

COVID-19 Pandemic: Online Learning Impact on English Communication Self-Confidence Level Among Diploma Pharmacy Students

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ABSTRACT

At Universiti Teknologi MARA (UiTM), English serves as the primary medium for teaching and learning. However, with the onset of the COVID-19 pandemic in Malaysia, the instructional method shifted from face-to-face interaction to online mode. The change in study mode may cause uncertainty in English proficiency among students who studied throughout the COVID-19 pandemic. Therefore, this study sought to investigate the online learning effect on pharmacy students' confidence in English before (2020 to 2022) and after the hospital internship (2023). The data was collected through a pre-validated questionnaire and self-administered among 90 pharmacy diploma students enrolled at the UiTM from June to July 2023, with their median age 21-year-old. The findings showed that students' percentage level of confidence before hospital practical attachment was moderate (n=67, 74.5%) and high (n=20, 22.2%). Meanwhile, all students (n=90, 100.0%) reported low English communication confidence levels after their hospital internship. This study reveals that students' English communication self-confidence

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during hospital training has decreased compared to throughout the first and second year of study, possibly due to the limited direct interaction in English during the COVID-19 pandemic. Thus, online learning may be a limiting factor in building self-confidence in communicating in English when in a hospital setting for the post-COVID-19 student cohort.

Contribution/Originality: This study is one of the very few studies which have explored the effects of online learning during the COVID-19 pandemic on English communication among pharmacy diploma students in Malaysia. It reveals that the learning mode in the education system has shaped their experience, thus affecting students' confidence level during hospital internship and their abilities in a real-world healthcare setting.

1. Introduction

Universiti Teknologi MARA (UiTM) is one of the higher education institutions in Malaysia that uses English as the medium of instruction for teaching and learning, including lectures, practical labs and tutorials. The use of English is particularly crucial, especially in the pharmacy faculty, to ensure that students can fully benefit from lectures and easily access the pharmacy literature sources. In the pharmacy diploma course at UiTM, Bertam Campus, students must undergo theoretical and practical learning in the first four semesters and then a practical internship in a hospital for two semesters. In order to prepare students for the real world, pharmacy faculty are expected to provide students with internship experience during their final year (Ooi et al., 2021).

However, when COVID-19 hit Malaysia in January 2020, the Malaysian government took major action to keep the disease from spreading throughout the country by implementing the Movement Control Order (MCO) on March 18, 2020. The main key of MCO was to restrict people's movement of entering or exiting an area. This included limiting the operation of all public and private higher education institutions, as well as training centres (Hashim et al., 2021). As a result, the restriction has affected the students' ability to attend face-to-face learning activities and caused the teachers to carry out the learning process online using online platforms (Ai Bing & Khairul Azhar, 2021).

The online distance learning (ODL) method has become a compulsory approach in educational institutions during the pandemic (Zarzycka et al., 2021). Although online learning has made it possible for students to continue their education, it has also presented several challenges, particularly for students learning English as a second language (Bakar et al., 2021). Furthermore, according to MacDonald and Levett (2012), in the education system, the communication skills among undergraduate or postgraduate students need to be assessed in order to succeed in hospital training. Therefore, communication skills can be effective in study programs with practical elements as they involve verbal and written communication (MacDonald & Levett 2012).

This study involved a cohort of student during COVID-19 pandemic, who enrolled for their first semester in 2020/2021 and completed their internship in 2022/2023. This student cohort has experienced entirely online learning sessions during the first and second semesters (during the pandemic year 2020). In the third semester, a hybrid learning method was implemented from October 2021 to February 2022. Hybrid learning

combines online lectures with physical lab sessions. In the fourth semester, UiTM Bertam Campus has permitted students to resume learning in fully physical classes. The final-year diploma pharmacy students (fifth and sixth semester) are required to undertake a one-year internship from October 2022 to August 2023. This internship will expose them to various pharmacy services and help them to gain hands-on experience in a government health setting (Yee et al., 2020).

1.1. Research Objectives

Since the diploma pharmacy students only had the opportunity to learn face-to-face and fully communicate in English during the lecture session in semester 4 (year 2022), the extent of students' confidence level in English communication during the hospital internship remains uncertain. As a result, this study focused on assessing the confidence level of diploma pharmacy students (emphasising the post-COVID-19 cohort) in their English communication performance throughout the semesters.

2. Literature Review

English for Medical Purposes (EMP) refers to teaching English that is explicitly tailored to healthcare professionals, including doctors, pharmacists, nurses and other medical personnel (Maher, 1986). This approach emphasises utilitarian objectives in the teaching and learning of English, underscoring the importance of achieving optimal job performance or enhancing the efficacy of medical training (Maher, 1986). This situation highlights the fundamental importance of English proficiency in navigating the evolving landscape of global healthcare (Solihati & Rahayu, 2020). Meanwhile, pharmacists are expected to proficiently engage with community members, colleagues, and other healthcare professionals through well-informed and articulate English in verbal communication and written correspondence (Stupans et al., 2015). Andalo (2014) stated that proficiency in English is essential for all pharmacists to practice or work in the health sector. This indicates that effective teaching in specialised terminology in English is vital for medical professionals whose daily tasks involve interacting with patients as well as other medical staff (Coroban, 2019).

Reflecting on the occurrences during the COVID-19 pandemic, the Movement Control Order (MCO) in Malaysia has impacted people in various ways, particularly in the education sector, where students were prohibited from attending face-to-face classes (Yen & Mohamad, 2020). Consequently, UiTM also need to transition the education system from face-to-face to online learning (Pekeliling Akademik UiTM, 2020). Due to the sudden change in the education system, students were required to adapt to the new learning approach, which is online learning, despite the global health crisis. Previous research suggested that the current education landscape promotes online learning as the most reliable option (Liguori & Winkler, 2020). However, the transition from face-to-face to online learning mode has affected English teaching and learning in several aspects (Andriivna et al., 2020). As educators and students are used to face-to-face English classes, problems will inevitably arise with the abrupt transition to an online learning format (Huang et al., 2020).

Furthermore, a discovery by Moser et al. (2021) demonstrated that the sudden unplanned shift of English language courses to online learning mode has caught everyone off guard, including the educators and students. Learning English in an online environment can pose challenges for students, as they may misunderstand the way the lecturer presents when

compared to physical classes (Kacetl & Klimova 2019). In addition, students faced obstacles due to limited access to computers and smartphones as well as unreliable internet connection, inadequate online platforms and an education management system, which affected their proficiency and efficiency in learning English (Almekhlafy, 2020). Thus, the teaching environment, educators, and parents were identified as factors that influence students' English learning achievement (Hanus, 2016).

3. Research Methods

3.1. Study Design and Sample Size

The research design for this retrospective study employed a quantitative research approach, as a strategy for collecting and analysing the data to assess English prevalence, and the impact of pre- and post-pandemic on English performance and confidence level in English communication. This study was conducted online because the data collection involved students who had undergone practical training in hospitals throughout Peninsular Malaysia. The population of this study specifically includes the cohort of students who enrolled in the pharmacy diploma course during the COVID-19 pandemic and would graduate after the pandemic. This group of respondents were also those who had undergone online learning during the COVID-19 outbreak and the hospital practicum physically.

The sample size was calculated using a Raosoft online calculator (<http://www.raosoft.com/samplesize.html>). From a total of 104 final-year diploma pharmacy students of the sample population, the sample size was calculated with a 95% confidence level and a 5% margin of error. Hence, the Raosoft sample size calculator indicated that this research needs at least 82 participants. The inclusion and exclusion criteria were as follows:

Inclusion criteria:

- i. Pharmacy students who are currently doing a hospital internship.
- ii. Pharmacy students registered in the 2020/2021 academic session.

Exclusion criteria:

- i. Graduated diploma pharmacy students.

The sampling method used in this study was purposive, which involved intentional selection based on the target group of respondents, specifically the cohort of students who enrolled in the pharmacy diploma course during the COVID-19 pandemic and have gone through the 3-year phase of their studies.

3.2. Data Collection

A set of questionnaires was developed as a tool for data collection. This self-administered questionnaire consists of three sections: sections A, B, and C, which contain a total of 49 questions intended to assess the effects of the pandemic period on English communication performance during hospital practicum among diploma pharmacy students. Firstly, section A consists of 7 demographic information questions. Next, there are 18 questions in section B that focus on pharmacy students' English experience on campus and their confidence level. The answer responses were in Likert-scale form, which could be a set answer of "strongly agree", "agree", "disagree", or "strongly disagree" or frequency order

(never, 1 to 3 times, 4 to 8 times, 9 to 14 times, whole the time). Section C includes 24 questions about English experience and confidence level during hospital internship.

The questionnaire underwent content validation by three expert panels comprised of pharmacists from Hospital Raja Perempuan Zainab II. No items were removed following the validation process. Subsequently, the draft questionnaire was given to three randomly selected students to evaluate the face validity. Based on their feedback, adjustments were made, including modifications to the answer options in section C and simplification of the comprehension questions for better understanding by respondents.

This pre-validated questionnaire was disseminated to final year Diploma Pharmacy students in UiTM Bertam Campus from 27th June 2023 till 4th July 2023. The self-administered questionnaire (SAQ) available in English and Malay Languages was conducted online via Google Form. The distribution of the questionnaire link was facilitated through the WhatsApp application platform.

3.3. Data Analysis

The collected data were analysed using IBM Statistical Package for Social Sciences (SPSS) 22 version software. The student's demographic data, prevalence and contributing factors in English consumption among respondents were analysed and presented as descriptive statistics (median, frequency and percentage). Meanwhile, the confidence level in English communication among students was analysed and presented in a comparison between before and after the hospital practicum.

4. Results

4.1. Demographic Data

About 90 students from the Diploma in Pharmacy enrolment cohort 2020/2021 who underwent hospital training voluntarily participated in this study. The demographic data of respondents can be described in the following [Table 1](#).

Table 1: Demographic data

Demographic	Item	n (%)
Preference to answer the survey in English or Malay	English	60 (66.7%)
	Malay	30 (33.3%)
Gender	Male	25 (27.8%)
	Female	65 (72.2%)
Age (median=21)	20	3 (3.3%)
	21	81 (90.0%)
	22	6 (6.7%)
Hospital of Training	Hospital Sultanah Aminah, Johor	1 (1.1%)
	Hospital Sultan Ismail, Johor	3 (3.3%)
	Hospital Sultan Ismail, Johor	3 (3.3%)
	Hospital Seberang Jaya, Pulau Pinang	5 (5.6%)
	Hospital Al-Sultan Abdullah, UiTM Puncak Alam, Selangor	14 (15.6%)

	Hospital Canselor Tuanku Muhriz UKM, Wilayah Persekutuan Kuala Lumpur	12 (13.3%)
	Hospital Kulim, Kedah	5 (5.6%)
	Hospital Sultanah Bahiyah, Kedah	4 (4.4%)
	Hospital Raja Perempuan Zainab II, Kelantan	15 (16.7%)
	Hospital Tuanku Jaafar, Negeri Sembilan	8 (8.9%)
	Hospital Raja Permaisuri Bainun, Perak	3 (3.3%)
	Hospital Taiping, Perak	7 (7.8%)
	Hospital Sultanah Nur Zahirah, Terengganu	10 (11.1%)
First language	Malay	89 (98.9%)
	English	0
	Mandarin	0
	Tamil	0
	Other: Temuan	1 (1.1%)
Frequency of English usage in daily conversation at workplace/ college/public places.	Never	1 (1.1%)
	Occasionally	49 (54.4%)
	Frequent	33 (36.7%)
	Very frequent	7 (7.8%)
Frequency of English usage in daily conversation at home.	Never	20 (22.2%)
	Occasionally	49 (54.4%)
	Frequent	18 (20%)
	Very frequent	3 (3.3%)

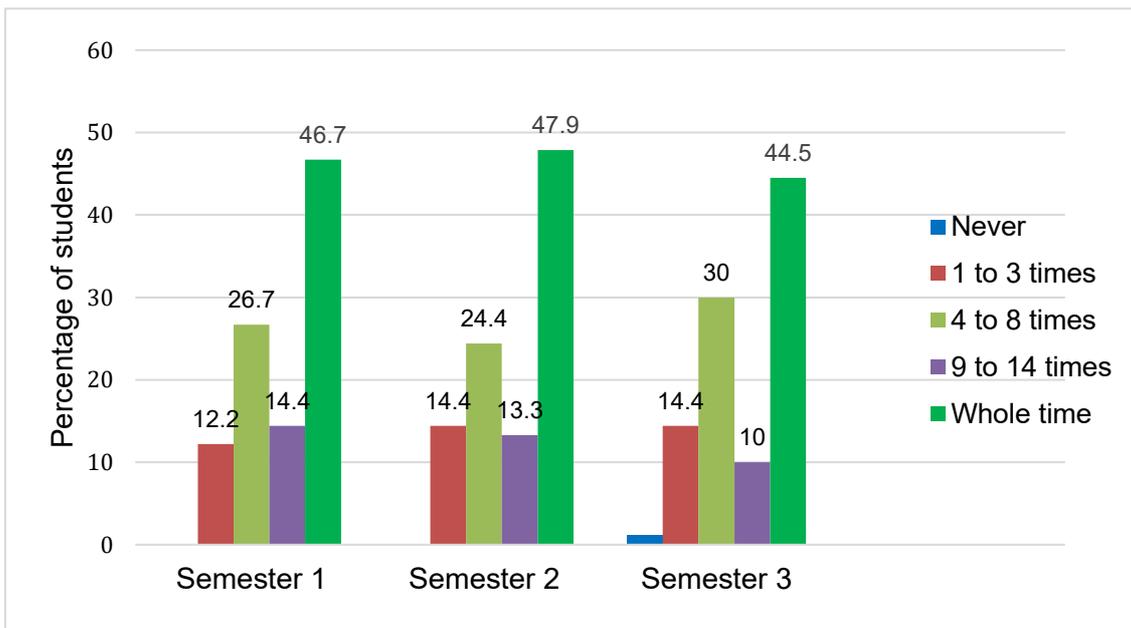
Notes: n= number of respondents, %= percentage of respondents

The obtained data in [Table 1](#) indicates that a majority of respondents were female (n=65, 72.2%) compared to male (n=25, 27.8%). The age range of respondents was from 20 to 22 years old, with the median value of 21. The findings reveal that 98.9% of respondents (n=89) reported using Malay as their first language, while only one respondent (1.1%) indicated Temuan. The data illustrate that the number of students who occasionally use English in the workplace, college, or public places is equal to those who use English at home (n=49, 54.4%). Meanwhile, 20 students (22.2%) reported “Never”, and 18 students (20.0%) answered “Frequent” use of English at home. Conversely, regarding English usage in the workplace, college or public area, only one respondent selected “Never”, and 33 students (36.7%) chose “Frequent” in their daily conversation.

4.2. Diploma of Pharmacy Students’ English Confidence Level from First to Fourth Semester

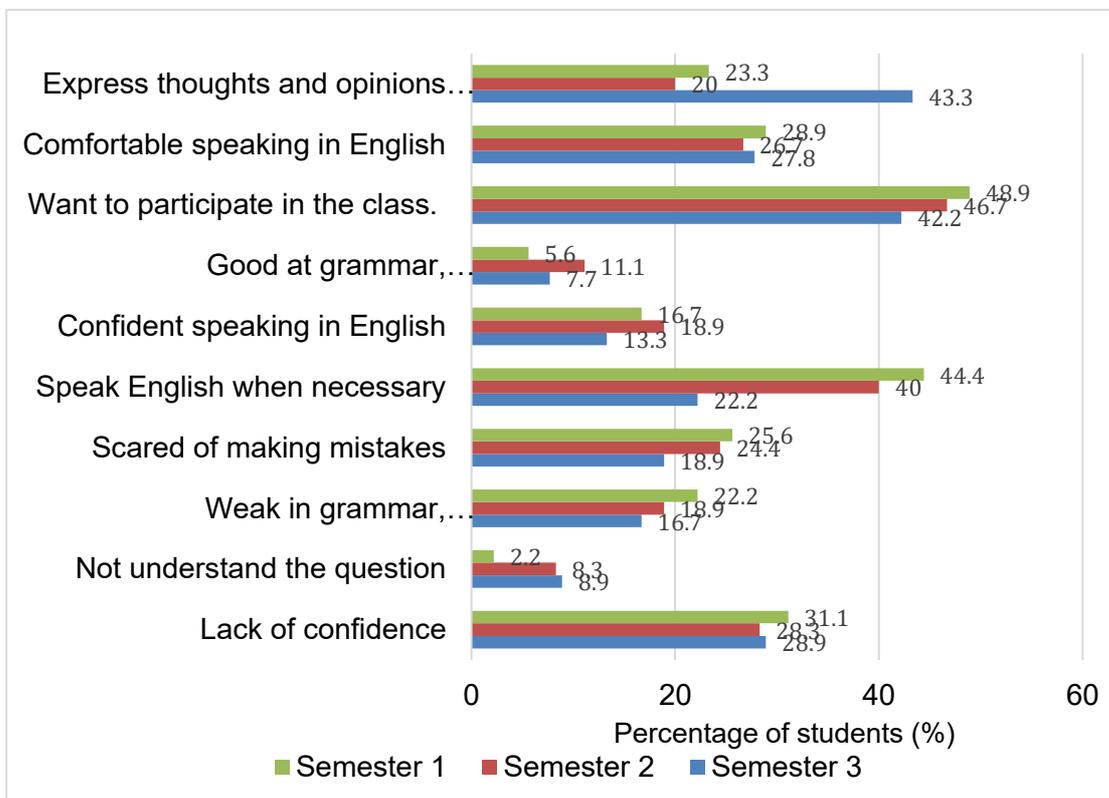
This section focuses on the students’ English participation during English classes, which is formally known as Integrated Language Skills in UiTM, and other pharmacy courses (e.g., chemistry, biology) in UiTM. [Figure 1](#) illustrates the frequency of student participation in English during English classes for three semesters. It is evident that a majority of students expressed a desire to engage entirely in English class sessions throughout the semesters: semester one (n=42, 46.75%), semester two (n=43, 47.9%), and semester three (n=40, 44.5%). Next, many students reported speaking about 4 to 8 times during English class in semester one (n=24, 26.7%), semester two (n=22, 24.4%), and semester three (n=27, 30%).

Figure 1: Frequency of English usage during English classes



Based on the findings presented in Figure 2, most participants indicated that their primary motivation for participating in English class was a desire to engage actively in their learning activities (n=44, 48.9%). Many respondents also expressed that they felt more confident expressing their thoughts and opinions in English (n=39, 43.3%). Furthermore, 44.4% of students (n=40) reported only communicating in English when necessary.

Figure 2: Factors of students using English during English classes



The survey questions also addressed the students' English performance in pharmacy courses from the first to the fourth semester as illustrated in Figure 3. Most students reported that they spoke English during lectures between 4 to 8 times in the first semester (n=41, 45.6%), the second semester (n=40, 44.5%), the third semester (n=36, 40.0%), and fourth semester (n=34, 37.8%). However, there are students who do not communicate in English during class and laboratory learning each semester: the first and second semester (n=2, 2.2%), the third semester (n=3, 3.3%), and the fourth semester (n=7, 7.8%). The factors influencing the frequency of communication among students during pharmacy classes and lab sessions are illustrated in Figure 4.

Figure 3: Frequency of English usage during other pharmacy course classes and lab sessions

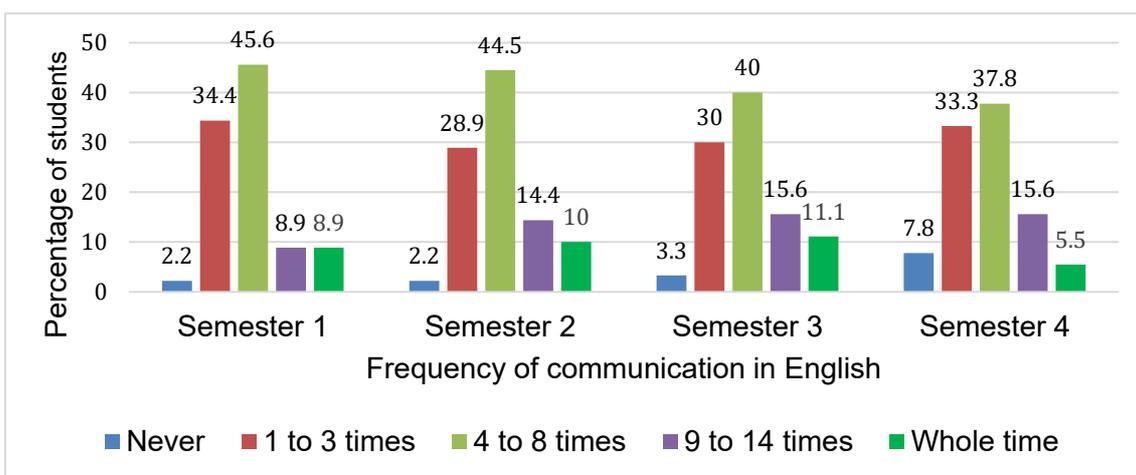
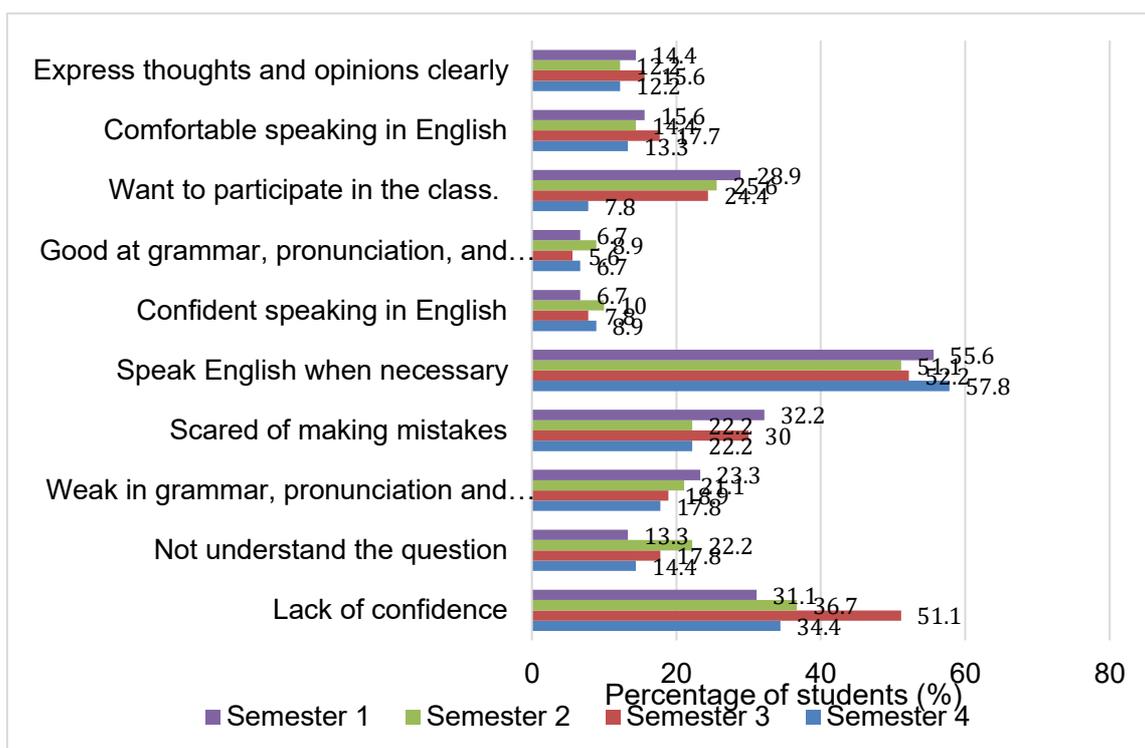


Figure 4: Factors of students using the English Language in pharmacy classes and lab sessions



Over 50% of students reported that they only spoke English when necessary for the entire four semesters. A notable concern emerged during the third semester, where a lack of confidence was reported by (n=50, 51.1%) during the third semester. Moreover, very few students reported an increase in self-confidence regarding their ability to speak English, noting that they felt proficient in grammar, pronunciation, and vocabulary over the course of the four semesters, with less than 9% (n=8) expressing this sentiment.

4.3. English Experience and Student Participation During Hospital Practical Training

In semesters 5 and 6, diploma in pharmacy students underwent hospital training across six departments: the Out-Patient, In-Patient, Integrated Store, Sterile Unit, Manufacturing, and Health Clinics. The communication performance of students was compared between students in the university and during hospital training. The evaluations were then graded based on Bloom's Cut-Of Point as follows: (80% - 100%) labelled as "High", (60% - 79%) as "Moderate" and (<60%) as "Low" grades, which represent different levels of communication confidence as the following [Table 2](#).

Table 2: Students' level of confidence in English communication

Level of confidence	Before hospital practicum		After hospital practicum	
	n	%	n	%
High	20	22.2	0	0
Moderate	67	74.5	0	0
Low	3	3.3	90	100

Notes: n= number of respondents, %= percentage of respondents

[Table 2](#) compares students' level of confidence to communicate in English before and after the attachment of hospital training. Most students' confidence level before attachment to hospital training (n= 67, 74.5%) was moderate. Alarmingly, all 90 students (100%) exhibited low confidence level after their hospital internship.

5. Discussion

Pharmacy diploma students who enrolled in October 2020 were the cohort of students directly involved in implementing online learning due to MCO to curb COVID-19 from spreading. Implementing Online Distance Learning (ODL) or e-learning, where the online learning concept aims to channel knowledge to students through effective means ([Al-Mobaideen et al., 2012](#)). Since the enforcement of MCO, academic institutions in Malaysia have undertaken significant steps for students across the country to continue learning digitally, where both educators and students have to adapt to online learning methods ([Ismail et al., 2020](#)). However, while offering flexibility and convenience, online learning has presented various implications on communication skills, student engagement, and self-efficacy ([Susilowati et al., 2022](#)).

Comprehensively, specifically at UiTM, the online learning mode was conducted via online platforms for English classes from the first semester until the second semester (October 2020 to July 2021). However, as the number of COVID-19 cases decreased over time, a hybrid learning mode was introduced in the third semester (October 2021 to February 2022), where students can physically and virtually participate in class sessions ([Setiawan & Mufassaroh, 2020](#)). During the fourth semester, students could attend face-to-face lab

sessions and classes as the COVID-19 pandemic gradually recovered ([United Nations, 2020](#)).

Due to the COVID-19 pandemic, the students in diploma pharmacy underwent learning activities in fully physical classes after more than one and a half years of online learning. Consequently, the students may confront several challenges, including limited communication between lecturers and students. In the context of university students, communication is the primary key for students in transmitting speech, signs, actions, information, or understanding from one individual to another ([Fahrina & Rahman, 2022](#)). A previous study of the COVID-19 pandemic impact on the students' English communication at the University of Muhammadiyah Bone showed that online learning during the pandemic could affect student communication ([Fahrina & Rahman, 2022](#)).

In addition, this study indicates that most of the respondents actively participated in English classes over three semesters. They expressed a strong desire to engage in class discussion and share their thoughts and opinions clearly. Nonetheless, the students claimed that they spoke in English 4 to 8 times in pharmacy courses classes such as pharmaceutical, chemistry and lab sessions, as most of them admitted in the survey that they only speak English when necessary. Furthermore, students were more actively engaged during English classes than in the pharmacy course classes because students were required to communicate fully during the entire English class session. Therefore, effective communication with lecturers and students is essential for maintaining a mutually beneficial relationship ([Misra & Mazelfi, 2021](#)). However, the input and output of learning English also depend on the students' abilities and their learning style preferences ([Godwin-Jones, 2019](#)).

During the fifth and sixth semesters, this cohort of students attended their internship in a hospital setting. Subsequently, based on this study, the students rated their confidence level in English communication skills during the hospital internship as lower than their performance in the learning session throughout the first to fourth semesters on campus. Because regular practice and exposure to real-life situations are critical for English communication skill development, the minimal interaction attributed to the COVID-19 pandemic may have impaired their proficiency in English. According to [Atmojo and Nugroho \(2020\)](#), the implementation of online English courses caused students to be unenthusiastic to participate actively in classes and have low self-confidence, which can lead to incompetence in their English communication performance. Meanwhile, a study by [Kirin et al. \(2022\)](#) also states that students' level of satisfaction with online distance learning shows how they approach the new norms to be less impactful on their communication skills, which causes them to lose interest and begin to feel less confident.

6. Conclusion

This study has clearly underlined the constraint of English communication self-confidence among pharmacy diploma students who are involved in online learning during the COVID-19 pandemic. To develop proficiency and confidence in using English among pharmacy diploma students, relying solely on online or even a hybrid method of learning is insufficient. When students attend practical internships physically at the hospital, they often encounter challenges that can lead to a lack of confidence. Adapting to the new environment and learning and managing new tasks may contribute to this feeling. Consequently, there is significant concern regarding the long-term impact of this teaching and learning mode approach on pharmacy students' future.

Ethics Approval and Consent to Participate

This study has received authorisation from the Ethics Research Committee of UiTM Pulau Pinang Branch, [BERC/6/2023 (UG/MR/185)]. This study was conducted after the ethics committee's approval date, and with the consent of all respondents. The respondents were informed of the study's purposes, and their participation was entirely voluntary. The participants' information was kept in digital form and confidential.

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Conflict of Interest

The authors declare that there are no conflicts of interest regarding the present research, authorship, or publication of this article.

References

- Ai Bing, W., & Khairul Azhar, J. (2021). Pembelajaran Dalam Talian (E-Pembelajaran) Semasa Pandemik Covid-19 (Online Learning (E-Learning) During The Covid-19 Pandemic). *Jurnal Dunia Pendidikan*, 3(3), 408–414. <http://myjms.mohe.gov.my/index.php/jdpd>
- Al-Mobaideen, H., Allahawiah, S., & Alkhaldeh, A. (2012). Factors influencing the effectiveness of learning systems in the educational process. *European Scientific Journal*, 8(28), 210–230. <https://eujournal.org/index.php/esj/article/download/647/709>.
- Almekhlafy, S. S. A. (2020). Online learning of English language courses via blackboard at Saudi universities in the era of COVID-19: perception and use. *PSU Research Review*, 5(1), 16–32. <https://doi.org/10.1108/PRR-08-2020-0026>
- Andalo, D. (2014, November 15). Pharmacists will have to be competent in speaking English to practise in the UK. *The Pharmaceutical Journal*, 293(7836). <https://doi.org/10.1211/PJ.2014.20067069>
- Andriivna, B. O., Vasylyvna, K. O., Pavlivna, K. O., & Mykhaylivna, S. V. (2020). Using distance EdTech for remote foreign language teaching during the COVID-19 lockdown in Ukraine. *Arab World English Journal*, November, 4–15.
- Atmojo, A. E. P., & Nugroho, A. (2020). EFL classes must go online! Teaching activities and challenges during COVID-19 pandemic in Indonesia. *Register Journal*, 13(1), 49–76. <https://doi.org/10.18326/rgt.v13i1.49-76>
- Bakar, A. L. A., Esa, S. M., Ationg, R., & Jawing, E. (2021). The English language in the Malaysian education system. *International Journal of Education, Psychology and Counselling*, 6(43), 122–130. <https://doi.org/10.35631/ijepc.643011>.
- Coroban, C. (2019). Teaching English to pharmacy students: Resources, importance and applications. *Analele Universitatii Ovidius Constanta, Seria Filologie*, 30(1), 44–56.

- Fahrina S, J., & Rahman, A. (2022). The impact of COVID-19 pandemic on the students' English communication at the University of Muhammadiyah Bone. *Journal of Teaching and Education for Scholars (JOTES)*, 1(1), 28-37. <https://media.neliti.com/media/publications/557956-the-impact-of-covid19-pandemic-on-the-st-bd446d1b.pdf>.
- Godwin-Jones, R. (2019). Riding the digital wilds: learner autonomy and informal language learning. *Language Learning & Technology*, 23(1), 8–25. <https://doi.org/10125/44667>.
- Hanus, K. (2016). Factors that influence learning by English language learners (ELLs). *BU Journal of Graduate Studies in Education*, 8(2), 19–22.
- Hashim, J. H., Adman, M. A., Hashim, Z., Mohd Radi, M. F., & Kwan, S. C. (2021). COVID-19 Epidemic in Malaysia: Epidemic Progression, Challenges, and Response. *Frontiers in Public Health*, 9(May), 1–19. <https://doi.org/10.3389/fpubh.2021.560592>
- Huang, R., Tlili, A., Chang, T.W., Zhang, X., Nascimbeni, F., & Burgos, D. (2020). Disrupted classes, undisrupted learning during COVID-19 outbreak in China: application of open educational practices and resources. *Smart Learning Environments*, 7(1), 1-15.
- Ismail, N. S., Bakar, N. M. A., & Wafa, S. W. (2020). Online learning challenges during pandemic COVID-19 in Malaysian higher learning institution. *Universal Journal of Educational Research*, 8(12), 7151–7159. <https://doi.org/10.13189/ujer.2020.081282>.
- Kacetyl, J., & Klimova, B. (2019). Use of smartphone applications in English language learning—a challenge for foreign language education. *Education Sciences*, 9(3), 179-187. <https://doi.org/10.3390/educsci9030179>.
- Kirin, A., Ismail, F. W., Masruri, M., Marpuah, S., Ahmad, H. B., & Zahari, W. (2022). Tahap kepuasan pelajar terhadap aplikasi dalam talian dan sikap pensyarah dalam pembelajaran jarak jauh di Universiti Tun Hussein Onn Malaysia (UTHM) semasa pandemik COVID-19. *Al Hikmah International Journal of Islamic Studies and Human Sciences*, 5(1), 1–26. <https://doi.org/10.46722/hkmh.5.1.22a>
- Liguori, E. W., & Winkler, C. (2020). From offline to online: challenges and opportunities for entrepreneurship education following the COVID-19 pandemic. *Entrepreneurship Education and Pedagogy*, 0(0), 1–6. <https://doi.org/10.1177/2515127420916738>.
- Macdonald-Wicks, L., & Levett-Jones, T. (2012). Effective teaching of communication to health professional undergraduate and postgraduate students: A Systematic Review. *JBIS Library of Systematic Reviews*, 10(28), 1–12. <https://doi.org/10.11124/jbisrir-2012-327>.
- Maher, J. C. (1986). English for medical purposes. *Language Teaching*, 19(2), 112–145. <https://doi.org/10.1017/S0261444800012003>
- Misra, F., & Mazelfi, I. (2021). Long-distance online learning during pandemic: the role of communication, working in group, and self-directed learning in developing student's confidence. In *Proceedings of the 3rd International Conference on Educational Development and Quality Assurance (ICED-QA 2020)*. <https://doi.org/10.2991/assehr.k.210202.042>.
- Moser, K. M., Wei, T., & Brenner, D. (2021). Remote teaching during COVID-19: implications from a national survey of language educators. *System*, 97, 102431. <https://doi.org/10.1016/j.system.2020.102431>.
- Ooi, G. S., Ng, Y. P., Choo, J. Y., Balasubramanian, G. P., Paruchuri, S., Low, C. S., & Pillay, T. S. (2021). Future Career Preferences of Final Year Bachelor of Pharmacy Students upon Graduation from Public and Private Universities in the Northern Region of Malaysia Correspondence. *Systematic Reviews in Pharmacy*, 12(03), 753–760.

- Pekeliling Akademik UiTM (2020, July 22). Universiti Teknologi MARA. https://kedah.uitm.edu.my/images/circular/Pekeliling_Akademik_Bilangan_09_Tahun_2020.pdf.
- Setiawan, A. R., & Mufassaroh, A. Z. (2020). *Lembar kegiatan siswa untuk pembelajaran jarak jauh berdasarkan literasi saintifik pada topik penyakit coronavirus 2019 (COVID-19)*. Lembaran Siswa Sekolah Dasar, <https://doi.org/10.31237/osf.io/7tngk>.
- Solihati, T. A. & Rahayu, N. (2020). A study on students' needs in learning English for pharmacy (A starting point to design innovative syllabus). *English Review: Journal of English Education*, 9(1), 125-134. <https://doi.org/10.25134/erjee.v9i1.3785>
- Stupans, I., March, G. J., & Elliot, E. E. (2015). Pharmacy students' english language skill development: are we heading in the right direction?. *Pharmacy Education*, 9. <https://pharmacyeducation.fip.org/pharmacyeducation/article/view/279>
- Susilowati, N., Mahmud, A., & Sari, P. (2022). Communication skill, student engagement and self-efficacy: flow on effect on student online learning. *Journal of Education Technology*, 6(1), 67-76. <https://doi.org/10.23887/jet.v6i1.41941>
- United Nations (2020, August). *Policy brief: education during COVID-19 and beyond*. United Nation Sustainable Development Group. https://www.un.org/development/desa/dspd/wpcontent/uploads/sites/22/2020/08/sg_policy_brief_covid-19_and_education_august_2020.pdf
- Yee, L. T., Rahim, M. A., Parwaiz, N., Jamil, N. H., Othman, N. A. A., Mukhtar, M. S. W., Koon, T. Y., & Phua, G. S. Y. (2020). The satisfaction and perception of contract provisionally registered pharmacists in Kedah and Perlis towards their internship training. *Pharmacy Research Reports*, 3(2), 1-9. <https://research.pharmacy.gov.my/system/files/PRR3.2pp.1-9.pdf>.
- Yen, E. L. Y., & Mohamad, M. (2020). Utilising E-Learning to Assist Primary School ESL Pupils in Learning to Spell during COVID-19 Pandemic: A Literature Review. *Creative Education*, 11(08), 1223-1230. <https://doi.org/10.4236/ce.2020.118091>
- Zarzycka, E., Krasodomska, J., Mazurczak-Mąka, A., & Turek-Radwan, M. (2021). Distance learning during the COVID-19 pandemic: students' communication and collaboration and the role of social media. *Cogent Arts & Humanities*, 8(1), 1-20. <https://doi.org/10.1080/23311983.2021.1953228>