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A MOBILE APPLICATION DEVELOPED FOR SCAFFOLDING ESL LEARNERS IN PROVIDING PEER FEEDBACK

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ABSTRACT

Background and Purpose: Peer feedback has received significant research attention in teaching and learning of oral presentation skills. However, literature reveals a number of challenges concerning students' provision of peer feedback. A mobile application was thus developed to scaffold students in this context. This study purports to evaluate the efficacy of the developed application by introducing it to the target users in an actual classroom setting.

Methodology: Thirty-three (33) ESL learners from one of the polytechnics in Malaysia were involved in this descriptive study. Both the peer feedback records (pre- and post-) were analyzed for the differences in peer feedback before and after the implementation of mobile application. A 20-item questionnaire was later administered to the target group to examine their perceptions on the developed application.

Findings: It was revealed that with the use of the newly developed application, students generally constructed more peer feedback with specific suggestions to improve oral presentation. Positive perceptions regarding the presentation, visual design, navigation and mobile app accessibility were also found.

Contributions: This study adds to the limited research on the use of mobile-assisted peer feedback, which can be a practical way to develop ESL learners' oral presentation skills. The findings offer insights into how a mobile application can help scaffold students in peer feedback provision and could help inform that scaffolding is deemed necessary in building an effective classroom culture of feedback. The outcome could serve as a guide for instructors who wish to contemplate using similar approach.

Keywords: ESL learners, mobile application, oral presentation, peer feedback, scaffolding.

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1.0 INTRODUCTION

Traditional instructional approach in teaching oral presentation involves theoretical lectures and some students' oral practice work. No matter how well-organized the presentation structure is, the whole session is still very much teacher-centred. As limited class time for student practice remains one of the prime challenges for teaching oral presentation (Hill & Storey, 2003), teacher-centred approach might be favoured over student-centred approach. Even-though students' oral practice work is highly valued, teacher is still the one who claims ultimate control over students' presentation pace and dominates classroom talk. In a teacher-centred classroom, teacher talking time is a central pivot (Beattie, 2020) and teacher is still the most dominant source of information, with his/her feedback attached more importance (Emaliana, 2017).

To develop self-regulated learners, shifting teacher's role to a more facilitative mode is necessary (Segaran & Hasim, 2021). In fact, to sufficiently equip ESL learners with skills to do an effective oral presentation, instructors need to provide the necessary contexts for them to communicate meaningfully, explore and make sense of language. Literature reveals that some innovative approaches, such as integration of multimedia courseware with a task-based learning approach (Tsai, 2011), virtual reality-based tasks (Van Ginkel et al., 2019), and integration of peer feedback (Lee, 2017; Ma & Shen, 2018) have been adopted by practitioners in the field.

Peer feedback which prompts learners to think critically, express ideas and justify their views, can help foster active student engagement in the whole learning process. In fact, there seems to be accumulating evidence that technology-supported peer feedback can offer

numerous merits to enhance student learning (see Nguoi & Habil, 2020). Even though there were some concerns regarding challenges to get students' attention and full engagement, for instance, to monitor students on-the-fly as in traditional physical classes during online distance learning (see Boholano, Merin, & Dapat, 2021), Chew and Ng (2021) highlighted that online mode might have potential to reduce learners' anxiety and prompt peer interaction. Therefore, technology-supported peer feedback can be considered an essential alternative to make virtual classrooms more engaging in this post-pandemic recovery phase.

However, peer feedback implementation is not without any challenges. Issues such as the lack of high-quality feedback, students' negative perceptions, their lack of confidence and trust, sociocultural factors and face-saving issue (Nguoi & Habil, 2021) were highlighted. As addressed, the biggest challenge was in scaffolding students to provide valuable feedback (Kurniawati, 2013). So, looking for effective means to help enhance students' confidence in this context is of fundamental concern.

A mobile learning application was therefore developed with reference to ADDIE instructional model (Branch, 2009). Firstly, in the *Analyze* phase, a preliminary study conducted over 5-week oral presentation lessons found students' difficulties to evaluate oral presentation and provide constructive peer feedback. With a purpose statement generated based on the defined performance gap, resources such as (1) learning materials on effective oral presentation strategies and (2) peer feedback guide and oral presentation evaluation checklist for scaffolding peer feedback process, were identified. This also included notes which were prepared based on a review of previous studies on common language errors in students' oral presentation/ public speaking/ speech production (*eg.* Amiruddin, 2019; Amna, 2021; Azmi, 2016; Merizawati, 2019; Pane, 2017; Ruminar, 2018; Safrida & Kasim, 2016).

In the *Design* phase, a list of essential performance tasks was identified and different types of learning were planned. One of the activities requires students to use the evaluation checklist in identifying their peers' lacking in oral presentation. Next, application design flowchart, storyboard, character, interface, logo, menu and buttons in the app were designed.

Third, the *Development* stage involved preparing and selecting all the content needed, creating layouts and coding process. It was intentional to prepare and include different types of media and learning resources, such as notes with many illustrations and graphic organizers, videos, audios and some interactive elements, such as phrase selectors, checkboxes of evaluation checklist and text fields to accommodate various student learning styles. With information chunking strategy, content in the app was provided in bite-sized chunks.

At a later stage, an expert review was conducted with a polytechnic instructor, with more than ten (10) years of English language teaching experience. Four (4) students from the preliminary study were interviewed to probe into their perceptions of the application. A quick tutorial video was later prepared to provide more user support. These revisions were done before the app was introduced to the targeted group. This study will report the *implementation and evaluation* phases involved. In particular, it seeks to answer the following research questions:

- What are the differences in peer feedback of oral presentation constructed by students before and after the implementation of mobile application?
- What are students' perceptions on the newly developed mobile application, in terms of its presentation, visual, navigation and accessibility?

2.0 LITERATURE REVIEW

2.1 Mobile Learning

The modern era which has witnessed digital revolution and proliferation of mobile devices allows mobile-assisted teaching and learning to be exploited to a greater extent, particularly among tertiary-level students as most of them own a smartphone or mobile device (Ansari & Tripathi, 2017). Most of the traditional lecture-based classroom teaching can now be supplemented with technology-enabled classroom activities due to availability of on-campus wireless internet. In addition, students responded positively towards the use of mobile applications in their learning as they can understand the content and learn better (Farrah & Abu-Dawood, 2018). Furthermore, a recent study found that students are highly optimistic and are at a moderate level of readiness for this type of learning (Shuib, Azizan, & Ganapathy, 2018). Given the distinctive features of handheld devices, such as the instant access to information, individualized interfaces and immediate communication and feedback (Sung, Chang, & Liu, 2016), a more conducive environment to student engagement and learning can be created. For instance, facilitating students' access to information and increasing student engagement (Domingo & Garganté, 2016) were some of the benefits of using mobile technology in education. The positive impact of mobile learning applications was also observed on learner autonomy (Gaber, 2015), motivation (Demir & Akpınar, 2018), and their willingness to communicate (Hung, 2017). Above all, mobile technology was reported to have positive impacts on students' academic achievement (Demir & Akpınar, 2018; Ozer & Kiliç, 2018).

2.2 Mobile-Assisted Language Learning (MALL)

Language teaching has also undergone changes with the significant technological affordances of mobile devices. Mobile-assisted language learning (MALL) has received considerable attention in recent years. Mobile learning was found to promote vocabulary acquisition (Alkhezzi & Al-Dousari, 2016; Chen, Liu, & Huang, 2019; Rosell-Aguilar, 2018), literature learning (Sa'don, Ibrahim, Mohamed Dahlan, & Che Husin, 2015), writing skills (McLain, 2018; Robles, 2016), listening skills (Gaber, 2015) and reading comprehension (Huang & Hong, 2016). Besides, positive impacts of using MALL in grammar teaching was also observed (Rozina, Tengku Nazatul Shima, Ahamad Shah, Rahmah, & Hafiza, 2017). Apart from language skills development, positive competitive environment, positive feedback concerning learners' language learning motivation, enjoyable learning environment and active learning were reported (Ozer & Kiliç, 2018). The essential roles of mobile learning in encouraging both independent and collaborative learning experiences and promoting learner interaction were also highlighted (Kuimova, Burleigh, Uzunboylu, & Bazhenov, 2018). Due to the rapid growth of communicative affordances of mobile media as well as the apparent characteristics of mobile devices such as portability, functionality, ubiquity, utility and connectivity to assist teaching and learning (Pachler, Bachmair, & Cook, 2010), numerous opportunities are now made available for learners to engage in a broader range of language learning activities.

To date, an extensive amount of literature conducted on MALL focused primarily on the effects of mobile learning in facilitating the teaching of writing (Aghajani & Adloo, 2018; McLain, 2018; Robles, 2016; Ahmad Zaki, & Md Yunus, 2015), vocabulary acquisition (Alkhezzi & Al-Dousari, 2016; Klimova, 2019; Rosell-Aguilar, 2018; Chen et al., 2019) and speaking skills (Hadi & Emzir, 2016; Hung, 2017; Miskam & Saidalvi, 2019). Even though mobile technologies can stimulate many ways of language teaching and learning, there is a dearth of mobile applications designed to facilitate integration of peer feedback in language classrooms for developing oral presentation.

2.3 Principles and Considerations for Developing Mobile Application

Understanding the visual design and interaction principles is crucial for application designers. Jackson and Ciolek's (2017) principles of effective visual design, Shneiderman et al.'s (2016) eight golden rules of user interface, Gong and Tarasewich's (2004) guidelines on mobile interface design and Ballantyne, Jha, Jacobsen, Hawker, and El-Glaly (2018) mobile app accessibility guidelines can be of great assistance. The following sections will discuss some of

these principles and guidelines in relation to presentation, visual design, navigation and mobile app accessibility.

2.3.1 Presentation

Visuals are one of the important elements in designing user interface. An attractive aesthetical visual of user interface design plays a role in attracting users to download (Wong, Khong, & Chu, 2012). All the visual design components, such as typefaces, images, color, graphic elements, icons, and branding elements have to work in a cohesive manner and be supportive to the hierarchy of information being presented to the users (Jackson & Ciolek, 2017). Three characteristics of icon, i.e., simplicity, recognizable at a glance and can improve the user's experience were addressed (Chew, Lai, & Ng, 2020). Besides, ease of use is also one of the keys to designing effective user interface (Jackson & Ciolek, 2017). Having a clean interface is one of the tricks. There is a need to avoid visual clutter so that users can process and concentrate on the important information easily. Efforts should be geared towards providing proper orientation to users and helping them to navigate and interact with app content. Reducing users' short-term memory load is another essential rule (Shneiderman et al., 2016). Tasks should be arranged to allow completion with only a few actions. Labels and common formats will thus be helpful for novice or intermittent users. As suggested by Miller's Law (see Jackson & Ciolek, 2017), content can be 'chunked' to help users to focus on, process, retain and recall in view of the limited capacity of one's short-term memory.

2.3.2 Visual Design

There is a need to strive for consistency when designing user interface (Shneiderman et al., 2016). Using identical terminology, consistent colours, layout and fonts is advisable. Schlatter and Levinson (2013) suggested two rules of thumb to help create consistency in layout. First, screens with the same types of information should have all elements positioned the same way. Secondly, different elements which are related to one another should maintain their spatial relationships. Repetition can also be used to establish consistency and to create a visual rhythm (Jackson & Ciolek, 2017). Besides, alignment is also needed to create order and a visual connection between different elements on the screen (Jackson & Ciolek, 2017). Besides, Gong and Tarasewich (2004) highlighted that colour and its manipulation are important considerations for visual interfaces. Colour coding can be used as a strategy to help users distinguish rapidly among several categories of data (ibid). Next, hierarchy can be used to visually show content priority (Jackson & Ciolek, 2017). As explained, visual hierarchy often

needs to be established at multiple levels, i.e., the overall app, individual screens and screen-level widgets (Schlatter & Levinson, 2013). To define a strong hierarchy, it is advisable to use contrast which includes position and treatment. Contrast can also be used to create emphasis in a composition (Jackson & Ciolek, 2017). In relation to this, the proximity principle, which suggests that objects which are placed close to each other will be perceived related and as a collection, can be used to create relationship between elements (Jackson & Ciolek, 2017). Related elements within a composition can be grouped to give visual cues to users.

2.3.3 Navigation

Building navigation that promotes fast access to the content is another important consideration for designing effective user interface (Jackson & Ciolek, 2017). Key information should be made easily accessible. Elements such as call-to-action, buttons, symbols, actions and breadcrumbs can be used to build effective user navigation. Consistency of elements can also facilitate users in navigating through the app (Shneiderman at al., 2016). As addressed, consistent use of colour, layout, icons, fonts, font sizes or button sizes can help create a better understanding of the interface. On the other hand, inconsistency, as in the positioning of the buttons will slow users down by 5-10% (Shneiderman at al., 2016). Another rule is in creating user control (Shneiderman et al., 2016). It is important to let users take charge of the interface. Jackson and Ciolek (2017) highlighted that there is a need for users to feel in control at all times when interacting with a system. Interface control types, such as buttons, check boxes, dials and sliders, text fields and text areas can be used for users to control the content. Besides, there is also a need to make sure that the interface responds to users' actions. Responsiveness/ feedback was highlighted as one of the important considerations when developing interface and interaction (Jackson & Ciolek, 2017). Offering informative feedback is concerned with the need to provide interface feedback for every user action (Shneiderman et al., 2016). Designing pop-up warnings to prevent users from exiting paths that may irreversibly impact their data and navigation through the content is also another option. Designing dialogs, such as informative feedback or a confirmation page to signal the completion of an action or to yield closure (Shneiderman et al., 2016) can help users to explore and interact with the application easily. Besides, it is also advisable to permit easy reversal of actions so as to allow users to relieve anxiety and explore more (Shneiderman et al., 2016).

2.3.4 Accessibility

Four main principles, which are *perceivable*, *operable*, *understandable* and *robust* were highlighted as the core tenets of accessibility (Ballantyne et al., 2018). The first principle is concerned with making the content discernible by all users. Secondly, operability principle requires that all features to be fully employable by everyone, regardless of user limitations. Next, understandability principle is concerned with users' cognitive ability to comprehend the meaning of the presented information. Creating a predictable and consistent order via formatting of elements as well as providing contextual help to guide users through actions are some of the strategies that can be used to support understandability principle. The last principle, robustness is concerned with the flexibility of content, such as to work with multiple browsers. Some examples given in the accessibility guidelines generated by Ballantyne et al. (2018) are discussed as follows. It was highlighted that text can be rendered in adequate format, size and colour to make the content perceivable by users with vision impairments. As for non-text content, text alternatives such as speech or symbols can also be provided. Alternatives to audio content such as textual transcriptions or captions can be used to help communicate content to users with hearing impairments.

Another strategy is to ensure that user interface elements, such as images are clearly labeled, coloured and positioned so as to allow users to navigate around and get access to the content easily. Also, a screen with a title that describes the purpose will help users to find the information needed and to complete a task without the hassle to revisit previous screens or look up other information. Besides, error prevention was also identified as one of the strategies in Ballantyne et al.'s (2018) mobile accessibility guidelines. In fact, providing informative message to prevent users from making serious errors is also one of the eight golden rules suggested for designing user interface (Shneiderman et al., 2016). It was highlighted that the error message needs to be specific, positive in tone and constructive. It should be one that can tell users what can be done next.

In relation to this, Jackson and Ciolek (2017) suggested that user errors can be prevented by providing a "back," "undo" or "cancel" button or a command to recover from any mistakes made. Besides that, considerations should also be put on building navigation to allow access to all high-priority content (Jackson & Ciolek, 2017). Simple, logically organized and well-labelled displays are needed by novice users. As explained, seeking universal usability is concerned with recognizing the needs of both novice and expert users (Shneiderman et al., 2016). Additional explanation can be provided for novices while shortcuts and faster pacing can be made available for experts. It is also worth noting that there are many different

techniques which can be used to get users' attention. Marking which includes underlining an item or pointing with an arrow, using larger sizes to attract more attention, using colours and different tones or sounds are some of the strategies (Shneiderman at al., 2016). These attention-getting methods can be used effectively to draw users' attention to interact or to focus on the important content in the app. In short, facilitating users to get easy access to the primary content in the app is the central focus for developing an app with good accessibility.

2.4 Peer Feedback

Peer feedback is frequently used as a key pedagogical *tool* at tertiary level of education (see Fester & Gedera, 2018; Luo, 2016; Rodríguez-González & Castañeda, 2018; Wu & Miller, 2020). Students' positive perceptions (Altstaedter & Doolittle, 2014; Li & Li, 2017) and positive effects of using peer feedback approach (Chien, Hwang, & Jong, 2019; Hsia, Huang, & Hwang, 2016) were also well-documented in literature. Aligned with Vygotsky's (1978) Social Constructivist Theory, peer feedback emphasizes learners' social interaction in construction of meaning. In these student-centred classrooms, students get to voice their opinions, share ideas, learn from each other, feel more secure in the learning process and can use English meaningfully (Nagaraju, Madhavaiah, & Peter, 2013). Therefore, the role of teachers as the primary feedback providers needs to be redefined. Involving students in this cognitively engaging activity will enable them to get sufficient opportunities to reflect on their language use. This is because students are actively engaged in the higher-order thinking processes, particularly in identifying errors and making suggestions (Carless & Boud, 2018).

There are four main levels of peer feedback, namely, feedback on task, feedback about processing of task, feedback about self-regulation and feedback about self (Hattie & Timperley, 2007). Feedback on task, which is also regarded as corrective feedback, is concerned with how well students have performed on the task. Feedback about processing of task focusses on how the task is processed while feedback about self-regulation is related to comments given to help students monitor, direct and regulate actions towards the learning goal. Lastly, feedback about self is personal feedback which contains little task-related information. Descriptive and qualitative-oriented peer feedback was found to significantly predict the quality of student work (Yu & Wu, 2013). Literature reveals that various frameworks and conceptualizations have been devised to establish a solid knowledge base of peer feedback. Inclusion of concrete suggestions/ solutions is considered obligatory (see Denton, 2017; Huang, 2018; Nelson & Schunn, 2009). Besides, problem/ gap identification was also recognized as an essential move (see Denton, 2017; Huang, 2018). Also, explanatory feedback was evident in many studies

(Ching & Hsu, 2013; Huang, 2018; Lu & Law, 2012; Nelson & Schunn, 2009). Other cognitive feedback such as summary comments (Nelson & Schunn, 2009), strength identification (Lin, 2018) and positive or negative affective feedback (Lu & Law, 2012; Zheng, Cui, Li, & Huang, 2017) were also commonly found.

3.0 METHODOLOGY

A descriptive research design was adopted in this study to delve into target users' perceptions and the efficacy of the newly developed mobile application. Students' peer feedback records (pre- and post-) and an adapted questionnaire were employed as data collection tools. The participants were thirty-three (33) Semester one Diploma students taking *Communicative English 1* Course in one of the polytechnics in Malaysia. To prepare students for the peer feedback activity, a briefing on the three (3) dimensions of oral presentation, i.e., content, language and delivery was conducted. The sub-components of each dimension were highlighted and discussed with the students. Students were later assigned to three different groups, focusing on a particular dimension of oral presentation. After watching a pre-recorded semester one oral presentation video, students participated in the first peer feedback activity. In the next session, students were introduced to the newly developed application. The same briefing and prompts were given. After installing and exploring the application, students participated in the second peer feedback activity. Both were 20-minute peer feedback sessions.

Due to COVID-19 pandemic, all the sessions were conducted online. A 20-item questionnaire adapted from Muslimin, Nordin, Mansor, and Yunus (2017) was later administered to the target group to assess their perceptions of the application. In particular, four (4) dimensions, namely, the presentation, visual design, navigation and accessibility elements of the mobile application were explored. Figure 1 illustrates the data collection procedures.

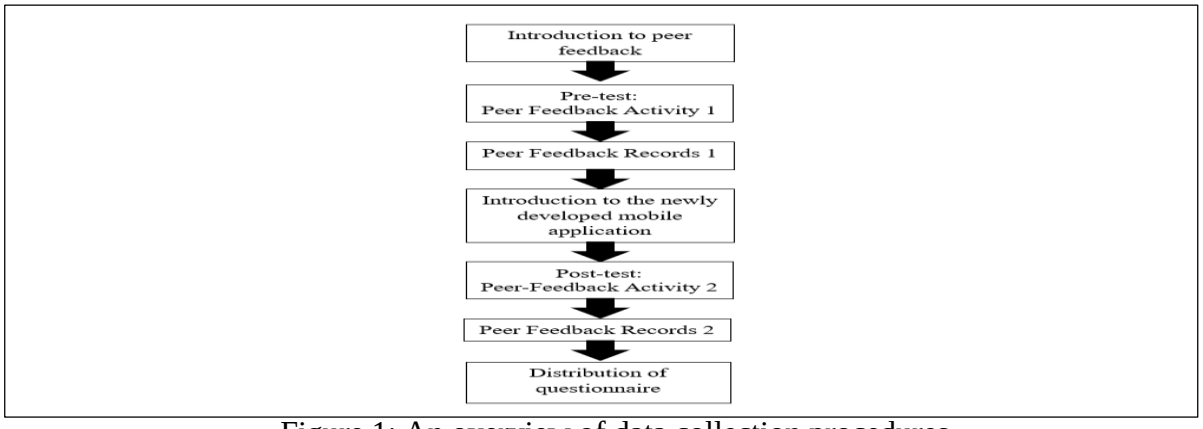

Figure 1: An overview of data collection procedures

Both the peer feedback records (pre- and post-) were later retrieved from the online platform for content analysis. Each peer feedback entry was qualitatively analyzed and coded for different types of peer feedback. Following Leijen's (2017) data segmentation, in this study, a unit of analysis refers to a single reference to an aspect of the oral presentation. All the peer feedback records were coded, categorized and counted to determine the frequency of each type of feedback. For example, as shown in *Figure 2*, a student was found to include three types of feedback, i.e., problem identification, suggestion and explanation in one entry.

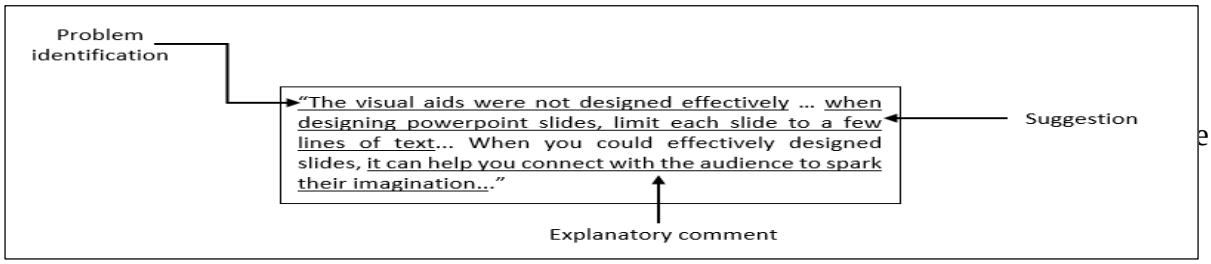

Figure 2: Coding example for a peer feedback entry

4.0 ANALYSIS AND DISCUSSION

This section presents the findings on the peer feedback generated and students' perceptions on the newly developed mobile application, in terms of its presentation, visual design, navigation and accessibility.

4.1 Peer Feedback Constructed Before and After the Implementation of Mobile Application

As each peer feedback entry usually contains several idea units which can be coded into different categories of feedback, a total of one hundred and forty-four (144) feedback instances were finally identified after segmentation, as shown in Table 1. Figure 3 shows the proportion of different types of peer feedback in both sessions.

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Table 1: Analysis of peer feedback records

Peer feedback	**Peer feedback records**				**Total**
	Pre-	%	**Post-**	%	
Positive comments offering support/ praises	17	23.3	6	8.5	23
Explanation	3	4.1	13	18.3	16
Problem Identification	29	39.7	17	23.9	46
Strength Identification	17	23.3	6	8.5	23
Suggestion	2	2.7	28	39.4	30
Others	5	6.8	1	1.4	6
Total	**73**	**100**	**71**	**100**	**144**

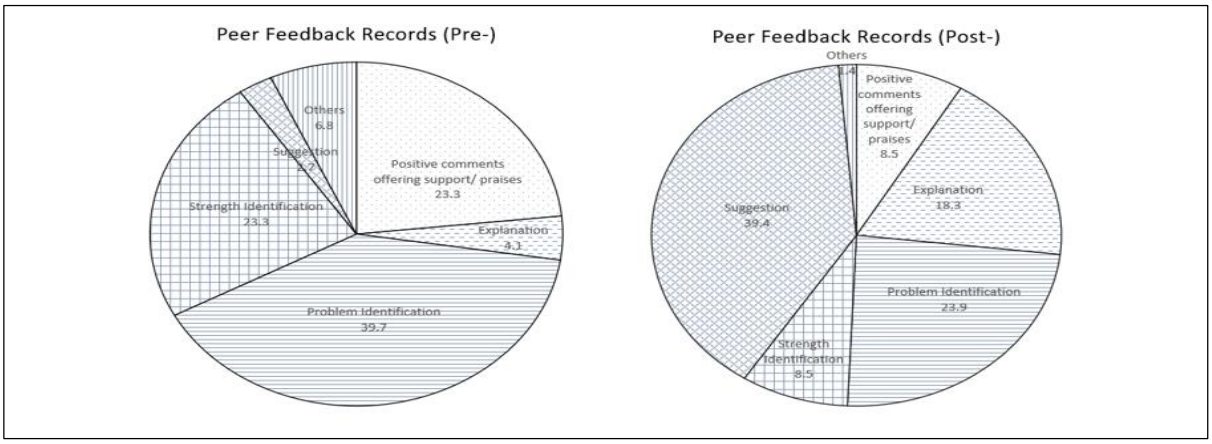

Figure 3: Peer feedback records (pre- and post-)

It was noted that before the introduction of the application, peer feedback was found to consist mainly of problem identification (39.7%), strength identification (23.3%) and positive comments offering support/ praises (23.3%). However, comments which offer suggestions to improve the oral presentation and explanatory comments were comparatively less, with only 2.7% and 4.1% respectively. Besides, most of the comments were short and lacked details. For instance, *"good presentation but too much grammar error."*, *"The explanation can be more clear."*, *"nice presentation but a little nervous."*

On the other hand, a great majority of the feedback generated after the introduction of application consisted of suggestion (39.4%) and problem identification (23.9%). There was a great deal of revision-oriented feedback with specific suggestions for improvement. Also, it

was noted that there was an increase of explanatory feedback from 4.1% to 18.3% with the use of the app. Perceived as adequate peer feedback and a significant predictor of students' willingness to improve (Huisman, Saab, Van Driel, & Van Den Broek, 2018), the increase of explanatory feedback can be considered a positive outcome of using the app.

An example of peer feedback retrieved from the session after the introduction of the mobile app is illustrated as follows: *"Because the delivery visual aids is not visually attractive. Maybe you can use your slides to augment the clarity and color of your talk. You can complement it with graphics and clip art…, one of the reasons to use visual aids is to stimulate interest and sustain audience attention."* As shown, the feedback has addressed a problem with the visual aids, i.e., 'not visually attractive'. A specific suggestion was then given based on the problem identified, i.e., 'making use of graphics and clip art'. It was then concluded with an explanation to justify for having a visually attractive visual aids as a very important strategy for an effective oral presentation.

Besides, it was also observed that peer feedback generated after the introduction of the application was generally more specific and helpful. As a comparison, two similar peer feedback entries were extracted as follows: *"Give some more explanation for the content"* [pre-]. *"You can use facts or reason with instances as evidence"* [post-]. The second peer feedback [post-] was considered more helpful for the feedback receiver as the suggestion is more specific. With such suggestion, the feedback receiver will know exactly how to go about improving his/her work.

4.2 Students' Perceptions on the Newly Developed Mobile Application

This section presents the findings from the 4-point Likert scale, ranging from 1 (Strongly disagree), 2 (Disagree), 3 (Agree) to 4 (Strongly Agree) questionnaire which were analyzed using Statistical Package for the Social Sciences (SPSS). Table 2 shows that in general, students demonstrated their acceptance towards the presentation aspect of the app. Majority of them agreed that the app has user-friendly icons (M= 3.09, SD= 0.58), well-organized content (M= 3.06, SD=0.50), interesting screen design (M=3.03, SD=0.53) and easy-to-use main menu system (M= 3.00, SD= 0.61).

Table 2: Students' perceptions on the presentation of the application

Presentation	**M**	**SD**
Interesting screen design	3.03	.53
Well-organized content	3.06	.50
Smooth display transition	2.85	.57
User-friendly icons	3.09	.58
Easy-to-use main menu system	3.00	.61

M= mean, SD= standard deviation

Among the essential elements highlighted in data-display guidelines (Smith & Mosier, 1986) are consistency of data display and labelling formats. As shown in Figure 4, each frame or screen in the newly developed app was built with a consistent design and format. As for labelling, every display in the app has a title or header, telling the content of the particular screen. Icons have consistent design and colours, with simple and easy-to-understand visuals. They were all labelled accordingly and arranged according to the three main dimensions of oral presentation on the main menu screen. To have a well-organized content, efforts were taken to chunk the content information into bite-sized content which was later embedded in different sections, i.e., 'What to do?' and 'Why?' in the app. This information will be displayed when an item in the evaluation checklist is clicked. As highlighted, content chunking is one of the alternatives for effective interaction design as far as the Miller's Law is concerned (Jackson & Ciolek, 2017).

However, smooth display transition has the lowest mean score of 2.85. As the newly developed app was built with data stored in cloud, internet connection is needed for displaying the data. So, unstable internet connection might affect the transition from one display to another.

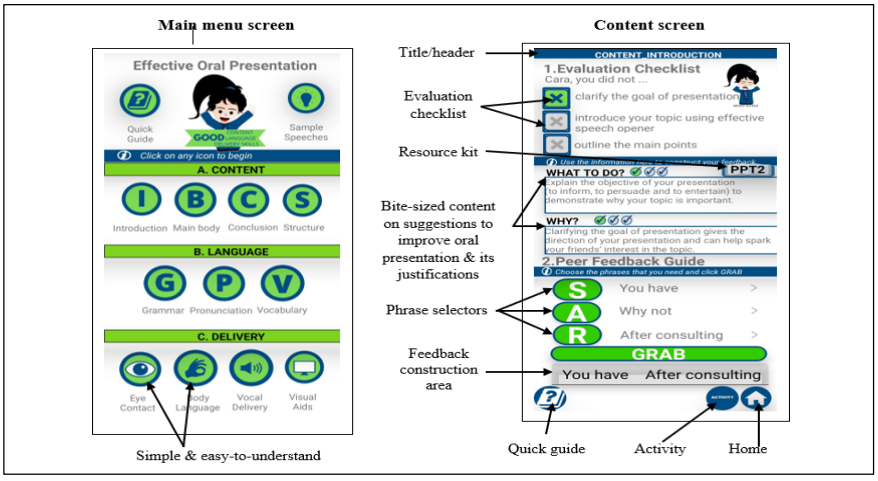

Figure 4: Interface of the developed mobile application

Table 3: Students' perceptions on the visual design of the application

Visual design	**M**	**SD**
Appropriate placement of main icons	3.00	.50
Appropriate graphics	3.03	.59
Appropriate use of colours	3.09	.52
Systematic arrangement of interface elements	3.06	.66
User-friendly interface display	3.09	.63

M= mean, SD= standard deviation

Students perceived the visual design of the app positively. Based on Table 3, majority of them agreed that the app has appropriate use of colours (M=3.09, SD=0.52), user-friendly interface display (M= 3.09, SD= 0.63), systematic arrangement of interface elements (M= 3.06, SD= 0.66), appropriate graphics (M= 3.03, SD= 0.59) and appropriate placement of main icons (M= 3.00, SD= 0.50). With reference to interface design guidelines (Shneiderman et al., 2016), colours were used consistently throughout the app. The number of colours in a single display was limited to only four, i.e., blue, green, black and white. Besides, colour coding was also used to emphasize the logical organization of information in the app. Graphics were designed with a good contrast of colours. Also, related elements, such as icons for the sub-components of each oral presentation dimension were placed closer, while other elements such as quick guide and sample speeches were placed further apart. According to law of proximity, objects which are placed at a closer distance will be perceived as a collection of objects (Jackson & Ciolek, 2017), so grouping can be used to build an effective visual hierarchy.

Table 4: Students' perceptions on the navigation in the application

Navigation	**M**	**SD**
Freedom to choose where to start learning	3.12	.42
Take control of learning	3.06	.56
Content for facilitating learning	3.24	.50
Easy to get in and out	2.91	.58
Interface layout sorted by different categories for easy exploration	3.00	.50

M= mean, SD= standard deviation

As shown in Table 4, in terms of navigation, the highest mean score was recorded for navigating to the content that facilitates how to provide peer feedback (M= 3.24, SD= 0.50) and freedom to choose where to start the learning (M= 3.12, SD= 0.42). These were followed

by taking control of learning (M= 3.06, SD= 0.56) and easy exploration (M= 3.00, SD= 0.50). To help users navigate the interface, detailed guidelines such as a quick tutorial video and quick guide notes were prepared in the app. Flexibility in use was also incorporated in which users can choose to explore any dimension of oral presentation as they wish. 'Easy to get in and out' had the lowest mean score of 2.91. On a closer inspection, it was noted that even though the quick tutorial video and quick guide notes can help students in navigating through the app, they are only available on the main menu screen. The support menu will not be available once users get to a content page. Therefore, it is deemed necessary to add the support menu on every content page so that the quick guide can assist users to get in and out of the app.

Table 5: Students' perceptions on the application accessibility

Accessibility	**M**	**SD**
Easy access to content learning menu	3.15	.62
Easy installation	2.73	.76
Menu icons function properly	3.00	.61
Getting additional information needed	3.27	.52
Can explore any time	3.21	.55

M= mean, SD= standard deviation

Based on Table 5, the majority of students agreed with the accessibility to additional information needed (M= 3.27, SD= 0.52) and the easy accessibility of the app for them to explore any time (M= 3.21, SD= 0.55). These were followed by 'easy access to content learning menu' (M= 3.15, SD= 0.62) and menu icons (M=3.00, SD= 0.61). In the newly developed app, students can get access to nine (9) pdf notes which were prepared and embedded for their further reading. Also, selected videos were included to enhance students' comprehension of certain concepts discussed in pdf notes (e.g., body language, vocal delivery). 'Easy installation' had the lowest mean score of 2.73. App installation might be affected by factors, such as poor internet connection and phone compatibility issues. Phone compatibility issue was also highlighted as one of the possible factors leading to students' difficulties to access the learning content (Muslimin et al., 2017). Furthermore, as the session was conducted fully online, providing personalized app installation instructions on-the-fly was obviously more challenging compared to face-to-face mode. Therefore, these factors need to be considered when introducing the app to students. There is a need to provide further assistance during app installation.

5.0 CONCLUSION

To conclude, this study has demonstrated that the newly developed mobile application has great potential to scaffold students in the peer feedback provision. However, some suggestions to improve the application were also identified. First, it is deemed necessary to add the support menu on every content page to give more support and clearer direction to the users. Next, as application installation might be affected by factors, such as poor internet connection or phone compatibility issues, students might need more technical support from instructor during app installation. Besides, it is generally agreed that it will be more challenging for both instructor and students when introduction of the app is conducted fully online. Therefore, providing students with a sense of structure and sufficient explanation on how the app is structured before its actual implementation can help reduce unnecessary confusion among the students. As the content in the newly developed mobile application was highly tailored to suit the specific learning needs of Malaysian polytechnic students, it is expected to support instructors and polytechnic students in the teaching and learning of oral presentation in ESL classroom. Drawing upon the instructional strategies highlighted for developing students' intellectual skills, i.e., activation, demonstration, application and integration (Vasodavan, DeWitt, & Alias, 2021), instructors can use this mobile application to reinforce students' learning of oral presentation so as to create an effective collaborative technology-enhanced learning environment. Further studies can explore the effectiveness of using mobile assisted peer feedback by evaluating students' oral presentation performance and their successful intake of peer feedback.

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