

The Infusion Speech Skeleton Application (Apps) Concept as A Teaching Medium for Office Management & Technology (OMT) Students

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Abstract

This research aims to employ Apps in public speaking courses to facilitate OMT students' learning process with simplified speech draft development versions. The Apps development was categorised into two divisions: (i) content and (ii) design and concept. Specifically, Apps content served to complement OMT students' requirements while Apps design and concept encompassed interactive designs and waterfall models. Additionally, Analysis, Design, Development, Implementation, and Evaluation (ADDIE) and focus group discussion (FGD) were incorporated as research methodologies. Although App utilisation was presented in multiple educational courses, this study pioneered App development and implementation in the public speaking courses in line with non-communication (OMT) student needs.

Keywords: Speech Skeleton, Public Speaking, Mobile Learning, Draft Speech, Apps

1. Introduction

The Infusion Speech Skeleton (outline) Apps was initially applied to optimise current public speaking course instructions and lessons. Essentially, public speaking denotes a three-hour course that teaches learners basic speech script development that is presented in the classroom. The essential communication course requires Semester Three OMT students for speech draft development before conveying the original version. Consequently, students are exposed to speech draft development steps, such as organising and structuring the speech introduction, body, and conclusion. Furthermore, students are taught to prepare and convey a public speech through linguistic utilisation, speech delivery, and efficient visual aid applications. In this vein, each student functioned as a speaker, practised public speaking, was exposed to public speaking ethics, and examined audience engagement methods during a public presentation.

The Apps was structured based on the aforementioned prerequisites for effective end-user (student) utilisation and advantages. Notably, Apps served as a research instrument for specific purposes. A short survey was presented to determine students' general view of the Apps presentation mode. Approximately 80% of the students supported the Apps development by indicating a preference for speech skeleton conversion to Apps mode. The students mentioned their interest in learning speech drafts via Apps compared to other learning methods. They have also indicated that learning through Apps is much easier and more convenient, which is the information directly reached from their phone. Hence, these are among the push factors of this Apps development, tailored to cater to students' needs.

In the research context, Apps implied a step-by-step development encompassing all speech introduction, body, and conclusion aspects and functioned as a means of encouraging mobile learning (m-learning), supporting students' cooperative learning, and facilitating learners' involvement for a sound comprehension of and convenient speech draft writing. The Apps content, concept, and design would be duly presented in this research.

Despite the scarcity of similar Apps development to facilitate non-communication course (OMT) students' speech draft preparation, much research on Apps utilisation in other educational courses and subjects was conducted to identify learners' performance and participation. As such, this study aimed to outline the skeleton speech draft development (with alterations) and contribute to the growing body of knowledge on m-learning. Notwithstanding, the task proved complex, specifically non-communication majors resembling OMT students. From students' viewpoints, speech draft preparation requires specific competencies and strategies in sequencing speech information and gauging the speech content. Consequently, the Semester Three OMT students enrolled in public speaking courses faced speech draft development intricacies.

Given that most OMT students hailed from the *Mengubah Destini Anak Bangsa* (MDAB) programme pre-diploma cohort, learners' challenges in subject comprehension was duly acknowledged. For example, the present Online Distance Learning (ODL) scenario following the global pandemic emphasised Apps utilisation to support students' learning processes. Poor speech draft development during classroom submission inevitably led to low-quality speech presentations. Thus, Apps was developed based on the aforementioned aspects with several catalysts, such as convenience, encouragement of fundamental comprehension, and a 'touch and go' learning strategy. Despite the current absence of a similar Apps utilisation method to facilitate OMT students' speech draft preparation in public speaking, other subjects that assessed student learning through technological interventions revealed positive outcomes (see literature review).

2. Literatures Review

As conventional education systems are undergoing rapid transformation in line with technological advancement, the notable shift requires educational institutions to be at par with technological progress. Technological progress previously facilitated the learning process through digitised student-teacher engagement (e-learning). To date, mobile technology, including smartphones, laptops, or tablets have provided value-added education systems through portable education (m-learning). Sarrab et al. (2012) denoted subject materials management with m-learning to potentially occur in multiple locations and periods. Specifically, transportable devices were more accessible and highly preferred than desktops. Some studies denoted m-learning as a learning strategy with portable gadgets involving smartphones, personal digital assistants (PDAs),

and tablets (Putnik, 2016; Turner, 2016; Nawi et al., 2015). Recent patterns in employing m-learning in education have eventually garnered students' interest (Bartholomew et al., 2017). For example, m-learning provided novel implications on how educators could modify teaching strategies for efficient course delivery (Heflin et al., 2017). Portable gadgets encompassed specific appealing aspects that provided different educational alternatives for advanced and creative learner opportunities, such as technological usage for learning within or outside classrooms (Churchill et al., 2016; Wong & Looi, 2011).

Innovation-based Technology

Generally, technological progress inspires most instructors to integrate technology with subjects following millennial learners' requirements. Specifically, learners anticipated personal educational experiences to involve present and additional learning approaches, including specific media and simulative experiences (Howard, 2011), communicative experiences (Dede, 2004; (Pittman & Gaines, 2015), optimal multimedia experiences, peer-based collaboration, active learning styles, and minimal lectures (Price, 2009; Wilkerson et al., 2016). In this vein, educators were recommended to regard learners' and instructors' viewpoints of design factors (content, technology, and interaction) for functional education software development (Kennedy et al. 2004; Rotermund, De Rocje, & Ottem, 2017). M-learning implementations were typically established following simplified interactions, convenient navigation, and graphic applications for users' revision of educational content, quizzes, and access to digital forums or chats and video tutorials. Mobile devices encompassed appealing components that provided different learning alternatives for advanced and state-of-the-art student opportunities within or outside the class (Churchill et al., 2016; Wong & Looi, 2011). Additionally, Lowenthal (2010; Wu, Wu, & Li, 2019)) noted that m-learning content needed to be customised for small mobile screen sizes.

The Infusion Speech Skeleton Apps implies a pro-teaching creation that facilitated OMT students' educational experiences in speech draft content development. In other words, the innovation served to complement OMT students' requirements in comprehending the necessary information for speech outline completion. As such, Apps benefitted both learners and instructors in genuinely impacting OMT students' educational experiences through self and cooperative learning, interaction opportunities, authentic discussion space, and critical thinking and problem-solving techniques (Yuen et. Al., 2003; Zhang & Worthington (2017). Although Apps facilitated conventional teaching approaches, it was deemed essential to corresponded to millennial students' preferences for optimal learning experiences.

The M-learning Application

Various applications were designed for specific educational purposes and convenience in learning in particular subjects (mathematics, sciences, and languages) and extensively employed among learners, specifically tertiary-level students. For example, TeleGAIN or Telerehabilitation Group Aphasia Intervention and Networking denotes an m-learning application. Specifically, Pitt et al. (2017) piloted TeleGAIN for aphasic individuals. Aphasia denotes an intricate communication impediment that impacts many interactional functions: linguistic aptitude, verbal communication, daily task engagement and routine, and overall living conditions. Essentially, TeleGAIN highlighted three primary aims for the respondents (individuals with aphasia): (i) produce communicative task achievement opportunities, (ii) reciprocate experiences, and (iii)

provide convenient life conditions. Additionally, TeleGAIN respondents were offered particular tasks and therapy content for suitability.

Sarrab et al. (2012) also elaborated on Alykko, an optimal and astute m-learning application. The tutoring tool was employed by instructors for online quiz management, student communication support, and digitised student progress monitoring and facilitated instructor-learner interaction. Meanwhile, Cheong et al. (2012) designed *myVote* (sole emphasis on IT education) for collaborative knowledge acquisition at different intellectual levels. Thus, *myVote* facilitated practicality for lecturers and learners with enhanced student participation following high familiarity with mobile applications daily. The application also extended communication to a wider audience range within a short period through blended-learning sessions and promoted student interaction and involvement through digital responses. In this regard, *myVote* omitted the conventional 'show of hands' method in line with introverted students or learners who hesitated to explicitly communicate with lecturers (proof-oriented).

Collaborative Learning

M-learning catalysed collaborative learning strategies as opposed to traditional lessons (Rogers & Price, 2008; Borg, 2018) towards learners' awareness, engagement (Metcalfe et al., 2008; Pishghadam et al., 2019), interaction (Ting, 2013), and academic capacity (Hsu et al. 2013). Collaborative learning was integrated with m-learning for learners to convey individual concepts or opinions with a sound comprehension of the acquired information (Fu & Hwang, 2018). Meanwhile, Heflin et al. (2017, p. 92) modified portable device implementations for learning and emphasised that "in whatever ways they are employed, mobile devices and educational applications should not complicate the learning process but facilitate mobile learners' learning". As such, m-learning offered multiple educational possibilities for both students and teachers.

Benefits

The most substantial m-learning benefit involved the ability to offer educational experiences in any context (one the go). Likewise, Sharples et al. (2007) and Wladis et al., (2015) implied that m-learning facilitated students' learning involvement without time or place-oriented constraints. For example, m-learning could aid lesson delivery and collaborative tasks although students hailed from diverse regions (Taleb & Sohrabi, 2012). In Buckner and Kim (2012, p. 179), "among the major advantages of mobile devices are that they require substantially less infrastructure and electricity and are capable of reaching even the most isolated audiences". Following the aforementioned capacities, students could retrieve the information for optimal learning beyond place, distance, and time. M-learning also provided pro-student education compared to typical reliance on physical attendance and instructors that were usually considered mediators (Ekanayake & Wishart, 2014). Notably, m-learning strived to optimise students' educational experiences (Al-Fahad, 2009; Kemp & Grieve, 2014)). Pollara and Broussard (2011) implied that learners responded actively and spent more learning hours if the individuals could depend on personal devices to seek knowledge.

Regarding versatility, m-learning provided learners with device choices to learn when needed and monitor comprehension and assimilation speed. Furthermore, Yang et al. (2015) denoted that portable devices could promote flexible knowledge acquisition in diverse educational contexts within and outside classrooms. As such, Apps was designed to facilitate all the aforementioned

advantages and offer a sound comprehension of OMT students' speech development. Given the current absence of local Apps, the Infusion Speech Skeleton Apps development aimed to bridge the literature gaps and contribute to enhanced speech drafts among OMT students in public speaking courses.

3. Methodology

The primary textbook by Lucas E. Stephan (2015), 'Public Speaking', was extensively examined and comprehended as the main knowledge contributor to content development (primary content extraction). The Apps development materials would then be improved with empirical methods (library and digital database search). Additionally, FGD would be utilised in addressing the Infusion Speech Skeleton Apps users' particular perspectives. Specifically, Apps development employed an authoring structure (holistic design and conceptual waterfall model). The ADDIE and FGD that encompassed Semester Three OMT students enrolled in public speaking courses were also incorporated in the Apps development process (ADDIE would be duly elaborated in the following steps).

ADDIE stands for Analysis, Design, Develop, Implement and Evaluate that has been widely used in industry and education in creating instructional multimedia (Molenda, 2003; Clark, 2011). Each step of the model provided the framework for collecting information that can be useful in getting feedback according to the related task (Cennamo & Kalk, 2005; Alsaleh, 2020; Widyastuti & Susiana, 2019). Instructional designers traditionally adopted ADDIE as a common protocol that specified an active and adaptable parameter for effective exercise development and workable tools through optimised cooperative learning. Figure 1 presents the Infusion Speech Skeleton Apps development following the ADDIE framework structure. As such, Apps modification would be improved upon initiating the pilot session (user intention, perspective, and recommendation would be duly elaborated). Notably, both cooperative and engaged learning denote primary and current issues. The study Apps strived to outline how public speech should be organised from beginning to end (introduction, body, and conclusion). The Apps educational aims involved learners' understanding of speech development and the incorporation of competencies (derived from Apps utilisation) for assignments, events, and in life towards good speech creation. For example, the Infusion Speech Skeleton Apps could be employed for students' and teachers' self-learning and educational support, respectively. Additionally, Apps development encompassed interactive and integrative educational methods in a multimedia context, such as flashcard capacity and digital technology communication as all assignment submissions were emailed without conventional paper submissions. Concerning Apps utilisation within a given period, the anticipated student capacity was approximately 100. Notwithstanding, storage capacity was restricted as all the submissions were electronically delivered by email.

The Infusion Speech Skeleton Apps development involved platform and system development encompassing specific holistic components, such as author's profile, course outcomes and materials, e-book, self-assessment, forum, and Apps feedback) for further enhancement. Following the iFame competition in 2019, additional elements (flashcard capability) were incorporated to facilitate students' visual note memorisation. The learning materials specifically involved multimedia files, such as texts, images, interactive animations, navigations, and audio. The Apps initially utilised the Android Operating System and ApplePie,

web-based application designers providing employed Apps features. Furthermore, Apps colour selection potentially attracted youths due to the vibrant hues. Figure 1 presents the Infusion Speech Skeleton Apps interface design as highlighted in Table 1.



Fig. 1 Infusion Speech Skeleton System Design

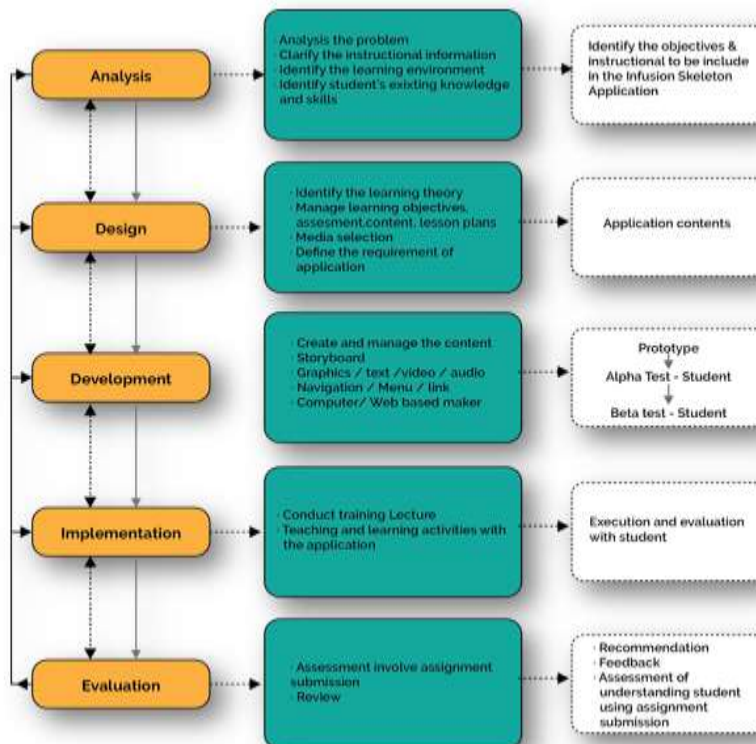


Fig. 2 The ADDIE Framework Model Development for Infusion Speech Skeleton Apps
Sources: Bringing ADDIE to Life: Instructional Design at Its Best (2003)

Table 1: Infusion Skeleton Speech Apps Interface Design

Components / Menus	Descriptions
Author's Profile	Present information of the author, for example, contact number and App owner's address.
Course Materials	Explain the course outcomes, information for speech introduction, content and conclusion, speech notes, e-book, and flashcards.
Assessment	Self-assessment before submission of the speech draft is included; students need to fill out the information, create the speech, and submit. The lecturer will check the content submitted via email.
Flashcard	The content will be explained by using flashcard designs because nowadays, students prefer visual notes
Forum	Allows the opportunity to engage in a discussion forum for sharing knowledge with peers. Collaborative learning can be engaged via the forum.
Review	For further improvements in the future, students are required to provide and submit feedback on the App.

The system design was improved in line with learners' recommendations following the initial pilot testing. For example, several interface features were enhanced for easy comprehension. The modifications served to optimise online learning experiences compared to the original version that proved more user-friendly with easier content comprehension (see Figure 3). The improved interface design is presented in Table 2.



Fig. 3 Improved Infusion Speech Skeleton Design

Table 2: Infusion Speech Skeleton Apps Interface Design Post-evaluation Test

Components / Menus	Descriptions
Course Information	The course information is well-elaborated (resembles the Aims UiTM counterpart).
Course Instructor and Designer Profile	Current course instructor and designer information (Apps owner's contact number and address) is included.
Application History	Information on establishment, mission and vision, and achievement are included.
E-Reader	The table of content, details for speech introduction, body, and conclusion, and speech notes are illustrated with infographics in PDF format.
Video	The video (linked to Youtube) includes content voice-overs (compared to mere reading) following student preference.
Assignment Submission	Inclusion of self-assessment pre-speech draft submission. Learners are required to complete the necessary information, structure the speech, and submit it. Instructors subsequently assess the emailed material.
The ISS Review	Students need to offer and submit Apps-based feedback for future enhancement.
Review	Indicates students' ratings and feedback.

4. Projected Outcomes & Implications

The usual practice for OMT students involved speech draft development through physical classroom sessions with lecturers for a sound comprehension of the steps involved. The Infusion Speech Skeleton Apps (designed for a simplified and more appealing learning method) was accessible with learners' mobile technology. For example, Al-Emran and Shaalan (2014) implied that a more versatile and convenient educational experience was necessary as mobile technology has altered students' implementation of time and focus. Students could access and retrieve speech-based knowledge with mobile Apps and perpetuate the learning process.

The aforementioned Apps also served to promote student-lecturer interaction in speech draft development, specifically for introverted and hesitant individuals following Zanaton and Sumaiyah (2017). For example, m-learning in class with Telegram supported learners' active engagement and comfort during opinion-sharing sessions. Meanwhile, Cheong et al.'s (2012) study on utilising *myVote* for m-learning indicated the innovation as a student-centric system that fostered communal and active learning. Consequently, students could be accountable for knowledge acquisition as learners needed to answer and complete the online tasks assigned by lecturers. Additionally, m-learning benefitted lecturers as the facilitators of students' learning process with additional lecturer-student communication channels. The Infusion Speech Skeleton Apps could be a significant instrument in enhancing and facilitating student performance, specifically for individuals who struggled with speech draft development. Finally, the Apps improve current practice in speech drafting in such a way that it is supportive of current Online Distance Learning (ODL), provides assistance in the form of mobile learning, which accommodates students in their learning process (Wishart, 2015), promote sustainability (Al-rahmi et al., 2021) and instils both experiential and self-learning even outside of the formal lesson period. On the other hand, the likelihood of the student's learning process for speech

draft may be hampered without the Apps is projected. However, this should be investigated further through evidence-based research, which will be presented in a subsequent paper.

5. Limitations, Conclusion And Study Forward

The Infusion Speech Skeleton Apps development aimed to simplify public speaking courses for OMT students following the research objectives. Notwithstanding, specific limitations were encountered. As Apps was designed to complement OMT students' needs, the innovation might be less beneficial to other end-users. Given that the content idea facilitated weak learners for the basic comprehension of speech development prerequisites, the information might appear oversimplified for intermediate and advanced-level students. Regardless, Apps facilitated alternative learning for learners who sought a more convenient means of engaging in public speaking courses, particularly in speech draft development. As such, Apps holistically addressed students' need for simplification towards a sound understanding of course content.

Several academic assessments were adjusted following the global pandemic. As one of the evaluations required learners to complete a speech-drafting worksheet, the individuals could not fully use Apps as the Apps features did not correspond to novel evaluations. Moreover, the Apps assignment submission feature (through Google Form) should be highlighted by listing the necessary information in each step for students' guidance. Subheadings, such as (1) 'get the audience attention', (2) 'reveal the speech topic', (3) 'establish your credibility and goodwill', and (4) 'preview the speech body' should be presented at the beginning of the speech. Despite the offered notes and videos, students were prone to exclude the required information in speech development. The Google Form could also indicate the chapter in each subheading for students' reference during speech development.

Despite the aforementioned limitations, this research substantially benefitted lecturers through optimised teaching and learning processes, students through simplified current assignments, and universities through students' attainment of good results. Educational strategies could be improved with the popularity of m-learning among technologically savvy students. This research could also be adapted to examine other varsity courses. Overall, application-based m-learning potentially facilitated students' comprehension and minimised task (assignment) completion time.

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Competing Interest

Authors declared no competing interest to this project development.

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