AELE (Applied English Linguistics and Education)

Vol. 1, No. 1 June 2025, Page 9–24

P-ISSN: XXXX-XXXX

E-ISSN: XXXX-XXXX

Available Online at https://pusatpublikasi.com/index.php/aele/index

Postgraduate Students' Perceptions of the Use of Moodle and Zoom in Online Learning of Computational Linguistics Class

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Abstract - This research addresses graduate students' perceptions of using Moodle and Zoom platforms in computational linguistics online learning. The research covers the objectives, methodology, and results of the study, as well as the challenges students face in using these platforms. It also provides a literature review on language and technology in computational linguistics, as well as the use of Moodle and Zoom in the context of computational linguistics classes. The study aims to understand how students perceive the use of these platforms and identify areas for improvement in their use. The research method involved interviews and surveys with postgraduate students to obtain their views on the effectiveness, accessibility, shortcomings, and advantages of using Moodle and Zoom platforms in online learning. The results of the interviews and surveys show that although there are some disadvantages of Moodle and Zoom as online learning platforms, the majority of students also see many advantages and benefits. They feel that these platforms enhance their technological and communication competencies, provide access to teaching materials 24/7, enable the use of more modern teaching resources, and contribute to making the learning process faster and more enjoyable. In addition, students feel motivated and confident in conveying ideas when using these platforms, and they have a positive attitude towards using Moodle and Zoom in their computational linguistics class.

Keywords: *Computational Linguistics, Moodle, Online Learning, Students Perceptions, Zoom*

I. INTRODUCTION

As time progresses, technological innovations continue to emerge and are utilized in various sectors, including education (Kurnianto, 2022). Since the Covid-19 pandemic, the use of technology in education has increased significantly, facilitating learning processes that were once conducted conventionally. Teaching staff, such as lecturers and teachers, often face time constraints and external responsibilities, which may hinder the achievement of learning objectives. Technology enables more flexible learning, allowing it to take place anytime and anywhere (S, 2020; Dhawan, 2020). Modern learning incorporates advanced technology and emphasizes the blended learning method—a

combination of traditional face-to-face instruction and technology-assisted remote learning (Graham, 2012; K & Subramonian, 2015).

In this context, online learning or e-learning has emerged, integrating web-based instruction, video streaming, and both synchronous and asynchronous communication. Synchronous communication allows real-time interaction, while asynchronous learning occurs at different times between students and instructors (Hrastinski, 2008; Malik et al., 2017). system developed at the University of Illinois and evolved through innovations such as computer-based training in the 1990s and the development of learning management systems (LMS) in 1997 (Jones, 2015; Priyahita, 2020; Hasibuan & Meitro, 2014).

LMS platforms, such as Moodle, support teaching and learning through features like inline feedback, file management, progress tracking, and multimedia integration (Budianti & Lubis, 2022; Gamage et al., 2022; Prasetya, 2021; Kamila et al., 2021; Nash & Moore, 2014). While Moodle emphasizes asynchronous communication, it can be integrated with Zoom to enable synchronous learning. Zoom, a video conferencing service officially launched in 2013, offers features like computer audio and video display, creating an environment similar to a traditional classroom (Taman et al., 2021; Hendriani et al., 2022).

Many higher education institutions, including postgraduate programs, have adopted Moodle and Zoom as part of their blended learning approach, including in computational linguistics courses. In this field, a deep understanding of both language and technology is essential, making students' perceptions of these platforms a relevant area of study (Leni, 2022). Computational linguistics, pioneered by Noam Chomsky, is an interdisciplinary field combining linguistics and computer science to process natural language (Grishman, 1986; Musthofa, 2010). This study aims to explore students' perceptions of using Moodle and Zoom in computational linguistics classes to identify areas for improvement and optimize the use of these platforms for effective learning.

Based on the background, this study addresses the following research questions: RQ1: What are postgraduate students' perceptions of using Moodle and Zoom in computational linguistics classes? RQ2: What challenges do students face when learning computational linguistics using Moodle and Zoom?

II. METHODS

This study employed a quantitative method with a survey design. According to Bryman (2012), quantitative research emphasizes quantification in data collection and analysis, meaning it reflects the amount of something (Rahman, 2016). Survey research involves standardized questionnaires and interviews to systematically gather data on participants' thoughts and behaviors (Ponto, 2015). The research was conducted at the Master of Linguistics program, Warmadewa University, Denpasar–Bali, Indonesia, aiming to improve online educational services and media selection. The population consisted of 52 students from semesters 1 and 3, with 30 student works selected as the sample using purposive sampling. This technique allows researchers to select samples based on specific criteria and is suitable for both qualitative and quantitative studies (Tongco, 2007).

Data were collected using a Likert scale questionnaire, which is commonly used to measure attitudes or views in educational research (Bishop & Herron, 2015). This scale offers deeper insights than single-item responses (Batterton & Hale, 2017) and includes

five levels: strongly disagree, disagree, neutral, agree, and strongly agree (Tutz & Berger, 2016). The questionnaire consisted of 26 items adapted from Bawa et al. (2022), Nilna Ghina, Mustofa, & Awaliyah (2022), Apoko (2022), Thamrin, Suriaman, & Maghfirah (2019), Jovanović (n.d.), and Alameri et al. (2020). The items covered six aspects: (1) effectiveness of Moodle and Zoom, (2) ease of access, (3) shortcomings, (4) advantages, (5) motivation, and (6) student attitudes toward Moodle and Zoom. The data obtained through the questionnaire will be calculated in order to obtain its percentage. Furthermore, the calculation results will be presented in the form of tables, diagrams and interpreted with a qualitative approach. Data analysis and diagram formation will be carried out by utilizing analysis toolpak. Analysis ToolPak is an add-in in Microsoft office excel used to analyze research data (Alexander, Kusleika, & Walkenbuch, 2019).

III. RESULTS AND DISCUSSION

This section specifically presents the results of the analysis of questionnaire data on graduate students' perceptions of the use of moodle and zoom in the online learning of computational linguistics class. Data analysis has been carried out using the Analysis ToolPak contained in Microsoft office Excel. The following are the detailed results:

Table 1. The data analysis results

No.	Statements	Answer Options				
		SD	D	N	A	SA
1.	Moodle (LMS) and Zoom support education or learning that is carried out online (e-learning)	7%	3%	3%	30%	57%
2.	The quality of class conducted using Moodle (LMS) and Zoom is appropriate for the current level of education	7%	0%	20%	27%	47%
3.	Learning and teaching activities in Computational Linguistics class through Moodle (LMS) and Zoom are effective and efficient because I can learn from anywhere and anytime	7%	0%	13%	37%	43%
4.	Discussions in Computational Linguistics class through Moodle (LMS) and Zoom are effective in strengthening my understanding	10%	10%	30%	20%	30%
5.	E-learning using Moodle (LMS) and Zoom enhances my self-directed learning or makes me learn by myself and I can make progress in Computational Linguistics class according to expectations	10%	3%	23%	37%	27%
6.	Moodle (LMS) and Zoom can be accessed easily	3%	0%	13%	13%	70%
7.	I can troubleshoot problems that arise with Moodle (LMS) and Zoom	7%	0%	20%	47%	27%
8.	I can easily access Computational Linguistics materials through Moodle (LMS) and Zoom	3%	0%	10%	23%	63%

9.	I can easily express my opinion in the Computational Linguistics class conducted through Moodle (LMS) and Zoom	3%	3%	20%	27%	47%
10.	I can easily communicate with my friends and lecturers in Computational Linguistics class conducted through Moodle (LMS) and Zoom	10%	3%	13%	30%	43%
11.	Moodle (LMS) and Zoom cannot be used in areas with poor internet quality	3%	0%	20%	20%	57%
12.	Moodle (LMS) and Zoom require a lot of internet quota	3%	7%	17%	33%	40%
13.	I have difficulty using Moodle (LMS) and Zoom	23%	27%	20%	10%	20%
14.	I did not gain much knowledge about Computational Linguistics by using Moodle (LMS) and Zoom	20%	13%	37%	10%	20%
15.	Moodle (LMS) and Zoom improve students' technology, information and communication competencies	10%	3%	7%	33%	47%
16.	Moodle (LMS) and Zoom provide access to Computational Linguistics teaching materials in 24/7 mode	7%	7%	23%	23%	40%
17.	Moodle (LMS) and Zoom enable the use of more modern teaching resources	7%	0%	17%	30%	47%
18.	E-learning (LMS) using Moodle and Zoom contributed to making my learning of Computational Linguistics faster	10%	3%	20%	33%	33%
19.	E-learning (LMS) using Moodle and Zoom contributes to making Computational Linguistics class fun	10%	3%	30%	27%	30%
20.	Discussions with friends and lecturers in the Computational Linguistics class through Moodle (LMS) and Zoom made me confident to convey ideas	10%	3%	17%	33%	37%
21.	The Computational Linguistics class conducted using Moodle (LMS) and/or Zoom motivates me to learn	10%	7%	20%	30%	33%
22.	I feel comfortable when using Moodle (LMS) and Zoom in my Computational Linguistics class	10%	3%	10%	27%	50%
23.	Overall, I like the Computational Linguistics class conducted using Moodle (LMS) and Zoom	7%	3%	17%	20%	53%
24.	I enjoy being taught through Moodle (LMS) and Zoom in my Computational Linguistics class	13%	0%	10%	40%	37%
25.	Moodle (LMS) and Zoom help students become more active in Computational Linguistics class	10%	0%	23%	40%	27%
26.	When I learn online (e-learning) using Moodle (LMS) and Zoom, I remember things better	10%	10%	23%	37%	20%

The twenty-six statements are classified into several parts as follows; first, the effectiveness of moodle and zoom, which are statements 1 to 5. Second, the ease of accessing moodle and zoom, which are statements 6 to 10. Third, the shortcomings of moodle and zoom, which are statements 11 to 14. Fourth, the advantages of moodle and zoom, which are statements 15 to 19. Fifth, motivation as an impact of using moodle and zoom, statements 20 to 21. And sixth, students' attitudes towards moodle and zoom, statements 22 to 26.

The discussion in each aspect is reinforced by the results of interviews that have been conducted with several students of the Linguistics master's program. The following is the discussion:

The Effectiveness of Moodle and Zoom

Statement 1 in the table above obtained the following percentages; 7% for strongly disagree answers, 3% for disagree answers and neutral answers, 30% for agree answers and 57% for strongly agree answers. 57% is the highest percentage in statement 1. This shows that students who think that moodle and zoom support education or learning carried out online (e-learning) are more dominant when compared to students who strongly disagree, disagree, and neutral.

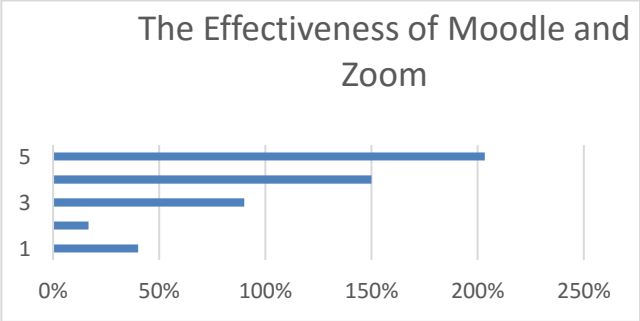
Statement 2 obtained the highest percentage of 47% in the answer strongly agree. While the lowest statement was 0%, which was in the answer disagree. While the remaining answers strongly disagree obtained a percentage of 7%, neutral by 20%, and agree by 27%. This shows that more students think that the quality of classes conducted using moodle and zoom is in accordance with the current level of education. 43% in statement 3 is the highest percentage, while the lowest percentage is 0%, which is in the disagree answer. While the rest, which is 13% in neutral answers and 37% in agree answers only. The highest percentage shows that many students consider that learning and teaching activities in computational linguistics class through moodle and zoom are effective and efficient, because by using these two platforms learning can be done from anywhere and anytime.

In statement 4, the answers strongly disagree and agree obtained a percentage of 10%, neutral by 30%, agree by 20%, and strongly agree by 30%. The percentage of neutral answers, which means that students have a neutral assessment or do not strongly disagree, do not also disagree, disagree, and do not also strongly agree, is the same as the percentage of answers strongly agree. It can be concluded that some students have the view that discussions in computational linguistics class through moodle and zoom are effective for strengthening understanding of computational linguistics material, and some are neutral about the statement. Both percentages are more dominant when compared to the percentage of answers strongly disagree, disagree, and agree. The highest percentage in statement 5 obtained an agreed answer of 37%. Furthermore, the answer strongly agreed obtained a percentage of 27%, strongly disagreed by 10%, disagreed by 3%, and neutral by 23%. Based on these results, it can be concluded that more students consider that e-leaning using moodle and zoom increases independent learning and makes students learn by themselves. In addition, e-learning using moodle and zoom enables the progress in computational linguistics class to be achieved as expected.

The percentage of each answer was summed up to obtain the following results:
1. The percentage of answers that strongly disagree is 40%.
2. The percentage of disagree answers is 17%.
3. The percentage of neutral answers is 90%.
4. The percentage of answers that agree is 150%.
5. The percentage of answers that strongly agree is 203%.

The following is a visualization of the total percentage:

Figure 1. The Effectiveness of Moodle and Zoom



Based on these results, it can be concluded that Moodle and Zoom are effective as platforms used in the implementation of online learning for computational linguistics class. This conclusion is supported by the results of interviews that have been carried out with the question "How do you think the effectiveness of using Moodle and Zoom as an online learning platform?" The following is a detailed response from several students as interviewees,

Student 1: In my opinion, the effectiveness of using Moodle and Zoom as online learning platforms in linguistic computing class is quite good. Both platforms have their own advantages and disadvantages, but overall they can support the learning process well. Moodle is a Learning Management System (LMS) that provides various features to support online learning, such as learning materials, assignments, quizzes, forums, and chat. These features can facilitate students to access learning materials, do assignments, discuss with lecturers and classmates, and get feedback from lecturers. Zoom is a video conferencing application that allows students and lecturers to interact directly at the same time. This feature can help students to understand the learning material better, because students can see and hear the lecturer's explanation directly. In addition, Zoom can also be used to conduct interactive discussions and questions and answers.

Student 2: As a graduate student in Linguistics engaged in online learning using Moodle and Zoom, I have found both platforms to be very effective in the context of learning a Computational Linguistics class. Moodle provides flexibility in presenting materials, assignments and additional resources in a structured manner. In a well-managed environment, Moodle facilitates interaction between lecturers and students through discussion forums, assignment submissions, and online exams. Meanwhile, Zoom provides a strong dimension of presence and engagement through real-time online

meetings. Through Zoom, group discussions, presentations, and Q&A become more interactive and immediate. The integration of features such as breakout rooms allows for more intensive discussions in small groups. However, the success of their effectiveness depends on other factors such as the quality of the internet network, the readiness of lecturers in managing the platform, and the willingness and active participation of students in online learning. Overall, the combination of Moodle and Zoom forms a solid foundation for online learning in Computational Linguistics class with the caveat that its use should be tailored to the learning needs and technical capabilities that may differ among students.

Student 3: In my opinion, the effectiveness of using Moodle and Zoom as online learning platforms really depends on the context and learning objectives. Moodle and Zoom have their own advantages and disadvantages. Moodle allows lecturers to create and manage learning content centrally, as well as allowing lecturers to provide more structured and measurable feedback. On the other hand, Zoom allows lecturers and learners to interact directly and in real-time, thus increasing learner engagement and participation. However, Zoom also has disadvantages such as limitations in managing learning content and requires a stable internet connection. Therefore, the effectiveness of using Moodle and Zoom as online learning platforms should be carefully considered depending on the learning context and objectives. However, so far, in the context of computational linguistics learning, I assess that both platforms are effective, even very effective.

The Ease of Accessing Moodle and Zoom

Statement 6 in the table shows that the largest percentage of answers is 70%. This percentage is found in the answer strongly agree. Furthermore, agree and neutral answers get the same percentage, which is 13%, strongly disagree by 7%, and disagree by 0%. This percentage is the lowest percentage. This shows that more students think that moodle and zoom can be accessed easily. 47% is the highest percentage in statement 7. This percentage is found in the answer agree, and followed by the answer strongly agree with a percentage of 27%. Furthermore, neutral answers get a percentage of 20%, strongly disagree by 7%, and disagree by 0%. This shows that most students can solve problems that arise in zoom when using it as an online learning platform in computational linguistics class.

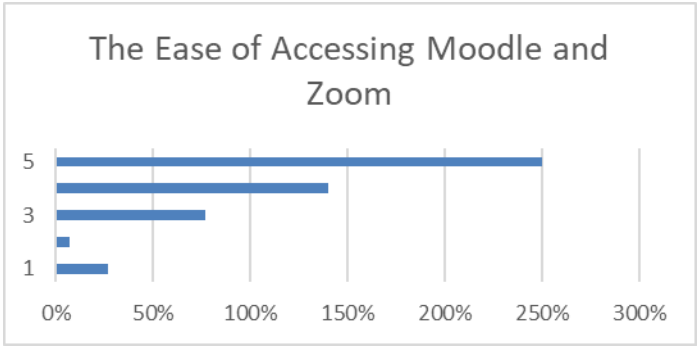
In statement 8, the percentage obtained by the answer strongly agree was 63%. Furthermore, the answer to agree obtained a percentage of 23%, neutral by 10%, strongly disagree by 3%, and disagree by 0%. Judging from the results of the percentage, it can be concluded that students who easily access computational linguistics material through moodle and zoom are more dominant. The highest percentage in statement 9 was obtained by the answer strongly agree, which amounted to 47%. While the lowest percentage was obtained by the answers strongly disagree and disagree, which amounted to 3%. Furthermore, the neutral answer obtained a percentage of 20% and the agreed answer obtained a percentage of 27%. Based on these results, it is concluded that most students can easily express their opinions in computational linguistics class conducted through moodle and zoom.

Furthermore, in statement 10, the highest percentage is in the answer strongly agree, which is 43%. Followed by the agreed answer which obtained a percentage of 30%. The lowest percentage was obtained by the answer disagree with a percentage of 3% and the answer strongly disagree obtained a percentage of 10%. Meanwhile, the neutral answer obtained a percentage of 13%. These results show that many students state that communication between classmates and lecturers in computational linguistics class conducted through moodle and zoom can be done easily. Next, the percentage of each answer was summed up. The following are the results:

1. The percentage of answers that strongly disagree is 27%.
2. The percentage of disagree answers is 7%.
3. The percentage of neutral answers is 77%.
4. The percentage of answers that agree is 140%.
5. The percentage of answers that strongly agree is 250%.

The following is a visualization of the total percentage:

Figure 2. The Ease of Accessing Moodle and Zoom



These results show that many students think that the moodle and zoom platforms are easy to access. This is corroborated by the results of interviews conducted with several students as sources with the question "Do you feel that accessing moodle and zoom is easy and what are the obstacles you experience when accessing Moodle and Zoom? How do you overcome them?" The following are the details of the interviewees' responses,

Student 1: I think accessing moodle and zoom is very easy. However, there were some obstacles that I experienced when accessing moodle and zoom, which were; first, the unstable quality of the internet connection. This can cause interruptions when accessing learning materials on Moodle or when taking online classes on Zoom. To overcome this, I always ensure that my internet connection is stable before accessing Moodle or Zoom. If my internet connection is not stable, I will try to connect to a more stable internet network. Second, the lack of basic skills in using information and communication technology. This can cause difficulties when using the features available on Moodle and Zoom. To overcome this, I always try to learn how to use Moodle and Zoom independently. In addition, I also attended training held by lecturers or the campus.

Student 2: If judging in terms of ease of access, then I say that accessing moodle and zoom is not difficult, meaning it is easy. Even so, that doesn't mean I don't have any obstacles when accessing these two platforms. One of the main obstacles is the problem of an unstable internet connection, especially when participating in live Zoom sessions or

accessing materials on Moodle that require downloading large files. To overcome this problem, I tried several measures, such as using a more stable internet connection by changing my location or updating my network software. I also set up access schedules at times that are considered less congested in order to avoid internet traffic jams. In addition, when facing technical problems in using Moodle, I utilized help from the available discussion forums or consulted directly with lecturers or classmates to find solutions to the problems encountered. Although there are still technical problems, the effort to find alternative solutions and consultation with the authorities have helped me to stay involved in the online learning process using Moodle and Zoom in Computational Linguistics class.

Student 3: Accessing moodle and zoom is easy, but I have experienced some problems when accessing them, such as limited internet access, technical problems with hardware or software, and lack of social interaction that can affect learning motivation. To overcome these obstacles, I try to improve the quality of my internet connection, update my software and hardware, and seek support from my lecturers and fellow students.

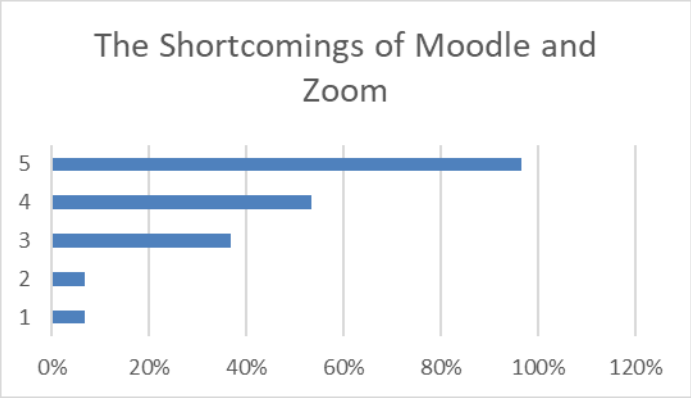
The Shortcomings of Moodle and Zoom

Statement 11 received the highest percentage of strongly agree answers, which amounted to 57%, followed by agree answers of 20%, neutral answers of 20%, strongly disagree answers of 3%, and disagree answers of 0%. While statement 12 obtained the highest percentage of 40%, which is in the answer strongly agree, and the lowest percentage of 3% obtained a strongly disagree answer. Furthermore, the disagree answer obtained a percentage of 7%, a neutral answer of 17%, and an agree answer of 33%. Both statements refer to the shortcomings of the moodle and zoom platforms. This is recognized by many students. In statement 13, there are many students who disagree with the statement. The answer strongly disagreed obtained a percentage of 27%. This percentage is the highest percentage, followed by the percentage of disagree answers, which amounted to 23%. Neutral and strongly agree answers get the same percentage, which is 20%. Meanwhile, the answer to agree obtained a percentage of 10%. These results show that most students disagree and even strongly disagree with statement 13. This means that on the contrary, they consider that they have no difficulty in using moodle and zoom.

In statement 14, the highest percentage was obtained by neutral answers. Strongly disagree and strongly agree answers received the same percentage of 20%. Furthermore, the disagree answer obtained a percentage of 13% and the agree answer obtained 10%. In this statement, most students are neutral. Students have a mediocre view on the issue of not gaining much knowledge about computational linguistics when online learning is carried out by utilizing moodle and zoom. The percentage of answers to statements 11 and 12 were summed up and visualized in the form of a diagram. The following are the details:

1. The percentage of answers to strongly disagree and disagree is 7%.
2. The percentage of neutral answers is 37%.
3. The percentage of answers that agree is 53%.
4. Percentage of answers strongly agree by 97%.

Figure 3. The Shortcomings of Moodle and Zoom

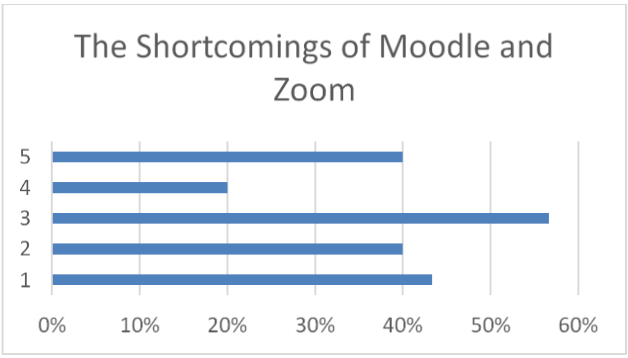


Based on these results, it is concluded that there are shortcomings in using moodle and zoom as online learning platforms. The shortcomings recognized by students are that moodle and zoom cannot be used in areas with poor internet quality. In addition, to access moodle and zoom, the internet quota required is not small.

Furthermore, the following is the sum of the percentage of each answer in statements 13 and 14 along with its visualization in the form of a diagram:

1. The percentage of strongly disagree answers is 43%.
2. Percentage of answers disagree by 40%.
3. The percentage of neutral answers is 57%.
4. Percentage of answers agreed by 20%.
5. Percentage of answers strongly agree by 40%.

Figure 4. The Shortcomings of Moodle and Zoom



In the summation results, the summation of the percentage of neutral answers is the highest summation result. Based on this, it can be concluded that statements 13 and 14 which refer to the shortcomings of moodle and zoom are considered mediocre by most students. This means that the two statements are not considered as disadvantages or advantages of the moodle and zoom platforms. The statement above is reinforced by the results of interviews that have been conducted with several students as informants with the question "In your opinion, what are the shortcomings of Moodle and Zoom as online learning platforms?" The following are the details of the interviewees' responses,

Student 1: I think the disadvantage of Moodle and Zoom as online learning platforms is the unstable video and audio quality. This can be caused by several factors, such as poor internet connection quality, inadequate devices, or improper settings. This can cause disruptions during online classes, such as intermittent sound or blurry images. These disruptions can make it difficult for students to follow the learning material or discuss with the lecturer. In addition, when using moodle, the interaction between students and lecturers is reduced. Interaction between students and lecturers is one of the important components in learning. This interaction can help students to understand the learning material better, as well as to get feedback from lecturers. In online learning using moodle, the interaction between students and lecturers can be less than optimal. This is due to several factors, such as the limited features available on the Moodle platform. However, in my opinion, so far this has been overcome by the use of zoom although sometimes the video and audio quality is less stable.

Student 2: There are some identifiable drawbacks to both platforms. One of the shortcomings that I encountered was the limited personal interaction and in-person collaboration between students. While Zoom has features that support group discussions and real-time Q&A sessions, the social interactions that occur in the real world remain difficult to fully replicate. In addition, in the context of Moodle, navigating the user interface can sometimes be complicated for some users, especially for those who are less familiar with online learning technologies or interfaces. Some students may have difficulty finding relevant materials, assignments or information easily. In addition, technical constraints such as server problems or internet connection interruptions are also drawbacks that can disrupt the smooth running of learning. Although Moodle and Zoom have many advantages, their use requires adaptation and improvement in providing a more interactive, accessible, and active student engagement learning experience.

Student 3: As a drawback of both platforms, there are some obstacles that I experienced when accessing Moodle and Zoom, such as limited internet access, technical problems in hardware or software, and lack of social interaction that can affect learning motivation. In addition, Zoom also has disadvantages such as limitations in managing learning content and requires a stable internet connection. While Moodle requires good hardware even though this platform can be used on smartphones or computers. Therefore, the use of Moodle and Zoom as online learning platforms should be carefully considered depending on the context and learning objectives.

The Advantages of Moodle and Zoom

The answer strongly agreed on statement 15 obtained the highest percentage, which amounted to 47%. Meanwhile, the lowest percentage was obtained by the disagree answer, which amounted to 3%. Furthermore, the answer to agree obtained a percentage of 33%, the answer strongly disagreed obtained a percentage of 10%, and the neutral answer obtained a percentage of 7%. These results show that most students consider that moodle and zoom increase students' technology, information and communication competencies. Strongly disagree and disagree answers in statement 16 received the same percentage, 7%. This percentage is the lowest percentage in the statement. Furthermore, neutral and agree answers also get the same percentage, which is 23%.

Meanwhile, the answer strongly agree obtained a percentage of 40%. Based on this, it can be concluded that most students consider that moodle and zoom provide access to computational linguistics teaching materials in 24/7 mode.

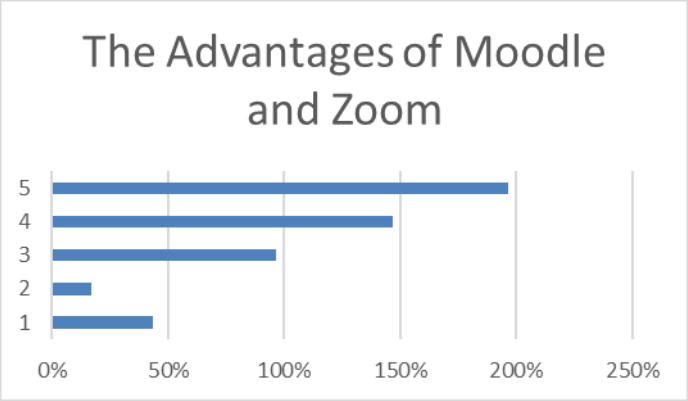
In statement 17, the highest percentage obtained a strongly agree answer, which is 47%. Followed by the answer agree which obtained a percentage of 30%. In this statement, the lowest percentage was 0% which was obtained by the answer disagree. Followed by a strongly disagree answer with a percentage of 7% and a neutral answer of 17%. These results show that the dominant students consider that moodle and zoom allow the use of more modern teaching resources. Agree and strongly agree answers in statement 18 obtained the same percentage, which was 33%. This percentage is the highest percentage in the statement. Furthermore, the lowest percentage in the statement is 3%, which is in the answer disagree. Followed by the answer strongly disagree, which amounted to 10%. Meanwhile, the neutral answer received a percentage of 20%. These results show that most students think that e-learning using moodle and zoom contributes to making computational linguistics class faster. Neutral and strongly agree answers in statement 19 have the same percentage, which is 30%. Furthermore, the lowest percentage in this statement was obtained by the answer disagree, which amounted to 3%. Followed by a strongly disagree answer which obtained a percentage of 10%. Meanwhile, the answer to agree obtained a percentage of 27%. These results indicated that most students considered that e-learning using moodle and zoom contributed to making computational linguistics class fun.

Furthermore, the percentage of each answer was summed up and visualized in the form of a diagram. The following are the details of the summation results:

1. The percentage of answers that strongly disagree is 43%.
2. The percentage of disagree answers is 17%.
3. The percentage of neutral answers is 97%.
4. Percentage of answers agreed by 147%.
5. Percentage of answers strongly agreed by 197%.

The following is a visualization in the form of a diagram:

Figure 5. The Advantages of Moodle and Zoom



Based on these results, it can be concluded that many students received benefits from the moodle and zoom platforms offered through statements 15-19. Furthermore, it can be said that moodle and zoom bring benefits to students in their use as online learning

platforms for computational linguistics class. The above statement is reinforced by the results of interviews that have been conducted with several students as informants with the question "What are the advantages of using Moodle and Zoom as an online learning platform?" The following are the details of the interviewees' responses.

Student 1: I think the advantages of using Moodle and Zoom as online learning platforms are; first, flexibility. Moodle and Zoom can be accessed from anywhere and anytime, as long as there is an internet connection. This provides high flexibility for students to study, so they can adjust their study schedule to their busy schedule. Second, efficiency. Moodle and Zoom can save time and transportation costs for students. Students do not need to come to campus to attend classes, so they can save time and transportation costs. Fourth, affordability. Moodle and Zoom are affordable online learning platforms. Students can access Moodle and Zoom for free, or at a relatively low cost. Fifth, availability of learning materials. Moodle provides various features to manage learning materials, such as text, video, audio, and quizzes. These features can help students to access learning materials easily and quickly. And seventh, the availability of interaction features. Zoom provides a video conference feature that allows students and lecturers to interact directly at the same time. This feature can help students to understand learning materials better, as well as to get feedback from lecturers.

Student 2: I see several advantages of these two platforms. First of all, Moodle provides a structured and flexibly accessible learning environment. It allows for the presentation of materials, assignments and supporting resources in an organized way, making them more accessible to students. Discussion forums and other interactive features on Moodle allow for more structured interaction between lecturers and students, as well as between fellow students. Zoom, on the other hand, provides a more hands-on learning experience through real-time online meeting sessions. Features such as video conferencing, collaboration features and breakout rooms allow for interactive group discussions and more engaged learning. Both platforms also facilitate the recording of learning sessions, allowing students access to relearn material that has been taught. Overall, Moodle and Zoom provide a robust framework for more structured, interactive and engaged online learning, allowing students to access materials more easily and actively participate in the learning process.

Student 3: Moodle and Zoom have their own advantages as online learning platforms. Moodle allows lecturers to create and manage learning content centrally, and allows lecturers to provide more structured and measurable feedback. Meanwhile, Zoom allows lecturers and learners to interact directly and in real-time, thus increasing learner engagement and participation. It also has features such as the ability to record sessions, share screens, and collaborate in small groups. Moodle also has features such as the ability to set schedules, send messages, and manage tasks. Therefore, the use of Moodle and Zoom as online learning platforms can assist lecturers and learners in achieving their learning goals.

Motivation as an İmpact of Using Moodle and Zoom

37% in statement 20 is the highest percentage in the statement. This percentage was obtained by the answer strongly agree. The highest percentage was followed by the

percentage of agreed answers, which amounted to 33%. While the lowest percentage is 3% which is obtained by the disagree answer. Furthermore, the answer strongly disagreed obtained a percentage of 10% and the neutral answer obtained a percentage of 17%. These results show that most students consider that students are confident to convey ideas when discussing with friends and lecturers in computational linguistics class conducted using moodle and zoom. Furthermore, the answer strongly agreed on statement 21 obtained the highest percentage, which amounted to 33%. Followed by the agreed answer, which obtained a percentage of 30%. Furthermore, neutral answers obtained a percentage of 20%, strongly disagree answers obtained a percentage of 10%, and disagree answers obtained a percentage of 7%. These results indicate that most students are motivated to learn because of the use of moodle and zoom in computational linguistics online class.

IV. CONCLUSION

The use of Moodle and Zoom as online learning platforms in computational linguistics classes received positive responses from graduate students. Despite some shortcomings such as unstable video and audio quality, limited personal interaction, and technical constraints, students felt that these two platforms improved their technology, information, and communication competencies. They also felt motivated and confident in conveying their ideas when using these platforms. In addition, students also consider that Moodle and Zoom provide good accessibility, interactive features and flexibility that allow them to learn more comfortably. This research also shows that understanding students' perceptions of using online platforms is crucial to improving the online learning experience and creating a more effective learning environment. Student survey and interview results show that they feel comfortable and enjoy using Moodle and Zoom in their learning, and believe that these platforms help them to be more active and remember material better. In addition, this research also provides valuable insights into the challenges and benefits of using Moodle and Zoom in the context of a computational linguistics classroom. The findings are consistent with previous studies that demonstrate the benefits of e-learning platforms in supporting the learning process. Thus, this study makes an important contribution to the understanding of the use of online platforms in the context of computational linguistics and the importance of understanding student perceptions in enhancing the online learning experience.

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