

The Use of Mobile Phones for Learning English for Remote Teaching: Student's Beliefs and Problems¹

Maulana Mualim², Maria Ulpah³, Dimas Indianto⁴, Universitas Islam Negeri Profesor Kiai Haji Saifuddin Zuhri Purwokerto, Indonesia

Margana Margana⁵, Basikin Basikin⁶, Universitas Negeri Yogyakarta, Yogyakarta, Indonesia

Indah Puspitasari⁷, Universitas Jenderal Soedirman, Purwokerto, Indonesia

Fitria Zana Kumala⁸, Universitas Islam Negeri Profesor Kiai Haji Saifuddin Zuhri Purwokerto, Indonesia

Abstract

The recent pandemic demonstrated the potential of remote teaching to educational practitioners. Most Indonesian students use mobile phones for remote learning. English has special challenges when learnt virtually on mobile phones. Studies on Mobile Assisted Language Learning (MALL) for English teaching have so far failed to address the main complications of remote teaching: students' acceptance of mobile phones for remote learning and the specific problems they have encountered. On that basis, this study addresses Indonesian students' beliefs about MALL. This study uses an explanatory sequential research design involving 181 university. The findings revealed that the students displayed a high level of control beliefs and normative beliefs ($M=3.63$; $SD=.53$ and $M=3.60$; $SD=.54$), which indicates their acceptance of and good level of literacy in mobile technology and good support from peers, family and institution. However, behavioural beliefs were found to be lower than the other two beliefs ($M=3.18$; $SD=.62$), indicating that their behaviour did not significantly affect their actions. The quantitative findings are corroborated by the qualitative findings.

Resumen

La reciente pandemia demostró a los profesionales de la educación el potencial de la enseñanza a distancia. La mayoría de los estudiantes indonesios utiliza teléfonos móviles para el aprendizaje remoto. El aprendizaje del inglés presenta desafíos particulares cuando se realiza de forma virtual a través de estos dispositivos. Hasta la fecha, los estudios sobre el aprendizaje de idiomas asistido por dispositivos móviles (MALL, por sus siglas en inglés) aplicado a la enseñanza del inglés no han abordado las principales complicaciones de la educación a distancia: la aceptación de los teléfonos móviles por parte de los estudiantes para este fin y los problemas específicos que han encontrado. En este contexto, el presente estudio analiza las creencias de los estudiantes indonesios sobre el MALL. Se empleó un diseño de investigación explicativo secuencial que abarcó 181 universidades. Los resultados revelaron que los estudiantes mostraban un alto nivel de creencias de control y creencias normativas ($M=3.63$; $DE=0.53$ y $M=3.60$; $DE=0.54$), lo que indica su aceptación y un buen nivel de competencia en tecnología móvil, así como un apoyo adecuado por parte de compañeros, familiares e instituciones. Sin embargo, las creencias conductuales resultaron ser inferiores a las otras dos categorías ($M=3.18$; $DE=0.62$), lo que sugiere que dichas creencias no influyeron significativamente en sus acciones. Los hallazgos cuantitativos se ven corroborados por los resultados cualitativos.

Introduction

While taking part in remote classes, most tertiary-level students in Indonesia prefer smartphones to other electronic devices (Mailizar et al., 2020; Rahiem, 2020; Sari et al, 2020). Most Indonesian homes do not have personal computers (PCs) and laptops, and they are not equipped with Wi-Fi connections since these technologies are still not considered to be primary necessities. Based on data released by the Ministry of Communication and Information Technology of the Republic of Indonesia, in 2025 the internet was used by 229.4 million people in Indonesia with a 80.66% penetration rate across the country, of which 191.3 million people accessed it through mobile phones (Khairurizqi, 2026). In other words, 83.39% of the total users in Indonesia, including students, accessed the internet with their mobile phones.

The use of mobile technology (MT) for remote teaching appeals to many educators around the world, especially as a academic survival tool in emergencies. MT use is a practical way to move from face-to-face

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² maulanamualim@uinsaizu.ac.id, 0000-0001-7971-2032, Correspondent.

³ maria_1511@uinsaizu.ac.id, 0009-0005-2490-579X

⁴ dimas@uinsaizu.ac.id, 0000-0003-4487-4909

⁵ margana@uny.ac.id, 0000-0002-7680-641X

⁶ basikin@uny.ac.id, 0000-0002-3743-4254

⁷ indah.puspitasari@unsoed.ac.id, 0000-0002-3399-1133

⁸ fitriazana@uinsaizu.ac.id, 0000-0002-9928-3527

to remote learning (Bacolod, 2022; Ebarido & Suarez, 2023). It is technologically affordable (Fasae et al., 2022), facilitates feedback (Man et al., 2022) and is the most widely used medium of communication (Cahyadi et al., 2022; Umar & Ado, 2022). For example, after the Pandemic blended learning (both face-to-face and online) was still not being used, with half of the students physically attending classes and the other half attending remotely (Haryono et al., 2022; Solihin, 2022) to prevent any future spread of the virus (Kemendikbudristek, 2022; Nomniam, 2022). Consequently, the potential of remote teaching increasingly became recognized (Abdulla & Ma, 2022; Dickler, 2020; Konkin et al., 2021) and since then MT has remained a key option. MT to teach English as a foreign language (EFL) was common during the pandemic which led to much research resulting in the following data. MT could support EFL teaching (Waluyo et al., 2022). For example, it could serve as a base to carry out learning activities (Zacharis & Nikolopoulou, 2022), facilitating listening, speaking, and reading practices (Bahari & Gholami, 2022; Juliana et al., 2023; Kusuma, 2020b; Mahesh & Suresh, 2022; Zhen & Hashim, 2022), as well as providing authentic material (Azmeem, 2022; Ipek & Ustunbas, 2021). A number of problems were identified at that time, especially pertaining to the students' lack of engagement (Nayman & Bavlı, 2022; Nugroho et al., 2021) and the nature of evaluation and more formal assessment (Al Issa et al., 2022) due to the inherent difficulties in monitoring examinations and the occurrences of plagiarism (Topuz et al., 2022). However, little research has been conducted regarding the core driver of remote learning by using mobile phones, namely students' beliefs about using mobile phones for EFL learning in remote teaching.

According to Jackson (1990), belief is among the components of the "hidden curriculum" that plays a central role in the success of teaching and learning. Preparing the schools' infrastructure with cutting edge technologies is critical, but the beliefs of the people who actually function within this infrastructure should be taken into consideration (Mukminin et al., 2019). The innovations presented by the teachers in remote classes could be truly appreciated by the students if they possess a strong belief in the technology when open the applications (Alhamami, 2019). This study is aimed at answering the following research questions:

1. What are the students' beliefs about MT for remote teaching?
2. Which beliefs are determinants of their action?
3. What are the major problems encountered by the MT students in remote teaching?

Literature Review

Remote education is not a new phenomenon. It has developed over the years to suit the needs of the people and reflect the technological developments of the times (Garcia & Revano, 2022). Indonesia adopted remote education mainly as an educational survival tool during the COVID-19 pandemic. However, remote education was mentioned by the Indonesian president in 2019 when he called upon the Minister of Education to carry out three major transformations in education, namely establishing links and improving synchronization between universities and industry, integrating technology to support the development of the quality and the efficiency of the school administration, and providing innovations to the education system in Indonesia (Antara, 2019).

Remote teaching

While emergency remote teaching (ERT) was a pressing issue during the COVID-19 pandemic, remote teaching (RT) itself has been used in many countries for a relatively long time. Clark (2020) and Toquero (2020) included RT as instructional activities that were conducted at a certain distance to simplify of information sharing and introducing communication technologies. There are numerous terminologies to refer to a learning activity conducted at different times and space. Distance education, remote teaching, online education, and e-learning should not confuse the readers (Hodges et al., 2020) since they all highlight the spatial distance between learners and instructors. Recently, remote teaching has become more viable through the extensive integration of online technology into education (Jimoyiannis et al., 2021).

RT adopted as necessitated by the pandemic differs from other previous forms of distance education due to the emergency condition which implied that the shift was to be temporary until everything returned to a state of normalcy (Hodges et al., 2020).

ERT was adopted by schools as a strategy to avoid a decrease in educational quality caused by the pandemic situation. Problems in its implementation included psychological, pedagogical, technological complications and new kinds of social aspects. In Italy, Ferri et al. (2020) found poor technological infrastructure, insufficient technological skills, and minimal student social interaction which was reported to have decreased student motivation, teachers lack of social and cognitive presence, and the loss of student-teacher-parent

interaction In Ecuador, teachers were worried about the sudden switch to ERT and the subsequent heavy workload it caused, as well as student behaviour and lack of concentration during the ERT (Estrella, 2022). In China, teachers were frustrated by the switch, with unsupported facilities, a lack of technological competence, and general interaction (Jiang et al., 2023). Students from lower economic strata were even more vulnerable to the ineffectiveness of ERT (Eyles et al., 2020) since they have lower financial capitals for the learning-from-home policy (Outhwaite, 2020).

When the pandemic began to spread in Indonesia at the beginning of 2020 it was declared a national disaster (Putera et al., 2021), the Indonesian Ministry of Education and Culture issued Circular No. 15 of 2020 regarding the guidelines for teaching and learning from home during the pandemic (Kemdikbud, 2020). Several points needed to be considered in remote teaching (1) the structure of learning methods which could be applied in two ways: online learning through portals, platforms or mobile applications; and offline learning through available instructional media surrounding the learners such as radio, television, and printed modules and worksheets, (2) the prioritization of positive interaction and communication patterns between teachers and students, (3) the creation of activities and assignments during online learning which could vary according to the interests and material conditions of the students, including considerations pertaining to the facilities, (4) the adaptation of learning materials to level of education, cultural context, and personal character, taking into account the needs of special types of students, (5) the development of learning should have been able to help develop an educational environment that focused on vital life skills, and a meaningful learning experience without the burden of completing all curriculum requirements being imposed.

When more and more Indonesian people had acquired immunity against the COVID-19 virus and the social distancing policy was relaxed, Circular No. 3 for the Year 2022 regarding teaching and learning during the COVID-19 pandemic was issued, providing the option for higher education to be conducted by face-to-face or hybrid modes (Kemdikbudristek, 2022). Complying with the new regulation and aiming to keep everyone safe, many Indonesian universities implemented hybrid learning where half of the class attends the lectures physically and the other half attends remotely.

Mobile-assisted language learning (MALL)

Remote teaching is now in its sixth generation. The beginnings of the first generation were represented by the correspondence model, during which the use of printed textbooks was dominant. During the second generation, the multimedia model was typical. People used printed textbooks and audio-visuals in addition to beginning to work with computer-based learning. The third generation ushered in the telelearning model, which used TV, radio broadcast, and audio-video conferencing in teaching and learning activities. The fourth generation included the flexible learning model, namely a learning model that started using internet-based resources and computer-mediated communication. A hallmark of the fifth generation was the smart flexible learning model. In this stage, the learning model was based on e-learning and Learning Management Systems (LMS). we are entering the sixth generation of learning models. The learning is in the context of a Mobile Learning Model. The purpose of implementing the Mobile Learning Model is good accessibility for students (Belawati, 2023; Hadiningrum & Puspitasari, 2020).

MALL is a form of technology-enhanced language learning in which mobile devices and applications are used to support language learning in formal and informal settings. Contemporary MALL involves smartphones, tablets, mobile applications, and communication platforms. The flexibility and connectivity of these technologies enable the learners to access materials and interact more effectively with teachers and peers (Guo et al., 2024). MALL also has considerable potentials to improve language learning, engagement, collaboration and learner autonomy (Figueiredo, 2023).

The rapid development and widespread adoption of mobile devices have made them an important part of life. Mobile devices now support a wide range of functions, including text messaging, voice and video calling, audio and video streaming, web browsing, social networking, cloud-based collaboration, automatic speech recognition, machine translation, and AI-powered applications (Yuen & Schlote, 2024). These features have transformed mobile devices into important tools for language education and learning. Researchers have accordingly developed mobile applications and digital learning resources that are visually engaging, interactive, and comprehensive in the learning opportunities they provide. MALL has grown alongside advances in mobile technology, allowing students to extend language learning beyond conventional classrooms and access learning activities at times and locations that suit their needs. The scope of MALL is diverse, covering language components and skills while also supporting interaction, collaboration, and learner autonomy (Guo et al., 2024; Metruk, 2024).

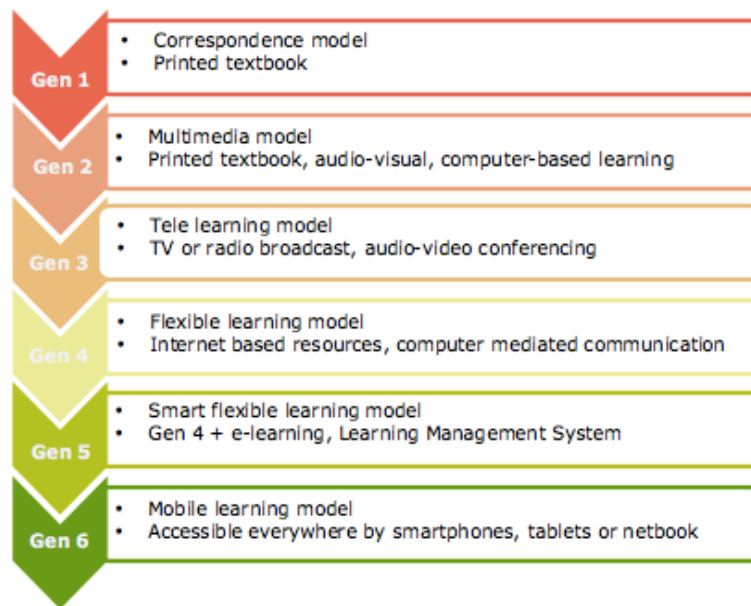


Figure 1: Remote learning model adapted from Taylor (2001) with the sixth generation proposed by Hadiningrum and Puspitasari (2020)

The discussion on learning English and the use of mobile phones eventually paved the way for a thorough investigation by scholars around the globe, resulting in data on enhancing the potential of this medium of learning and the nature of the challenges that need to be addressed. For example, a systematic review of 72 empirical studies found that mobile-assisted language learning supported language development, collaboration, motivation, and engagement, while also identifying methodological and pedagogical limitations that require further investigation (Guo et al., 2024). Mobile phones provide access to information about the English language and culture (Forbush & Foucault-Welles, 2016; Harmanto, 2013). There are also free applications that support English learning. To name some of them, *Duolingo*, *Ted-Ed*, and *Kahoot!* can be beneficial when it comes to learning the English language (Krajka, 2021; Kusuma, 2022b). Authentic materials can also be retrieved easily (Nayman & Bavli, 2022). The podcasts like *BBC Sound* can develop listening skills by raising L2 metacognitive awareness (Azme, 2022). Along with the multitude of advantages, a number of disadvantages have also been encountered, namely (1) technological ones: the digital divide, tech literacy, problems with networks; (2) pedagogical - such as lack of teaching presence or cognitive presence, supervision; and (3) social, including interaction, cooperation, affective skills. (Bacolod, 2022; Ferri et al., 2020; Waluyo et al., 2022). Furthermore, MALL needs more time for preparation and the extensive use of mobile phones can be exhausting (Ipek & Ustunbas, 2021).

Ajzen's perceived behavior control

Planned behaviour, as conceptualized by Ajzen (2001), is one of the most cited frameworks for investigating human action. Briefly, human behavior is guided by three beliefs: (1) beliefs about possible consequences or other attributes of behaviour (behavioural beliefs), (2) beliefs about the normative expectations of others (normative beliefs), and (3) beliefs about the existence of factors which can further or hinder behaviour (control beliefs). Ajzen stated that a key aspect was the favourable or unfavourable attitude towards the behaviour since normative boundaries can produce perceived social pressures or subjective norms while control beliefs constitute perceived degrees of behavioural control or perceived difficulties in performing the behaviour.

Perceived behavioural control has been added to the Theory of Reasoned Action in an attempt to cover situations in which people may not have complete volitional control over the behaviour of interest. For example, take the situation of someone who intends to get a job at a company. It is immediately apparent that the intention to do this is not completely under the control of the person. Though they might do everything in their power to land the position, they will be disappointed if the company decides to make an offer to another candidate who may be more qualified or with connections within the company. Getting a job requires not only personal action but also depends on the actions of one or more additional individuals. For this reason, getting a job would normally be classified as a goal, not a behaviour. The application to a

job position can be considered a behaviour that is engaged in to achieve a goal. The theory of planned behaviour as the extension of the theory of reasoned action (Ajzen, 2001) explicates that the social behaviour of the majority of human being depends on volitional control. Hence, one's intentions could predict his social behaviour.

Method

This study used a mixed-method research (MMR) design (Creswell & Plano-Clark, 2011). Because of the complexity of examining beliefs, MMR was considered to be an appropriate design to gain an understanding of the data (Alhamami, 2019; Creswell & Plano-Clark, 2011).

The quantitative data were first collected and calculated while the qualitative data were subsequently gathered to support the quantitative findings. The quantitative data were collected through a survey consisting of ten statements: two on demography-related information and eight 4-point Likert-type scale questions on beliefs (See Appendix 1). The survey questionnaire was adopted and modified from previous research on a similar subject (Mukminin et al., 2019; Teo, 2009). A major change included replacing *ICT* with *mobile phone* or *MALL* and *English learning*. The questionnaire was translated to the native language of the respondents, *Indonesian*. A professional translator then changed the Indonesian responses to English. The survey had three parts: behavioural beliefs, normative beliefs, and control beliefs. The demographic questions were only on gender and experience in operating mobile phones. There was no question on age since the respondents were homogenous in terms of age since all of them were between 18 and 20 years old. The survey was distributed online through Google Forms and saved on *Google Drive*. Calculations were performed and the responses provided were measured for frequency, percentage, mean, and standard deviation by the help of SPSS version 25. An online questionnaire was distributed to a total population of 200 tertiary-level students from various departments from two universities in Central Java province, Indonesia. However, only 181 of them filled in the questionnaire. A request for the respondents' consent was clearly written in the heading of the questionnaire. The precise wording was as follows: "Filling in this survey is voluntary, there is no coercion. If you do fill it in, then you have agreed that your response will be used for research".

Questions	Theme	Description	Number of items
Q1 – Q2	Demographic information	Sex and experience	2
Q3 – Q7	Behavioural beliefs	Attitudes to MALL	5
Q8–Q10	Normative beliefs	The use of MALL influenced by external parties	3
Q11–Q14	Control beliefs	Efficacy in operating mobile technology	4

Table 1: The questionnaire

Qualitative data were collected through semi-structured interviews (See Appendix 2) conducted with ten informants who were chosen randomly from the respondents of the quantitative data questionnaire. Simple random sampling (SRS) was a good fit for selecting the informants in this study since it gave an equal chance to all members of the population to be picked, and also avoided subjectivity (Noor, et al., 2022; Sumargo, 2020). Meanwhile, the semi-structured interview approach was chosen since it is "open, enabling new ideas and questions to be raised during the conversation as a result of what the interviewee says" (Harding, 2018), thus it contributed to the interviews being carried out in an informal manner.

The semi-structured interview protocol was developed by first reviewing related literature (Ajzen, 2001; Clark, 2020; Jimoyiannis et al., 2021; Mukminin, et al., 2019) to find indicators of the intended performances. The indicators were then transformed into anticipated answers. Questions were then formulated based on the anticipated answers. Finally, seven questions were crafted as the interview guide. The seven questions were not delivered sequentially; they were delivered based on the flow of the interactive interview.

The interviews were conducted in Indonesian the national language of the informants to allow the informants to understand the questions and encourage them to provide their responses without having to worry about a language barrier. Furthermore, in compliance with national health protocols, the interviews took place online (one after the other rather than simultaneously) via the video call feature on *Zoom* on 1 July 2022 (Friday) and 2 July 2022 (Saturday). Each interview had a duration of 30 to 40 minutes. Informed consent from the informants was obtained by offering them to review a letter of consent. They signed it if they had

previously expressed an agreement to participate. The interviews were recorded, transcribed, tabulated, and translated into English by a professional translator. In this report, the informants' actual names are changed to pseudonyms in order to safeguard their privacy, but their sex, age and experience in operating mobile phones are listed accurately.

Name (pseudonym)	Sex	Age	Experience
Anisa	Female	20	< 5 years
Raul	Male	19	5 years
Aldi	Male	19	> 6 years
Sarah	Female	18	5 years
Dana	Female	20	< 5 years
Gusman	Male	18	< 5 years
Nuria	Female	20	> 6 years
Gafar	Male	19	> 6 years
Erika	Female	19	5 years
Ario	Male	19	5 years

Table 2: The informants of the qualitative research

The academic framework used as the basis of this study was Ajzen's (1985) Theory of Planned Behaviour (TPB), which further expounds the Theory of Reasoned Action (TRA). TPB is a widely cited theory that lays the groundwork for understanding people's intentions when it comes to engaging in certain behaviours (Ajzen, 1991). According to the TPB framework, the students' intentions and actions in Mobile assisted language learning (MALL) are the manifestation of their courage and the social influences surrounding them. Students' intentions and actions in MALL are shaped by three salient beliefs: behavioural beliefs, normative beliefs, and control beliefs.

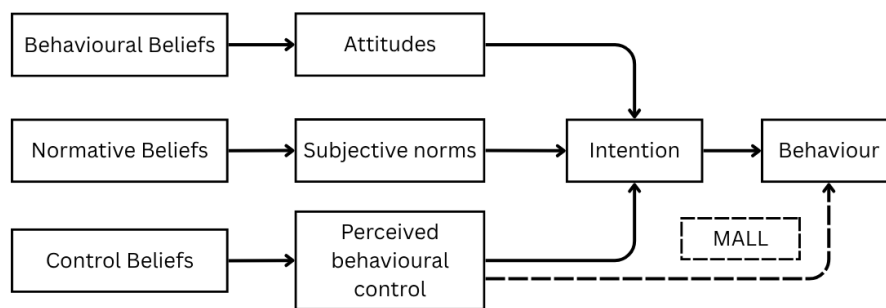


Figure 2: Theory of planned behaviour. (Ajzen, 1991)

Findings

This section presents the findings in relation to the three research questions. The first section describes students' beliefs about the use of mobile technologies (MT) for remote teaching. The second section identifies the beliefs that may determine students' actions. The third section presents the major problems encountered by students when using MT for remote teaching, organized into themes derived from the qualitative data.

Students' beliefs about MALL for remote teaching

The quantitative data revealed that the students displayed a high positive mean of behavioural beliefs ($M=3.18$; $SD=.62$). The highest mean was recorded when it came to the statement "Mobile phone could assist me in learning", with $M=3.46$; $SD=.51$. This statement was followed by "Mobile phone could engage me in remote classes" ($M=3.36$; $SD=.53$) and "MALL enriches my learning experience with innovative applications" ($M=3.24$; $SD=.54$). Meanwhile, the statements "MALL is relevant to the 21st-century learning in higher education" and "MALL enhances my desire in learning" turned out to have the two lowest means, with ($M=3.08$; $SD=.61$) and ($M=2.77$; $SD=.64$) respectively. The Coefficient alpha or Cronbach alpha for behavioural beliefs was .75 (see Table 3).

Meanwhile, the students' normative beliefs was greater than their behavioural beliefs ($M=3.60$; $SD=.54$). The highest mean in this sub-category was found in the case of the statement "My parents support me in using a mobile phone for learning English, therefore I use it." ($M=4.71$; $SD=.48$) followed by "My achievement is the sign of the successful use of the mobile phone in learning English" and "My friends use mobile phones to enhance the quality of their English, so I use it too" with equal means ($M=3.55$; $SD=.59$).

and $M=3.55$; $SD=.54$ respectively). The Coefficient alpha or Cronbach alpha for this sub-category was .72 (see table 3).

Furthermore, the control beliefs response was characterized by the highest positive mean in comparison to the other beliefs ($M=3.63$; $SD=.53$). Statements like "The use of mobile phone outside the classroom supports my in-class learning" and "If I have problems in operating a smartphone, I have friends to consult" received equally high scores ($M=3.71$; $SD=.48$). "I have no objection to using a mobile phone for learning. I know how to upload and download documents, join *Zoom* rooms or *Google* meet rooms, and other technical problems" and "I have no problems with the devices and credit issues. I always find ways to learn although my phone is incompatible or my credit runs out" had the same means, which were lower than those of the other two statements ($M=3.55$; $SD=.59$ and $M=3.55$; $SD=.54$). The Cronbach alpha for this belief was .82, as presented in Table 3.

No.	Question	Mean	Standard Deviation	Cronbach Alpha
Behavioural beliefs		3.18	.62	
1	Mobile phones could assist me in learning English	3.46	.51	.75
2	Mobile phones could engage me in remote English classes	3.36	.53	
3	MALL is relevant to 21st-century learning in higher education	3.08	.61	
4	MALL enriches my learning experience with innovative applications	3.24	.54	
5	MALL enhances my desire for learning English	2.77	.64	
Normative beliefs		3.60	.54	
1	My achievement is a sign of the successful use of the mobile phone in learning English.	3.55	.59	.72
2	My friends use mobile phones to enhance the quality of their English, so I use them too.	3.55	.54	
3	My parents support me in using a mobile phone for learning English; therefore, I use it.	4.71	.48	
Control beliefs		3.63	.53	
1	I have no objection to using a mobile phone for learning English. I know how to upload and download documents, join Zoom rooms or Google meet rooms and other technical problems.	3.55	.59	.82
2	The use of a mobile phone outside the classroom supports my in-class learning.	3.71	.48	
3	I have no problems with devices or credit issues. I always find ways to learn although my phone is incompatible or my credit runs out.	3.55	.54	
4	If I have problems operating my mobile phone, I have friends to consult	3.71	.48	

Table 3: Students' beliefs about MALL

The quantitative data were supported by the qualitative findings drawn from interviews. The interviews were administered to ten respondents who were selected through Simple Random Sampling. The interview data on the three categories of beliefs saw the emergence of two sub-themes for each, as shown in Figure 3.

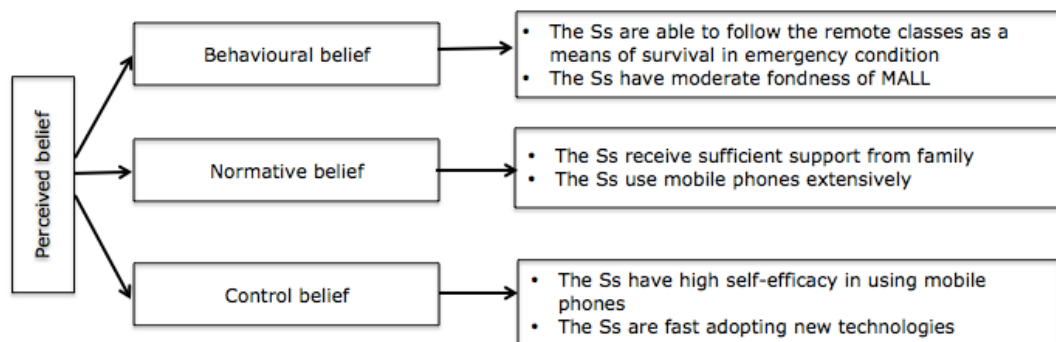


Figure 3. Students' beliefs about MALL

Behavioural beliefs

All informants in the interviews stated that they could make use of remote teaching. They did encounter glitches along the way. Problems such as bad internet networks in their area, lack of internet credits, and unclear instructions were among the most frequently mentioned complaints. However, overall, they expressed confidence that they were capable of doing remote classes.

I think, so far so good. I can handle remote learning. I found a lot of troubles but overall I can handle them. (Raul)

I have to maximize my efforts in this new mode of learning. I don't want to be left behind. (Aldi)

I try so hard to follow the classes. So many times, I did not understand what my teacher said in English, but I was too embarrassed to raise a question, I don't like to look stupid. (Gusman)

Besides, when asked whether they enjoyed remote MALL or not, most pointed out that they were moderately satisfied. Some stated that they liked remote learning since it allowed them to do something else while attending lectures, but those who showed negative attitudes outnumbered them.

It's 50/50 for me, Sir. Honestly, I don't like it, it has too many problems, but I have no options anyway. In this learning, speaking skill is the hardest to practice. In physical classes, we are paired or grouped to train our speaking skills and the lecturer is moving around supervising. This cannot be done now. (Anisa)

In the beginning, I liked it, I could attend lectures while doing some other important things. However, the lack of interaction made me no longer like it. (Gafar)

Normative beliefs

The Ss stated that their resilience when it came to how remote learning was supported by family, friends, and institutions. Their parents aided them by providing them with online platform compatible devices and financing their general needs with regard to remote learning. In return, the respondents did their best to study well so they could repay their parents by having good learning results to show for it.

To access the classes I use this phone [showing Samsung Note 2], I have been using this phone for more than a year, and my father gave it when I graduated from high school. The operating system is Android, now I have the most updated version of it. As for the internet credits, I took them from the monthly stipend sent by my father. My parents supported me in this situation, and I will try so hard to get [grasp] the knowledge of the lectures, so I can show them good grades later. (Sarah)

They further explained that their classmates were influential in the case of remote learning. They shared problems encountered while learning on a *WhatsApp* group and helped each other resolve them. While some dealt with technical problems, others cooperated on issues regarding the subject matter.

I don't have any problems at all with electronic things. I will help anyone in my class who found trouble understanding how applications work. (Aldi)

My performance in English learning is not bad. I am eager to share my knowledge with my friends. I am happy to help those in trouble with English. (Dana)

Control beliefs

The participants showed very strong levels of control beliefs about operating mobile phones for learning English. Some felt confident when it came to using the applications and following the classes, with quite a few not expressing any worries regarding potential problems in operating mobile phones for English learning.

Yes, it is very convenient. I can get almost anything I need to learn English on mobile phones. I can search for materials, retrieve them, share the document on Google Docs for a synchronous group work, convert them to a PDF file, share them with others on drive or iCloud, and so forth. (Nuria)

I think there is no easier way in learning than today. Everything is right in my hand. I have email, LMS [Learning Management System], SISCA [the university's administration], e-class, MOOC, dictionary, and all social media used for learning in my hand. (Ario)

Problems with MALL for remote teaching

After identifying the extent of the students' beliefs about MALL to support remote English teaching, problems encountered by them during the activity are worth investigating, so that future English remote teaching could anticipate the issues and have readymade solutions for them.

Themes	Sub-themes	Codes	Sample excerpts
Technical problems	Unstable internet network	Unclear information from lecturers and peers	"...sometimes, the lecturer's explanation was not clear" (Ario) "Many times, I don't understand what my friends was [sic] saying" (Anisa)
		Delayed information	"Sometimes, the zoom meeting freezes. I missed some information" (Erika)
	Insufficient internet credits	Expensive cost for one synchronous session	"2 hour Zoom session consumes 2 gigabytes, equivalent to 50000 IDR. Very expensive!" (Raul)
	Incompatible devices	Older versions of smartphones could not catch up new applications	"My device is very old, some application cannot be downloaded" (Gafar)
		Broken speakers and microphones	"There was once, the speaker of my phone died suddenly, I went on watching the Zoom session." (Aldi) "My lecturer once asked me a question, but my microphone was not working so I typed the answer in the chatbox" (Nuria)
	Pedagogical problems		Students' engagement
Feeling discouraged to participate in discussion		"Recorded speaking activity can be edited" (Sarah) "I miss pair or group works for speaking activities" (Anisa)	
		Problems with productive skills	
Problems with receptive skills			Unclear pronunciation in listening activities
		Virtual reading materials are not pleasing to the eyes	"It's tiring to read virtual material" (Raul) "Reading materials on my phone looks very small" (Raul)
			Lack of listening and reading exposure

Table 4: Students' problems in MALL for remote teaching

Based on Table 4, most informants complained about the internet network being frequently unstable and the internet credits being costly. The unstable network was an annoyance to the students as it hindered their understanding of the material being explained by the lecturer, but they felt discouraged to request repetition or further explanation. During the listening activity, audio materials were sometimes very hard to understand, which was once again attributable to the unstable network and unsupportive devices. Speaking was found to be the most troublesome activity. One lecture session was too short to accommodate around 40 students in an equitable manner. The pair and small group activities, which are traditionally done in physical speaking classes, cannot be implemented in virtual classes. The chance to participate for speaking is there when a student answers the lecturer's question, but the response will be heard by the whole class, creating extra anxiety. As a result, many students were discouraged to participate hiding behind switched off web cameras.

The informants also faced challenges in reading and writing activities. Many students complained that reading virtual material was very hard, with the small letters posing navigation difficulties. Moreover, prolonged exposure to the computer screen was hurtful to the eyes. The combination of the two hindered

concentration when it came to reading. The writing activities did not go better than the reading ones. Overall feedback by the lecturer was delivered on *Zoom* or *Google Meet*, but the explanation sometimes lacked clarity, which was mainly attributable to the bad network and the low quality of the devices. There was no supervision in the case of the writing activity. The feeling of being alone while writing could increase the temptation to cheat by copying and pasting other students' works or by generating texts with the help of artificial intelligence.

Discussion

The quantitative data of the current study show that in using mobile phones for remote English learning, the highest mean that was displayed by the respondents was that of control beliefs, followed by that of the normative beliefs, and then the behavioural beliefs. This finding delineates that the respondents' beliefs about controlling the remote class through mobile phones is the strongest determinant of their remote learning participation. The normative beliefs being lower than the control beliefs but higher than the behavioural beliefs indicates that family, classmates and university had a secondary influence on their actions. However, although they displayed positive attitudes toward remote learning, as indicated by the behavioural beliefs score, this belief is the lowest determinant of their action. These data contradict those of Mukminin et al.'s study (2019) in which the behavioural beliefs received the highest score, followed by the normative and the control beliefs. This could be attributable to the age difference in the two studies. While the majority of Mukminin's respondents were over 40 years old, this study's respondents belonged to an age group from 18 to 20-years-old. The high score of the control beliefs could be an indication of the students' preparedness to be introduced to new technologies in learning (Alhamami, 2019).

The qualitative analysis revealed that all respondents showed a high level of control beliefs, meaning that they displayed high efficacy in integrating new technologies for remote learning. This finding is in sync with various studies (Abugohar et al., 2019; Huang et al., 2020; Wan Azli et al., 2018) on the self-efficacy of young adults with regard to MT for learning English. It is not surprising that the four studies had similar results in this regard since the age of the respondents links them to one particular category since they all belonged to generation Z. According to a number of studies (Harmanto, 2013; Lissitsa & Kol, 2016; Turner, 2015), people of this age group are confident in operating digital technologies. Meanwhile, the respondents' normative beliefs revealed that support from their family and peers as well as the university-related demands played only a partial role in enabling them to attend remote learning. To sum up, they did not rely solely on others. A number of researchers (Dudeney & Hockly, 2007; Harmanto, 2013; Lancaster & Stillman, 2003; Schooley, 2005) posit that young people are characterized by confidence in new technologies. This study confirms the findings of a number of researchers (Hodges, 2018; Zimmerman, 2000) that in utilizing MT, young people tend to rely on their confidence (self-efficacy) and autodidactic knowledge. Furthermore, the high score with regard to control beliefs indicates that they show a high level of control behaviour over remote MALL. These data are in accordance with Pan (2020) who demonstrated that the students' ability to operate MT technology contributes greatly to shaping their attitudes/behaviours when it comes to learning with technology and Sølvsberg (2003) who stated that control beliefs is a joint function of contingency and competence in the degree of success with regard to operating MT.

As for the issues hindering the flow of English remote teaching, technical problems topped the list, especially the internet connection and internet credits. It seems very common for research in technology integration into learning during the pandemic to mention internet connection as a hindering factor, as also found in the research conducted by Azmee (2022), Man et al. (2022), Nayman & Bavlı (2022), Rahimah et al. (2021), and Zacharis & Nikolopoulou (2022). Another problem is not all English skills were practiced because of a bad connection, lack of time, and insufficient guidance. Kusuma (2022a) suggests that technology offers infinite benefits when it comes to honing English language skills, and the insufficient opportunity to practise speaking (to take one instance) during emergency remote teaching is caused by the teachers' lack of Technological Pedagogical Content Knowledge (TPACK) (Mishra & Koehler, 2006). Nayman and Bavlı (2022). suggest that teachers leverage their TPACK by learning the intricacies of more and more applications to improve the rates of student participation. Meanwhile, Cahyadi et al. (2022) indicated that emergency remote teaching should consider simplicity, flexibility, and empathy, even if the result is a somewhat compromised quality of education.

Conclusion

This study was conducted to shed some light on the beliefs of tertiary-level students in remote Mobile Assisted Language Learning (MALL) in English classes, the proportions of the determinants of their actions, and the problems encountered by them during the process through three research questions. Research

Question One asked about beliefs about using mobile phones for remote MALL. The results showed that the three beliefs that contributed to the students' actions in remote MALL were behavioural beliefs, normative beliefs, and control beliefs. Research Question Two asked which determinants contributed to their actions. This question was addressed through a mixed method. The quantitative findings revealed that the students possessed a high level of control beliefs ($M=3.63$, $SD=.53$), which is reflective of their ability to take control of remote English language learning using mobile phones. They also displayed high-level normative beliefs ($M=3.60$, $SD=.54$), which indicate their actions were partially supported by family, peers, and the university. However, the least significant determinants of their action in remote English learning were their behavioural beliefs ($M=3.18$, $SD=.62$). The quantitative findings were corroborated by the qualitative data. The interview identified two subthemes pertaining to each belief. In the case of the behavioural beliefs, the two subthemes were 1) The students were able to follow the remote classes as a means of survival in the emergency situation and 2) They had an generally moderate fondness for MALL. With regard to the normative beliefs, the subthemes were (1) The support from family and friends enabled the students for remote MALL and (2) The demands of the teacher and the institution pushed their participation in the remote MALL. Meanwhile, in the context of the control beliefs, the subthemes were (1) The students possessed confidence in MALL and (2) They adapted the shift to new technologies quickly. Finally, the Third Research Question concerned the problems encountered by the students during the remote MALL experience. The results showed that problems related to English learning were identified in technical and pedagogical matters. The technical problems included bad internet connection, insufficient internet credits, and incompatible devices. The pedagogical problems were lack of teacher-student and student-student interaction. These problems contribute to the low quality of the remote MALL.

The limitations of this study were its inability to cover various contexts. Since this study was done in one location, i.e., the regency of Central Java province involving relatively similar group of respondents, the results cannot apply to other contexts such as universities with more sophisticated digital facilities or respondents studying in rural area. Hence, further research is suggested to investigate the uncovered contexts. Besides, although the questionnaire used in this study had undergone the validity and reliability tests, an instrument to measure the three beliefs involving the use of mobile phone in particular should be developed by further studies. The nature of using mobile phones could be different from operating ICT.

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Appendix 1

English Translation of Basic Information

Survey on Students' Beliefs about Mobile-Assisted Language Learning (MALL) Based on the Theory of Planned Behavior

A. Survey Information and Instructions

- This survey concerns students' beliefs about their use of smartphones or Mobile-Assisted Language Learning (MALL) in online English courses.
- Please respond to each statement based on your actual experiences.
- To protect anonymity and reduce response bias, please do not write your name or initials.
- Each respondent may complete the survey only once.
- Participation is voluntary. You may choose not to participate or stop completing the survey at any time without penalty.
- Your responses will be kept confidential and used only for research purposes.
- Thank you for your willingness to participate in this survey

B. Informed Consent

Filling in this survey is voluntary, there is no coercion. If you do fill it in, then you have agreed that your response will be used for research

Response

Please select one option

☐ Yes ☐ No

Note: Respondents who select "No" in the informed consent section should not continue with the survey.

C. Respondent Profile

Gender

☐ Male ☐ Female

Years of smartphone use

_____ years

D. Response Scale

Strongly agree
5

Agree
4

Neutral
3

Disagree
2

Strongly disagree
1

E. Survey Statement

Statement

Strongly agree

Agree

Neutral

Disagree

Strongly disagree

Behavioral Beliefs

Mobile phones could assist me in learning English

Mobile phones could engage me in remote English classes

MALL is relevant to 21st-century learning in higher education

MALL enriches my learning experience with innovative applications

MALL enhances my desire for learning English

Normative beliefs

My achievement is a sign of the successful use of the mobile phone in learning English.

My friends use mobile phones to enhance the quality of their English, so I use them too.

My parents support me in using a mobile phone for learning English; therefore I use it.

Control beliefs

I have no objection to using a mobile phone for learning English. I know how to upload and download documents, join Zoom rooms or Google meet rooms and other technical problems.

The use of a mobile phone outside the classroom supports my in-class learning.

I have no problems with devices or credit issues. I always find ways to learn although my phone is incompatible or my credit runs out.

If I have problems operating my mobile phone, I have friends to consult

Appendix 2

English Translation of Basic Information

SEMI-STRUCTURED INTERVIEW GUIDE Students' Beliefs about Mobile-Assisted Language Learning (MALL) Based on the Theory of Planned Behavior

Purpose of the Interview

This interview aims to explore students' beliefs about the use of Mobile-Assisted Language Learning (MALL), including behavioral beliefs, normative beliefs, and control beliefs and the challenges they faced in MALL.

Interview Instructions

- Conduct the interview flexibly while following the sequence of the main questions.
- The interviewer may ask for further clarification when a participant's response is unclear, without leading the response.
- With the participant's consent, the interview may be recorded for transcription and data analysis.

Participant Information

Participant code
Study program/semester
Interview date
Interview duration

A. Opening Questions

Focus: Establishing the context of the participant's initial experiences of using mobile devices for language learning.

1. Could you describe your experience of using a smartphone or another mobile device for language learning?
2. Which mobile applications, platforms, or features do you use most frequently for language-learning activities?

B. Behavioral Beliefs

Focus: Exploring students' beliefs about the benefits, outcomes, and consequences of using MALL.

1. How would you describe your overall experience and level of satisfaction with using MALL in remote English classes?
2. What benefits do you experience when using a smartphone for remote English learning, particularly in terms of flexibility, access to learning, and participation in classes?
3. What advantages and disadvantages does MALL have for your English learning, particularly for interaction, understanding the lecturer, and practising language skills such as speaking?

C. Normative Beliefs

Focus: Exploring the influence of the views, support, and practices of people who are important to students.

1. How does support from your parents or family, such as providing a mobile device, internet data, or financial assistance, influence your participation in remote English learning?
2. How do your classmates influence or support you when you experience technical or academic difficulties in MALL?
3. Among your family, classmates, lecturers, and university, whose support has the greatest influence on your use of MALL, and how does that support affect your learning efforts?

D. Control Beliefs

Focus: Exploring students' beliefs about their abilities, resources, opportunities, and barriers related to the use of MALL.

1. How confident are you in using a smartphone and different applications for remote English learning? Please describe the learning or technical tasks that you can perform.
2. What difficulties do you encounter when participating in remote English classes?
3. How do you overcome these difficulties and maintain your participation in remote English classes?

E. Problems and Challenges in Remote Learning

Focus: Exploring the problems or challenges students experience when participating in remote learning using a mobile phone.

1. What problems or challenges have you encountered when participating in remote learning using a mobile phone?

Interviewer's Notes

The interviewer may record relevant nonverbal responses, interview conditions, or contextual information to support the interpretation of the data