Exploring the implementation of online learning at medical-CLIL classes: EFL students' satisfaction

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Abstract

Due to the widespread implementation of online learning, it has become increasingly important for educators to identify key sources of online learning quality that influence students' satisfaction levels. This research aimed to investigate student satisfaction and its influencing factors within the Indonesian EFL setting, specifically in Content and Language Integrated Learning (CLIL) classrooms. A purposive sample of 120 EFL students was selected from a private university in Indonesia. These students, majoring in medical sciences, participated in CLIL classes over two semesters during their first year, where English served as the vehicular language. A mixed-method approach was employed, utilizing questionnaires and interviews. The results indicated that EFL students generally reported a high level of satisfaction, with an overall mean score of 5.263, suggesting a very good satisfaction level. Importantly, the findings revealed no significant gender differences in student satisfaction. Several sources contributing to student satisfaction were identified, including the design of learning materials, flexibility, and helpfulness of lecturers. This study offers recommendations to enhance the effectiveness of online learning by analyzing the psychological features of EFL students across various research contexts, including similar settings.

Keywords: CLIL, Education, EFL, Medical classes, Online learning, Student perception, Student satisfaction.

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Contribution of this paper to the literature
This research uniquely explored EFL students' satisfaction in online Medical CLIL classes within a multicultural Indonesian setting, emphasizing the under-researched topics on language instruction, medical content, and online learning (both synchronous and asynchronous modes).

1. Introduction

With the current education system, online learning has become a noteworthy part, providing numerous benefits, especially for both instructors and learners. The notion of e-learning, often known as online learning, has been emphasized in various educational settings. E-learning, which is also referred to as online learning, is presently extensively approved for its implementation in higher education (Cahyono, Khotimah, Batunan, & Imamyartha, 2023; Özişik, 2021; Syahrin & Salih, 2020; Zhou, Simpson, & Domizi, 2012). Online learning involves utilizing digital media along with diverse information and communication technologies to improve the educational experiences for students and educators alike (Al-Doub, Goodwin, & Al-Hunaiyyan, 2008; Chen, 2024). This technique allows students to learn their courses with or without the presence of their instructors. Online learning encompasses different modalities, including blended learning, which integrates two different learning activities: online and in-person classroom activities (Dang, Zhang, Ravindran, & Osmonbekov, 2016; Jin, Yanfang, & Lei, 2020; Mekheimer, 2025; Palvia et al., 2018) and flipped learning, where students acquire knowledge before class and engage in interactive learning during face-to-face sessions (Farah & Disnu, 2025; Hung, 2015; Khoiriyah, 2021b; Marca & Longo, 2017).

Due to the rapid advancement of technology, e-learning has been implemented in universities worldwide, including in Asian countries. The adoption of online education has been extensively studied, with researchers investigating various aspects and challenges. Jeyaraja and Maniam (2022) conducted explorative research in Malaysia in relation to the views of ESL learners regarding the implementation of online studies in a higher institute. Their research yielded valuable insights into how learners experienced and perceived their online learning experience in the Malaysian context. Some benefits highlighted by the students were flexibility and personalization, accessibility and convenience, and improved task completion. However, several drawbacks were also postulated, such as lack of interaction, technical difficulties and fatigue, as well as a digital literacy gap. In addition to that, Aroonsrimarakot, Laiphrakpam, Chathiphot, Saengsai, and Prasri (2023) reported a study to examine the difficulties encountered in online education in Thailand and proposed suggestions to overcome these barriers, drawing from the perspectives of students. They emphasized the importance of considering several elements and using different strategies to achieve an effective online education system. Furthermore, the study conducted by Al-Amin, Zubayer, Deb, and Hasan (2021) scrutinized the condition of asynchronous learning in tertiary education courses in Bangladesh, specifically analysing the preparedness of students, their degree of involvement, and the nature of classroom interactions. Their research provided a helpful understanding of how students responded to e-learning. Moreover, the study revealed that although most Bangladeshi university students have sufficient access to online learning devices, common technical issues were still encountered, such as internet connection problems and lack of a proper learning environment, hindering their online participation. Some common issues reported included irregular attendance, low engagement, and difficulty in comprehending the course. Students also faced challenges in assessment and online task submission. Overall, the efficacy of online learning in this research context remains limited due to these technical and environmental challenges. In Indonesia, various studies have been conducted in Indonesian EFL settings to scrutinize the efficiency of remote learning in higher education (Almendo Pasaribu & Dewi, 2021; Cahyani, Suwastini, Dantes, Jayantini, & Susanthi, 2021; Derinalp, Karjo, Andreani, Ying, & Herawati, 2025; Nartiningrum & Nugroho, 2020; Rojabi, 2020; Suharsih & Wijayanti, 2021). Thus, assessing the effectiveness of online learning and other related influential aspects is crucial to providing well-managed online learning.

Furthermore, the significant growth in e-learning necessitates an examination of certain issues that have been the subject of research in traditional educational environments. The disparity arises from the inherent distinction in the roles of educators and learners in the two forms of instruction. Regarding online learning, students are required to adopt an individual attitude, typically characterized by increased engagement and an emphasis on self-directed learning (Cigdem & Yildirim, 2014; Hunutlu, 2023). Regarding the teachers, their role entails designing the curriculum and providing guidance to students. Hence, the evaluation of course efficacy should include the consideration of student satisfaction since it has a direct impact on increased levels of engagement, motivation, and learning success (Alqurashi, 2019; Dziuban, Moskal, Brophy, & Peter, 2007; Kuo, Walker, Schroder, & Belland, 2014; Landrum, Bannister, Garza, & Rhame, 2021; Lei & So, 2021; Muzammil, Sutawijaya, & Harsasi, 2021; Zhonggen, Ying, Zhichun, & Wentao, 2019). As this matter is of great importance in the context of Indonesian EFL, particularly concerning e-learning, it is imperative to investigate students' contentment with their participation in online learning activities. The goal of the present research was to ascertain students' levels of satisfaction and the variables that affected how their satisfaction was perceived. This research uniquely explored EFL students' satisfaction in online Medical CLIL classes within a multicultural Indonesian setting, emphasizing the under-researched topics on language instruction, medical content, and online learning (both synchronous and asynchronous modes).

Overall, regarding the aforementioned previous studies, exploring students' satisfaction in CLIL classes is very important for evaluating and enhancing the efficacy of digital education. A plethora of studies discuss the application of CLIL in the Indonesian higher education setting (Floris, 2014; Huzairin, Sudirman, & Hasan, 2018; Nugroho, 2020; Simbolon, 2020). Nonetheless, few studies have been conducted on online CLIL classes, especially in the Indonesian EFL setting. Therefore, this research aims to investigate EFL students' satisfaction with their online CLIL classes. The research questions are stated as follows:

1) How is EFL students' satisfaction level in online Medical CLIL courses?
2) Is there a significant difference between EFL students' satisfaction and their gender in online Medical CLIL courses?
3) How is EFL students' perception related to sources that have affected their satisfaction with online learning during their online Medical CLIL classes?

Accordingly, the potential impact of this study is important to fill the void within the academic literature by offering innovative references and pedagogical implications for EFL practitioners and CLIL practitioners, especially lecturers, students, and other related stakeholders in Indonesian higher education. This study might add to the existing wealth of evidence about how satisfied students are with online learning, especially in classrooms that have

adopted the CLIL method. The investigation of the variations in overall satisfaction related to gender differences is another research contribution as well.

2. Literature Review

In Indonesian higher education, English is commonly taught to prepare university students for global competition. Many teaching methods and English programs are purposefully designed to meet the objectives of the desired language competence. One of the current learning approaches is through implementing the CLIL approach (Khoiriyah, 2021a). This approach is considered an effective way to facilitate students in learning both the language and related content knowledge based on the specific field of study (Bentley, 2010; Coyle, Hood, & Marsh, 2010; Dalton-Puffer, 2011; Mehisto, Marsh, & Frigols, 2008). CLIL is basically a program or a teaching approach implemented formerly in European countries, yet it has been adapted in Asian countries, particularly in Indonesia (Kusmayadi & Suryana, 2017; Norhasanah & Setiawan, 2023; Setyomurdian & Subyanto, 2018). CLIL is an educational approach that has a dual focus related to the learning and teaching of concepts and a second or foreign language (L2). In addition, CLIL is believed to be beneficial for learners, such as providing material concepts, facilitating a lot of exposure, and communication concepts useful for L2 acquisition (Czura, 2017; Fauzan, Setyaningrum, & Suparto, 2023; Karabassova & San Isidro, 2020; Mehisto et al., 2008; Setyaningrum, Setiawan, & Anam, 2022).

In higher education, CLIL provides a model for implementing language teaching with the integration of subject learning. There are two distinctive models, including hard CLIL and soft CLIL, as CLIL is reinforced by them (Bentley, 2010). Hard CLIL, or partial immersion, involves teaching half the curriculum through the target language to acquire content-related knowledge; on the other hand, soft CLIL, or language-led approach, involves teaching language lessons by a specific curriculum. As an example, on the theme of language teaching, math or science becomes the topic of specific content that the language teacher brings as an approach. In the specific context of Indonesian higher education, the CLIL approach can focus on vocabulary learning with minimal word levels from communicative to cognitive referencing activities (Setyomurdian & Subyanto, 2018). In this research context, soft CLIL is adopted since CLIL classes are taught by language lecturers; therefore, they integrate some content topics into language classes.

Unfortunately, due to the global pandemic, all of the teaching and learning processes in tertiary education were designed in an online learning mode. Online education requires all educational institutions to communicate and collaborate using Internet technologies (Muzammil et al., 2021; Tareen & Haand, 2020). This results in the shift in the learning model from an in-person approach to a remote digital platform. In a nutshell, online learning has become an integral component of the global education system, enhancing the overall landscape of education by making it more comprehensive, convenient, and accessible to all individuals. The swift increase in internet usage has led to the emergence of online learning as a significant area of investigation in the educational applications of technology (Cigdem & Yildirim, 2014).

Many researchers have also highlighted the positive outcomes of online instruction in language classes. Online learning provides many benefits. Online education has often been associated with improved learning results, motivation, and self-control, and all of them increase students' overall satisfaction with the educational experience (Cahyono et al., 2023; Hunutlu, 2023; Landrum et al., 2021; Rafiee & Abbasian-Naghneh, 2019; Wu, Li, Zheng, & Guo, 2020). The benefits also include having high interaction with learning materials that are plentiful and easily accessible, without the time and place constraints, and having many opportunities to gain digital learning experiences (Dewi, 2021; Elshami et al., 2021; Estelami, 2012). Furthermore, some research also found that students who took part in either fully or partially online courses outperformed those who attended in-person sessions (Farahmand et al., 2016; Pei & Wu, 2019; Subramanian, Timberlake, Mittakanti, Lara, & Brandt, 2012).

Although online learning promises various benefits, it also has potential drawbacks or obstacles in asynchronous education. One of them is the need for in-person interactions among instructors and learners. Thus, it is difficult to observe students' activities and attitudes for assessment and evaluation (Kebritchi, Lipschuetz, & Santiague, 2017; Xia, Hu, Wu, Yang, & Lei, 2022; Xu, Du, & Fan, 2014). Then, in online learning, students' discipline levels decrease, so they cannot manage their time well and need more self-motivation in education (Dhawan, 2020). From other perspectives, all students highlighted that online learning caused health problems due to many assignments that must be completed immediately, and they experienced fatigue, headaches, or fever, as well as vision problems due to prolonged staring at a computer or other device screens (Hafeez, Kazmi, & Tahira, 2022).

The last two years, starting from late 2020, researchers and educators conducted various studies to investigate the effectiveness of forced remote learning due to the global pandemic (Alhaider, 2023; Basuony, EmadEldeen, Farghaly, El-Bassiouny, & Mohamed, 2020; Ebadi, Amini, & Gheisari, 2023; Wang, Zhao, & Zhang, 2020). This trend was not an exception in the context of second or foreign language learning (Nguyen & Tran, 2023). A plethora of studies (Dewi, 2021; Febrianto, Mas'udah, & Megasari, 2020; Hafeez et al., 2022; Kim, Park, Jang, & Nam, 2017; Nguyen, 2022; Özişik, 2021; Toquero, 2020) has explored online learning in EFL settings in general; however, investigating online learning in CLIL classes within the Indonesian EFL setting remains underexplored. Presently, the objectives of certain research projects are divided into two categories: investigating the ultimate factors that contribute to student contentment in an online learning setting and examining the aspects that influence the efficacy or failure of remote learning. The satisfaction level for students derived from remote courses is a complex idea that encompasses various elements, such as curriculum, facilities, instructional style, attendance, instructor feedback, course structure, and interaction (Derakhshesh, Fathi, Hosseini, & Mehraein, 2022; Wei & Chou, 2020). The current research studied various aspects of online course satisfaction because the definition of satisfaction is varied and very complex. These include course contents and structure, discussion forums, instructional style, instructors and teaching assistants, exams, and overall course satisfaction.

Further investigation was carried out by Basuony et al. (2020) to seek to examine the elements that influenced student contentment with remote learning amid the COVID-19 pandemic. Internet, platform, time, disinterest, lack of drive, and utilising online tests as a gauge were some of the elements that affected how satisfied Egyptian learners were with remote education in general. As a result, Egyptian students preferred using synchronous teaching methods

with different platforms and taking classes in real life or face-to-face. Another study was conducted by Amoush and Mizher (2023), which attempted to investigate the correlation of online interaction as the predictor of students' satisfaction. The research involved 105 undergraduate EFL students as a sample in online English courses. The results of the study showed that an average of 4.17 undergraduate EFL students had a very satisfying online English course experience, supported by four interactions related to the overall level of student satisfaction, namely interactions between instructors, friends, content, and technology.

The results of various studies indicate that student contentment is generally improved by increased interaction in online educational settings. That statement is affirmed by Muzammil et al. (2021), who highlighted the importance of engaged learners in fostering satisfaction among learners. Three aspects have been linked to previous relevant research concerning the effect of student happiness in online learning; particularly, social presence is crucial in determining the degree of satisfaction and the general perception of learning among nursing students (Grech, 2022). Moreover, the learning environment, the students' views on learning outcomes, and social interactions are other indicators of their happiness with distance learning (Strong, Irby, Wynn, & McClure, 2012). Kuo et al. (2014) investigated other characteristics that influence contentment in online education, including interacting, internet self-efficacy, and autonomous learning. Student satisfaction was strongly influenced by teacher-student and subject-matter interactions, but not by self-efficacy or self-regulation online. In line with this, Alqurashi (2019) explored how learner–content, learner–instructor, and learner–learner interactions, as well as online learning self-efficacy (OLSE), affected learners' satisfaction and perceived learning. The study found that OLSE best predicted perceived learning, and the learner–content connection best predicted satisfaction.

3. Method

3.1. Research Design

In addressing the enquiries and the necessary data, the study employed a mixed-method research design. Given that, this study encompasses multiple aims, including the assessment of student satisfaction, an analysis of the notable differences in satisfaction levels between EFL students based on gender, and an exploration of students' perceptions regarding the factors that influence their satisfaction with learning online. A research design that integrates both qualitative and quantitative approaches was implemented to fulfill the objectives of the study. This is attributable to the study's overarching objective of integrating quantitative and qualitative methodologies to enhance comprehension of the research objectives (Creswell & Clark, 2018). In an effort to optimize comprehension, data triangulation was implemented, and it involved the simultaneous collection and investigation of both quantitative and qualitative information data (Ebadi et al., 2023).

3.2. Participants

This research was conducted focusing on the implementation of online CLIL classes. Specifically, it concentrated on the online learning experiences of the Faculty of Medicine at Universitas Muhammadiyah Malang, a private university located in Malang, East Java, Indonesia. To achieve the research objectives, primary data were collected through investigating students' perspectives regarding their online learning experiences. The participants were purposefully selected to ensure relevant insights. In total, 120 medical students who had completed their online classes, particularly their English classes, participated in the study. The researchers provided consent forms [Online] to all participants, who had the option to participate voluntarily. This study did not require formal ethical approval according to Universitas Muhammadiyah Malang's standards because it was non-interventional, voluntary, used anonymized survey data, and posed minimal risk to participants. All methods adhered to the 1964 Declaration of Helsinki and its subsequent revisions, as well as comparable ethical standards and institutional research guidelines. All participants provided informed consent prior to participation. After obtaining consent, the researchers proceeded with the study.

3.3. Research Setting

To this research context, the university designed an enrichment program for first-year students to improve their English skills as well as subject knowledge. Therefore, the teaching and learning process was adapted from the soft-CLIL approach as defined by Bentley (2010). The certain topics related to the study program were taught in English classes, so that the learning objectives included both English skills and subject-related knowledge. The online learning was conducted over a semester, consisting of 16 meetings. The online classes were scheduled once a week. All participants had completed their online classes on the Foreign Language for Specific Course. The online classes on the Foreign Language for Specific Course have been completed by all participants, and the classes included an English course, reading medical materials, mid- and end-of-semester exams, a group project, and weekly online discussions. A hypermedia presentation complemented each lesson, where audio and video streaming were linked to the assigned text and additional materials. The course included video and slide-based lectures and required students to actively participate by posting inquiries and feedback on a discussion platform every week throughout the term, along with completing a collaborative group project. Furthermore, several online platforms were utilized, such as Canvas, Google Meet, Zoom, online quizzes, YouTube, WhatsApp, and many more.

3.4. Research Instruments

The researchers employed two instruments in this investigation to collect data. First, as mentioned earlier, this investigation sought to assess the level of satisfaction among students regarding their experiences in online learning participation. Therefore, this study used a questionnaire. On the Online Course Satisfaction Scale (OCSS), seven items were adopted from Wei and Chou (2020). Furthermore, the design of online educational courses and students' opinions of interaction with language and CLIL teachers serve as industry benchmarks. To provide more accurate measurements, a five-point Likert scale was employed to evaluate respondents' responses to each query. The scale ranged from 1 (Strongly disagree) to 5 (Strongly agree). Then, students answered each question related to the concept of the lesson that had been covered. For example, in Table 1, the high-scoring item states, "I am satisfied with the content and structure of the course," indicating that students expressed high satisfaction with the content

and structure. Secondly, to explore students' perceptions of their educational experience further, the researchers conducted semi-structured interviews. The aim of these interviews was to identify potential factors that might influence students' satisfaction in online CLIL courses.

3.5. Data Collection and Data Analysis

The questionnaire was sent out online to collect data. After distributing the questionnaire, the researchers analyzed the results based on statistics and descriptive scores. In the statistical analysis, JASP was used. On the other hand, descriptive statistics were conducted to determine the mean value and standard deviation to answer the first research question. In order to interpret the data, five categories were formulated as they were adopted from other studies (Wei & Chou, 2020). Those five categories included "Excellent" level (Mean = 5.70–7.00), "Very good" level (Mean = 4.20–5.60), "Good" level (Mean = 2.90–4.20), "Moderate" level (Mean = 1.50–2.80), and "Poor" level (Mean = 0.00–1.40). The findings were reported under the umbrella of five categories that included 'Excellent' level, 'Very good' level, 'Good' level, 'Moderate' level, and 'Poor' level of student satisfaction. Furthermore, a *t*-test was implemented to ascertain whether there was a substantial disparity in satisfaction indicators between male and female students in order to address the second research question.

In conclusion, the third research question was addressed through a semi-structured interview and carried out via Zoom with handpicked participants. Thematic analysis was employed to examine the interview data in order to uncover insights that were pertinent to the study's final research question. The last research question is "How is EFL students' perception related to sources that have affected their satisfaction with online learning during their online Medical CLIL classes?" Thematic analysis was used to examine the interview transcriptions in order to find and categorize emerging themes pertaining to the students' opinions on the online CLIL course experience. The data analysis in this stage was conducted in six phases as it was adapted from the study of Braun and Clarke (2006), which included re-reading and getting familiar with the data, pre-viewing and generating some initial codes, searching for themes, reviewing the generated themes, naming and describing the themes, and producing the reports.

4. Results

4.1. EFL Students' Perceived Satisfaction Regarding Their Experience in Online Medical CLIL Classes

The first research question of this study is "1) How is EFL students' satisfaction in online Medical CLIL courses?" and the data was explained in Table 1.

Table 1. The result of students' satisfaction related to their CLIL online classes.

Statements	Mean	Std. deviation
I am satisfied with the instructional style.	4.906	1.504
I am satisfied with the learning content and course structure.	5.339	1.223
I am satisfied with the instructors and teaching assistants.	5.611	1.110
I am satisfied with the use of the online discussion forum.	4.827	1.512
I am satisfied with the group projects for the course assignment and the criteria of group projects.	5.087	1.127
I am satisfied with the midterm exam and final exam.	5.583	1.342
Overall, I am satisfied with this course.	5.488	1.167
Total	5.263	1.284

Overall, based on the findings in Table 1, it can be mentioned that the students of Medical CLIL classes perceived their satisfaction related to their online learning at a very good level (Mean = 5.263). This signifies that they had a good experience during their online classes, particularly related to their English lecturers and the course design of the online CLIL classes.

In more detailed explanation, as seen in Table 1, the results of the survey data analysis show that most of the items obtained means ranged from 4.200 to 5.600. As it was referred to the work of Wei and Chou (2020), those weighed mean yielded a good level of satisfaction. First, the most prominent aspects affecting the students' satisfaction were the language instructors. The aspect of *instructors and teaching assistants* received a mean score of 5.611. This mean score was considered the highest among other aspects, indicating an excellent level of satisfaction. In other words, students received effective support and guidance from their language teachers during online learning. To be more specific, regarding *the learning content and course structure*, students were asked about their views on the learning materials and course organization related to clarity.

The mean score for this item was 5.339, suggesting that students were sufficiently satisfied with the design of the materials and found the course structure easy to follow. Additionally, concerning *interaction and group work* during online learning, the questionnaire asked whether students felt satisfied with *the use of online discussion forums and group projects.* Students expressed positive views and felt comfortable with the group projects and their criteria, as this item yielded a weighted mean of 5.087 (See Table 1).

On the other hand, in terms of interaction, the students were asked to indicate their experience during *online discussion forum.* Surprisingly, the item showed the lowest mean score (M=4.827) out of other indicated aspects for students' satisfaction. It can be said that although students declared their good level of satisfaction, they expressed a desire for a more effective online discussion forum, especially regarding the time allotment and the platform used. Lastly, regarding *the instructional style*, the questionnaire asked students their views on their online classes related to the online platform they used. The item yielded a mean of 4.906 (considered the second least weighted mean score). It can be interpreted that students had mixed reviews; some students were satisfied with the platform used in online learning, while others were dissatisfied.

4.2. EFL Students' Perceived Satisfaction Regarding Their Experience on Online Medical CLIL Classes and Gender

The second research question of this study relates to whether there is a significant difference between EFL students' satisfaction and their gender in online Medical CLIL courses. To answer this question and understand whether gender influences the level of EFL students' satisfaction, the data were analyzed as follows:

Table 2. The result of students' perceived satisfaction in terms of gender.

Statements	Gender	Valid	Mean	Std. Deviation	p
I am satisfied with the instructional style.	Male	54	4.889	1.712	0.915*
	Female	73	4.918	1.341	
I am satisfied with the learning content and course structure.	Male	54	5.315	1.490	0.851
	Female	73	5.356	0.991	
I am satisfied with the instructors and teaching assistants.	Male	54	5.648	1.246	0.747
	Female	72	5.583	1.004	
I am satisfied with the use of the online discussion forum.	Male	54	4.722	1.595	0.505
	Female	73	4.904	1.455	
I am satisfied with the group projects for the course assignment and the criteria of group projects.	Male	54	5.019	1.325	0.560*
	Female	73	5.137	0.962	
I am satisfied with the midterm exam and final exam.	Male	54	5.648	1.334	0.638
	Female	73	5.534	1.355	
Overall, I am satisfied with this course.	Male	54	5.556	1.254	0.578
	Female	73	5.438	1.105	

Note: The asterisks (*) showed in Table 2 indicated that p-values associated with the statements were tested for statistical significance. However, none of the statements reached significance at the conventional levels ($p<0.05$). This means that gender differences in perceived satisfaction were not statistically significant.

As it was shown in Table 2, gender was not a statistically significant contributor to the students' perceptions of their online learning satisfaction for all statements regarding language or CLIL instructors and the design of online learning courses. The female participants' mean score (4.918) and SD (1.341) were slightly higher than the male participants' mean score (4.889) and SD (1.712), only in the factor of instructional style, as well as other sources of online learning satisfaction, such as learning content and course structure, online discussion forums, and group projects. In contrast, the mean scores of male participants were higher than those of female participants in the sources of satisfaction related to instructor or teaching assistants (Mean = 5.648; SD= 1.334), final exam and midterm exam design (Mean = 5.648; SD= 1.334), and overall satisfaction with online CLIL courses (Mean = 5.556; SD= 1.254). The findings revealed that the gender of the EFL students had no effect on their degree of online learning satisfaction in Medical CLIL sessions.

4.3. Sources of EFL Students' Online Learning Satisfaction Based on Their Perceptions in Their CLIL Medical Classes

The third research question of this paper is "3) How is EFL students' perception related to sources that have affected their satisfaction with online learning during their online Medical CLIL classes?" This finding primarily highlights that almost all EFL students perceived a high level of satisfaction regarding the implementation of online Medical CLIL classes, especially related to their English language lecturers or instructors and the design of online classes, as suggested by previous research conducted by Khan et al. (2023), who emphasized the importance of online learning quality in influencing students' satisfaction. Furthermore, in relation to the third research question, the interview results were analyzed thematically. Thus, there were three major sources of EFL students' online learning satisfaction based on their perceptions in their CLIL Medical classes, as explained below.

4.3.1 The Design of Learning Materials

The first theme highlighted the positives and usefulness of the effectiveness in learning the materials. This was due to the fact that respondents could record and repeatedly review the material. The information presented above was based on sample responses from students during the interview. The interview excerpts were classified as measures of the effectiveness of learning the materials.

Excerpt 1
I can revisit and review course materials as needed, catering to my learning style. *Translated version –* (S1)
Excerpt 2
We can save those classes for later to repeat them if we can't understand them. *Translated version –* (S5)
Excerpt 3
We can record learning videos so that we can repeat the learning. *Translated version –* (S3)

4.3.2 Flexibility

Interviewees preferred online learning due to its flexibility. According to five student respondents (S1, S4, S5, S7, S10), the ability to attend classes from any location was the main reason. Furthermore, online learning costs were lower than offline learning, and students could save time and energy. Additionally, online classes were available with a gadget and an internet connection, which made it easier for students and lecturers to interact. The following excerpt supported the above statement:

Excerpt 4
I do not need to rearrange schedules. In an online program, I can take the courses I want and complete the coursework at my convenience and in my preferred time. *Translated version –* (S1)
Excerpt 5
Online courses are often more affordable than traditional in-person education due to lower tuition fees and the elimination of commuting and accommodation expenses. *Translated version –* (S4)

Excerpt 6

We can do the class from anywhere and discuss and share the problems. *Translated version* - (S5)

Excerpt 7

It is more flexible because it can be anywhere, saving energy and time; many students like it because they don't need to go to campus. *Translated version* - (S7)

Excerpt 8

All can attend classes quite easily because they only need gadgets and internet connections. It also makes it easier for lecturers and students to deliver material online. *Translated version* - (S10)

4.3.3. Helpful Language Lecturers

Students demonstrated positive perceptions of lecturers in online learning. Three students mentioned that lecturers were helpful during the learning process. One student noted that lecturers were active during online sessions and helped prevent boredom. Additionally, students reported that lecturers were responsive throughout the learning process. Other students also indicated that lecturers provided a variety of topics on the online learning platform, enabling them to explore different subjects. The following are excerpts from the interview results:

Excerpt 9

The lecturer was active, which made students feel unbored. *Translated version* - (S1)

Excerpt 10

Lecturers are responsive in classes [online]. *Translated version* - (S2)

Excerpt 11

It helps us to understand the topic, and teachers provide us with many essential issues in LMS or WhatsApp groups. *Translated version* - (S3)

As indicated by the aforementioned excerpt, the language instructors and the course design were the primary factors that contributed to students' satisfaction with their experiences while taking courses online. The students said that they felt at ease with their online education because it provided them flexibility, a well-designed course, and supportive language instructors.

5. Discussion

The results of students' learning practices are reflected in student satisfaction, which is an essential measurement of the efficacy and effectiveness of online education. It is a crucial aspect that determines a learner's success or failure. It is determined by how far the learner's beliefs, expectations, and actual experiences align, and their subsequent feelings of sufficiency or competence (Amoush & Mizher, 2023; Derakhshesh et al., 2022). Satisfaction is a significant element that influences the adoption as well as the worth of online classes (Abuhassna et al., 2023; Bayrak, Moanes, & Altun, 2020; Ghaderizefreh & Hoover, 2018; Landrum et al., 2021; Ranadewa, Gregory, Boralugoda, Silva, & Jayasuriya, 2023). According to the research findings, the students of Medical CLIL classes perceived their overall satisfaction with their online learning as very good. In more detailed explanation, students felt that the instructional style, the learning content, and course structures, group projects, and online examinations were moderately good, as it is mostly in line with other prior studies (Alqurashi, 2019; Basuony et al., 2020; Elshami et al., 2021; Gyamfi & Sukseemuang, 2018; Zhang & Lin, 2020). In relation to the instructional style, students felt comfortable with the instruction in both synchronous and asynchronous classes. For synchronous learning, the language lecturers provided video conferences to the students. In addition, for asynchronous learning activities, students were facilitated to learn the materials through the LMS (Learning Management System). In this context, the language lecturers used the Canvas platform and WhatsApp. The learning content and course structure were designed for a 16-week semester on the Canvas platform, ensuring that resources were readily accessible to students. Consequently, students rated highly the statement, "I am satisfied with the learning content and course structure" (Mean=5.339), demonstrating their satisfaction with the design of the online courses.

Most interestingly, among all the factors, the online discussion aspect received the lowest average score (Mean=4.827; SD=1.512), although it still fell within the satisfactory category. This phenomenon may be caused by the perception that there were inadequate opportunities for students to engage in direct dialogue with their teachers or peers. The findings are consistent with the results of a survey study conducted by Martin and Bolliger (2018). They found that online discussion was one of the activities that supported the students' engagement during their online learning. Since students had fewer opportunities to have either synchronous or asynchronous discussions with their peers or the lecturers, they viewed their online learning experience negatively regarding online interaction. Students demanded that they have more opportunities to interact with their peers and their English lecturers. Thus, it is strongly recommended to implement video conferencing or messaging for synchronous activities and asynchronous discussion boards on LMS to improve student-student and student-teacher interaction (Abdous & Yen, 2010; Banna, Lin, Stewart, & Fialkowski, 2015; Basuony et al., 2020; Truhlar, Todd Walter, & Williams, 2018).

It should be highlighted that in this research, gender differences were found to be insignificant concerning the overall students' satisfaction in their online Medical CLIL classes. Some previous research (Al-Doub et al., 2008; Basuony et al., 2020; Yekefallah, Namdar, Panahi, & Dehghankar, 2021) corroborated the findings of the current study, demonstrating an absence of a connection between male and female students, specifically regarding gender, in the context of e-learning. They emphasized that the differences can be attributed to variations in the statistical population of the study and the utilization of diverse methodologies to assess the efficacy of schooling. The disparity in gender can be attributed to women's favorable respect for men, as well as societal culture and the restricted representation of women in social domains. Furthermore, recent research from Western European and American nations supports this outcome by showing that no substantial gender disparities exist in the precursors of online contentment (Chitkushev, Vodenska, & Zlateva, 2014; Cole, Shelley, & Swartz, 2014; Harvey, Parahoo, & Santally, 2017). The researchers carried out their study in multi-ethnic environments where traditional gender norms were not deeply ingrained or were sufficiently varied to obscure cultural biases. This research context was similar to Indonesian higher education, where students were no longer culturally embedded and were in multicultural settings.

Additionally, although gender differences did not significantly affect student satisfaction, it is important to note that female EFL learners indicated a higher mean in satisfaction regarding the design of instruction (Mean=4.918, SD=1.341) and group projects (Mean=5.137, SD=0.962) when compared to their male counterparts. The observed outcomes may stem from the notion that female students exhibit superior preparation and organization, alongside heightened participation and commitment to the learning process, and this finding is consistent with earlier studies (González-Gómez, Guardiola, Martín Rodríguez, & Montero Alonso, 2012). In contrast, these current results are also in alignment with the work of Dang et al. (2016) which revealed that the perceived achievement and satisfaction of both students were significantly affected by the qualities of the instructors (both male and female) and the supporting settings (both male and female). The contentment they experienced towards the online learning environment was substantially influenced by both factors. This was explained by the results of the study, and the result of this study highlighted that male students demonstrated higher computer self-efficacy than female students. Thus, further research is required to explore other aspects that affect student satisfaction, especially psychological factors, such as learner anxiety and learner Internet self-efficacy.

On the other hand, students perceived that the online course design, the positive support provided by the language teacher, and the flexibility of online learning were all significant factors in their satisfaction with online CLIL classes. Firstly, EFL learners thought that the online learning design allowed them to have access to a wider range of resources whenever and wherever they wanted, which aligned with their preferred learning style. Secondly, in terms of flexibility, the students said that the flexible learning mode made it easier for them to avoid meeting in person in class. The congruity of the findings of the current research with prior research is noteworthy (Dewi, 2021; Elshami et al., 2021; Hunutlu, 2023; Neslihan & Mustafa, 2016). The results of the previous research revealed that the flexibility of online learning offers numerous advantages, such as the capacity to oversee one's own educational process, convenient access to learning resources, participation in self-directed study, and customization to personal learning preferences. Moreover, the adaptability of online learning platforms can enhance participation in English learning activities, and this highlights its beneficial effects on language education (Lumacad, Santos, & Rivera, 2022).

The scaffolding provided by language instructors or lecturers is essential for promoting student involvement and achieving academic success in e-learning, as emphasized by Kebritchi et al. (2017). Many scholars have explained that the Zone of Proximal Development (ZPD) is an essential concept in sociocultural theory (Vygotsky, 1978) and they indicated the critical function of teachers as mediators and the importance of the scaffolding notion, especially in online learning modes. In this research context, English lecturers play a crucial role in guiding EFL students to learn the materials. This can be explained by the ZPD, which indicates the area in which learners can complete activities with the help and supervision of more competent others, such as teachers. Students can actively participate and make progress in language acquisition by engaging in activities within their ZPD, with scaffolding and guidance from language instructors. Consequently, in terms of the presence of in-person interaction, asynchronous learning environments rely heavily on the instructor's response and feedback. Students might occasionally abstain from returning to their assignments until they receive instructor feedback, as such feedback serves as confirmation that their progress is satisfactory; therefore, the instructor's responsibility entails offering assistance, direction, and support customized to meet the unique needs of every learner, administering summative and formative evaluations, monitoring progress, inspiring students, and facilitating the application of acquired knowledge (Alqurashi, 2019; Krishna, Kiran, Ravindar, & Reddy, 2021; Moore, 1989). In summary, all of the sources of EFL students' satisfaction mentioned in this research are expected to shed light on EFL lecturers or online course designers to design effective online learning.

6. Conclusion

This research was conducted to examine EFL students' satisfaction in online Medical CLIL courses. In summary, EFL students showed a high level of satisfaction, as the overall mean score was 5.263. The results align well with several earlier investigations. The present investigation revealed that learners expressed satisfaction with the subject matter, the performance of instructors, the structure of the course offered during online learning, as well as the behavioral traits of instructors, including supportiveness, attention, and understanding. The research also examined learning materials and course structure related to course clarity. This refers to the clarity of assignments, guidelines, and the course plan. In addition, students provided excellent feedback regarding the arrangement of online assessments, including midterm and final exams. Furthermore, online interaction in the classroom was identified as the greatest challenge mentioned by the students. The students claimed they were dissatisfied with the interaction and the platforms used during online learning, notably for the online discussion forum. Interaction is vital in educational contexts, especially in online classroom settings. The communication between students and teachers in online courses prompts an examination of the effectiveness of interactions among students and between teachers and students. The perception of social presence is substantially enhanced by interaction, which is necessary in online education. This enhanced presence fosters a positive and supportive learning atmosphere by encouraging emotional expression, open communication, and collaboration or group work. As a result, EFL learners expressed a need for increased interaction throughout their online education experience.

Furthermore, in more detailed analysis, gender was not significantly contributing to the students' satisfaction with their experience in online CLIL classes. Lastly, the EFL students perceived that three prominent sources might contribute to their level of satisfaction, such as the design of learning materials, flexibility, and helpful lecturers. Therefore, administrators need to promote and allocate resources toward suitable tools and online platforms for EFL teachers. This will help create more engaging and interactive courses, enhance the overall teaching and learning quality, and ultimately boost students' satisfaction, enjoyment, motivation, and enthusiasm. The following limitations apply to the results of this research. Participants in this research were selected from a single Indonesian institution. As a result, future research samples may include private as well as public colleges to facilitate generalization and comprehensive findings. Lastly, this research was limited to students' satisfaction in relation to the language instructor and the design of online learning activities. Therefore, further investigation is necessary to examine other contributing factors, such as the psychological factors of EFL students during their participation in online learning.

7. Pedagogical Implications

This research indicates that EFL students in online CLIL classes related to medical education demonstrated a high level of satisfaction with the design of online learning and the instructors. Additionally, the study found no significant difference in satisfaction levels based on gender, suggesting that language instructors do not need to differentiate their teaching methods for male and female students. However, the findings emphasize the importance for instructors to recognize the significant impact of their personal traits and to make efforts to enhance them. Furthermore, instructors should ensure that students receive sufficient and effective assistance to support their learning process. Both male and female learners expect their teachers to improve online engagement by providing additional opportunities for online conversations, guiding students in engaging with learning materials, and delivering prompt feedback. In this context, EFL learners rely heavily on their connection with online educators. Therefore, university departments should acknowledge that student expectations in remote learning environments are evolving. Instructors assigned to these courses must possess a higher level of scaffolding, encompassing both technical and pedagogical aspects, to effectively support students. Moreover, instructors should demonstrate a strong willingness to go above and beyond in assisting students. Providing effective and adequate support is crucial in shaping student learning outcomes in an online setting. Given that online learning emphasizes student-centered education, delivering timely and sufficient support is essential to enhance students' overall experience in this learning environment.

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