students use various IDLE digital technology devices in

completing their projects, use digital technology devices in a fairly effective time daily, and utilize IDLE digital technology-based devices in carrying out receptive and productive activities both individually and in groups. The increase in student achievement is achieved due to the contribution of the integration of the team-based learning model and IDLE digital technology devices as learning media. Thus, the selection of models and media, especially the application of digital technology, is needed to motivate students to learn both individually and in groups.

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