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Students' Acceptance of Web-based Learning Resource for Speaking using Technology Acceptance Model in Secondary Schools

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Abstract: Due to the lack of opportunities for real-world practice, secondary school students in rural Malaysia have major challenges in mastering English speaking abilities. This study uses the Technology adoption Model (TAM) to assess students' adoption of "Sunny Speaks!", a web-based learning tool intended to improve speaking ability. 281 Form 4 students from rural schools in Maran, Pahang, who were chosen by purposive sampling to represent pupils with low to intermediate competence, participated in a quantitative survey. Three major constructs were evaluated in the study: perceived usefulness, perceived ease of use, and perceived ease of learning. Overall approval was found to be high (Mean = 4.10), with Perceived Ease of Use scoring highest (Mean = 4.13), followed by Perceived Ease of Learning (Mean = 4.11) and Perceived Usefulness (Mean = 4.07). These findings show that the platform is user-friendly and intuitive for rural students in addition to being pedagogically effective. The study comes to the conclusion that, in non-urban ESL situations, using gamified, easily available web resources is a practical way to promote independent learning and enhance communicative skills.Keywords: Web-based learning, Technology Acceptance Model, English speaking skills, rural education, ESL learners, secondary school, user acceptance.

Introduction

Although mastering English as a second language (ESL) is a crucial goal of the Malaysian educational system, secondary school pupils, especially those from rural and suburban regions, sometimes find it difficult to become communicatively competent (Fuad et al., 2019). Speaking is often mentioned as a difficult ability, typically because there are few opportunities for real-world practice outside of the classroom and few supporting situations (Fuad et al., 2019). Teachers in typical classrooms frequently are unable to give every ESL student the same amount of attention, which restricts the students' capacity to practice and effectively develop their speaking abilities (Fuad et al., 2019).

The use of technology in language acquisition has grown crucial in response to these difficulties (Fuad et al., 2019). A potential remedy is provided by web-based learning resources (WBLR), which change teacher-centered education into student-centered learning by making learning materials widely accessible (Fuad et al., 2019). Faster and more effective teaching and learning procedures are made possible by this change (Fuad et al., 2019). Additionally, it has been noted that engaging and interactive assessment materials are essential for motivating students to develop their speaking and listening abilities (Amna & Christina, 2021).

However, user approval is crucial to the success of these digital interventions (Fuad et al.,

2019). Pedagogical resources may not accomplish their learning goals if they do not comprehend how students view these tools' utility and use (Trujeque-Moreno et al., 2021). The web-based learning tool "Sunny Speaks!" that aims to improve English speaking abilities is the subject of this study. This study attempts to assess students' adoption of this particular WBLR in terms of its perceived utility, perceived simplicity of use, and perceived ease of learning using the Technology adoption Model (TAM) framework.

Literature Review

2. Literature Review

2.1 Web-based Learning in ESL Instruction

ESL students can now utilize the internet to learn anywhere in the world thanks to web-based learning, which has become a crucial component of 21st-century education (Fuad et al., 2019). Web-based platforms are essential tools for bridging the urban-rural divide in Malaysia, giving students in remote locations access to high-quality language input (Fuad et al., 2019). According to research, web-based tools provide two-way communication, allowing educators and students to communicate and gain competency (Fuad et al., 2019). Furthermore, compared to static information, it has been demonstrated that incorporating multimedia components—such as animation, visuals, and audio—into these online resources improves comprehension and memory recall (Abdul Hamid et al., 2020).

2.2 Challenges in Teaching Speaking Skills

Speaking is regarded as a challenging ability to acquire. Speaking skills are taught mostly through classroom presentations in traditional settings, which can be laborious and ineffective (Fuad et al., 2019). To make using language resources easier, students frequently need more direction and references (Fuad et al., 2019). As a result, strategies that target certain learner gaps are desperately needed (Jubhari et al., 2022). According to needs analysis in English for Specific Purposes (ESP) contexts, students place a high value on speaking and reading abilities that are applicable to their future workplaces, highlighting the necessity of resources that are relevant to their field (Trujeque-Moreno et al., 2021). Additionally, students have indicated a high preference for interactive online tests that motivate them to improve their speaking abilities.

2.3 Technology Acceptance and Readiness

Examining the relationship between preparation and acceptance is essential to gaining a thorough understanding of students' adoption of Web-Based Learning Resources (WBLR). Previous research has used concepts like motivation, online skills, and technology accessibility to operationalize readiness (Fuad et al., 2019). Despite possible infrastructure limitations, empirical research shows that pupils in rural and suburban settings frequently exhibit high levels of preparedness and technological accessibility (Fuad et al., 2019). According to this concept, some visual factors frequently define acceptance. The degree to which students think that using the resource would improve their speaking performance is known as Perceived Usefulness (PU), and it is directly related to the high preparedness needed for continuous engagement. Additionally, regarded Perceived Ease of Use (PEU) measures how easy a web resource is regarded to be to use; although students may be prepared, Fuad et al. (2019) contend that assistance is still necessary to guarantee efficient use. Lastly, the Perceived Ease of Learning (PEL) construct assesses how quickly students can become proficient with the technology itself.

Methodology

3.1 Research Design

his study adopted a quantitative survey research design to evaluate students' acceptance of the "Sunny Speaks!" web-based learning resource. A quantitative approach was selected as it allows for the numerical measurement of attitudes and perceptions across a specific population, enabling the researcher to identify patterns and generalize findings regarding technology acceptance (Amna & Christina, 2021). This design aligns with previous studies on needs analysis and technology readiness, which utilized descriptive quantitative methods to explore students'

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capabilities and perceptions in educational settings (Fuad et al., 2019). The use of a cross-sectional survey enabled the efficient collection of data regarding the students' perceived usefulness, ease of use, and ease of learning of the developed resource (Trujeque-Moreno et al., 2021).

3.2 Population and Sampling

The study was conducted in several secondary schools located in Maran, Pahang, Malaysia. The target population consisted of Form 4 secondary school students. A purposive sampling technique was employed to select the respondents, ensuring that the participants possessed the specific characteristics relevant to the study's objectives (Amna & Christina, 2021). Specifically, the study targeted students with low to moderate English-speaking proficiency, classified as Band 3 (A2) and Band 4 (A2+/B1) based on the Common European Framework of Reference for Languages (CEFR) aligned school-based assessments.

A total of 281 students participated in the study. The demographic distribution of the sample comprised 161 male students (57.3%) and 120 female students (42.7%). In terms of ethnicity, the majority of respondents were Malay (97.9%), followed by Chinese (1.4%) and Indian (0.7%), reflecting the typical demographic structure of rural and semi-urban secondary schools in the region.

3.3 Instrument

The primary instrument used for data collection was the User Acceptance Evaluation Questionnaire. This instrument was designed to assess the students' level of acceptance towards the "Sunny Speaks!" web-based learning resource based on the Technology Acceptance Model (TAM). The questionnaire was divided into three distinct constructs:

- **Perceived Usefulness (PU):** Consisting of 9 items, this section measured the students' perception of how the resource enhanced their speaking skills and learning effectiveness (Fuad et al., 2019).
- **Perceived Ease of Use (PEU):** Comprising 12 items, this section evaluated the user-friendliness, accessibility, and navigational simplicity of the platform (Amna & Christina, 2021).
- **Perceived Ease of Learning (PEL):** Containing 6 items, this section assessed how quickly and independently students could master the use of the resource.

All items were measured using a 5-point Likert scale, ranging from 1 (Strongly Disagree) to 5 (Strongly Agree) (Fuad et al., 2019). This scale is widely used in educational research to gauge the intensity of respondents' feelings towards specific statements. The items were developed based on the findings of a prior needs analysis to ensure content validity and relevance to the students' learning context (Abdul Hamid et al., 2020; Trujeque-Moreno et al., 2021).

3.4 Data Analysis

The data collected from the questionnaires were analyzed using the Statistical Package for the Social Sciences (SPSS). The analysis focused on descriptive statistics, specifically frequencies, percentages, mean scores (M), and standard deviations (SD), to interpret the students' acceptance levels (Amna & Christina, 2021). The mean scores were utilized to determine the central tendency of the students' responses for each construct, while standard deviations provided insight into the variability of the responses (Fuad et al., 2019).The interpretation of the mean scores followed a standard evaluation framework where a higher mean score indicates a higher level of agreement or acceptance. For this study, the overall mean scores for each construct were calculated to determine whether the acceptance level was low, moderate, or high, providing a clear indication of the students' satisfaction with the web-based learning resource.

The Findings

This section presents the results of the quantitative survey involving 281 Form 4 secondary school students. The data analysis includes demographic profiles and the evaluation of the three constructs of the Technology Acceptance Model (TAM): Perceived Usefulness (PU), Perceived Ease of Use (PEU), and Perceived Ease of Learning (PEL).

4.1 Demographic Profile and Digital Habits

The demographic analysis, as detailed in Table 1, shows that the respondents consisted of 161 male students (57.3%) and 120 female students (42.7%). The ethnic composition was predominantly Malay (97.9%), reflective of the rural study location. In terms of English speaking proficiency based on Form 3 school-based assessments, the sample was fairly split, with 49.1% in Band 3 (A2) and 50.9% in Band 4 (A2+/B1). Regarding digital access, the students demonstrated a high level of digital engagement; 66.2% reported using the internet "extremely often," and 30.2% "moderately often," indicating that 96.4% of the rural students have substantial internet exposure.

4.2 Perceived Usefulness (PU) Table 1 illustrates the descriptive statistics for Perceived Usefulness. The overall mean score for this construct was 4.069 (SD = 0.766), indicating a high level of agreement among students that the resource is beneficial for their learning.

Item	Statement	Mean (M)	SD
B2	The web-based learning resource is useful	4.24	0.676
B9	Using the web-based learning resource will make it easier for me to learn English speaking skills	4.126	0.708
B4	The web-based learning resource provides me with useful materials to help me speak in English	4.103	0.731
B3	The web-based learning resource helps me to speak in English	4.09	0.747
B8	Using the web-based learning resource will improve my English speaking performance	4.065	0.743
B6	The web-based learning resource meets my needs in speaking English	4.04	0.795
B1	Using the web-based learning resource enables me to learn English speaking skills more quickly	4.03	0.746
B7	Using the web-based learning resource will enhance my effectiveness in speaking in English	4.00	0.854
B5	The web-based learning resource is time saving	3.93	0.892
Total	Overall Usefulness Score	4.069	0.766

The item "The web-based learning resource is useful" received the highest rating (M = 4.24$), suggesting the students found strong relevance in the platform[7]. Conversely, "The web-based learning resource is time saving" received the lowest mean in this category (M = 3.93$), though it still falls within the high agreement range.

4.3 Perceived Ease of Use (PEU) Perceived Ease of Use was the highest-rated construct in the study. The overall mean score was 4.129 (SD = 0.729)

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Item	Statement	Mean (M)	SD
C8	It is easy to play the games provided	4.26	0.603
C12	It is easy to surf other web-based learning resources through the links provided	4.202	0.630
C6	The web-based learning resource is easy to navigate	4.178	0.646
C2	The web-based learning resource is simple	4.17	0.716
C7	It is easy to do the English speaking activities provided	4.17	0.669
C1	The web-based learning resource is easy to use	4.15	0.714
C5	The web-based learning resource uses simple instructions to follow	4.143	0.716
C4	The web-based learning resource is user friendly	4.117	0.734
C9	The videos are easily accessible	4.10	0.762
C11	It is easy to upload the materials through the web-based learning resource	4.037	0.872
C10	It is easy to download the materials provided	4.03	0.828
C3	Using the web-based learning resource requires little mental effort	3.985	0.864
Total	Overall Ease of Use Score	4.129	0.729

The highest-rated item, "It is easy to play the games provided" (M = 4.26), highlights the effectiveness of the gamified elements.

Perceived Ease of Learning (PEL) This construct assessed the students' ability to master the tool independently. The overall mean score was 4.111 ($SD = 0.683$)[12].

Item	Statement	Mean (M)	SD
D6	I can learn the web-based learning resource on my own	4.147	0.703
D2	It is fast to learn the web-based learning resource	4.136	0.678
D5	It would be easy for me to become skilful at using the web-based learning resource	4.106	0.698
D1	It is easy to learn to use the web-based learning resource	4.102	0.669
D3	It is easy to remember how to use the web-based learning resource	4.090	0.651
D4	It is easy to master the web-based learning resource	4.082	0.699
Total	Overall Ease of Learning Score	4.111	0.683

The highest mean in this section for item D6 (M = 4.147) indicates a strong potential for autonomous learning

4.5 Overall Acceptance Summary The aggregated data confirms that the students accepted the "Sunny Speaks!" resource across all dimensions, with all constructs scoring above 4.00.

Construct	Overall Mean (M)	Standard Deviation (SD)	Evaluation
Perceived Usefulness	4.069	0.766	High
Perceived Ease of Use	4.129	0.729	High
Perceived Ease of Learning	4.111	0.683	High
Overall Mean Score	4.103	0.726	High

Discussion

The results for **Perceived Ease of Use (PEU)** show the strongest positive acceptance among the three constructs evaluated (M=4.129, SD=0.729). This indicates that the platform's user-friendly interface and gamified elements significantly impact students' willingness to engage with the technology. These findings align with past research that highlights the readiness of students in rural Malaysian contexts to adopt technology when it is accessible and engaging. Theoretically, this supports the Technology Acceptance Model (TAM), which suggests that when users perceive a system as effortless to use, their behavioral intention to use it increases. This theoretical framework suggests that the quality of learning is significantly enhanced when the cognitive load of operating the tool is minimized through intuitive design. Amna and Christina (2021) support this by noting that interactive and interesting online assessment media are crucial for encouraging student motivation. Furthermore, recent studies in rural Malaysia confirm that students are increasingly aware of the benefits of mobile technologies for enhancing their learning experience and confidence levels, provided the technology is user-friendly. Practically, educational developers can benefit from fostering a design strategy that prioritizes gamification and simple navigation. This can increase students' emotional investment in the learning process, leading to higher engagement. As noted by Kaya and Sagnak (2022), gamified elements like points and badges enhance fun and boost participation, which is essential for sustaining interest in language learning. By implementing strategies that simplify the technical interface, organizations can create an environment where students feel empowered to practice English without anxiety.

For **Perceived Ease of Learning (PEL)**, the analysis shows a strong positive acceptance (M=4.111, SD=0.683). This means that students are confident in their ability to master the resource independently without extensive assistance. This finding supports Fuad et al.'s (2019) assertion that web-based resources facilitate a shift from teacher-based instructions to student-based learning, fostering autonomy. Theoretically, this aligns with the concept of learner autonomy in TAM, suggesting that students' confidence in learning a new tool fosters a sense of control and self-efficacy. This autonomy is particularly vital in rural contexts where access to English instructors may be limited outside of school hours. Abdul Rahman et al. (2024) reinforce this by finding that mobile language applications allow non-English major learners in Malaysia to overcome geographical constraints and engage in personalized, continuous speaking practice. Matched with the findings of Hamid et al. (2020), this suggests that innovative formats, such as animated or interactive modules, help students grasp concepts faster and reinforce understanding.

For **Perceived Usefulness (PU)**, the results show a positive effect (M=4.069, SD=0.766), though with a slightly lower mean value than for ease of use and ease of learning. This suggests that students perceive the resource as effective for improving their speaking skills, but the utility is closely tied to how relevant the content is to their specific needs. This finding aligns with Jubhari et al. (2022), who emphasize that learning materials must be relevant to the students' target situation—in this case, authentic speaking practice—to be deemed useful. Theoretically, this supports the notion that usefulness is driven by the alignment between the technology's capabilities and the learner's goals. Trujeque-Moreno et al. (2021) argue that pedagogical proposals must match what students need and want to ensure the materials support their learning effectively. Additionally, the use of web channels has been proven to assist learners in performing better in speaking activities by providing a platform to participate actively and confidently. To ensure high perceived usefulness, web-based resources must consistently provide materials that address specific gaps in students' proficiency.

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To enhance students' English speaking proficiency in rural areas, the Ministry of Education and school administrators should focus on integrating web-based resources that are both pedagogically sound and technically accessible. These programs can increase students' desire to learn by providing a safe, anxiety-free environment for speaking practice. Moreover, Fuad et al. (2019) argue that sufficient facilities and constant support from instructors are necessary to ensure students benefit fully from web-based learning. The development of such resources enhances the communicative competence of students and strengthens their connection to the language learning goals. Future research could include data-driven evaluations of the long-term impact of such autonomous web-based tools on oral proficiency scores. By investing in resources that are easy to learn and use, schools can cultivate a student body that is motivated to master English despite geographical challenges.

Conclusion

This study evaluated the acceptance of the "Sunny Speaks!" web-based learning resource among secondary school students in rural Malaysia, utilizing the Technology Acceptance Model (TAM) as its theoretical framework. The findings revealed a high level of overall acceptance (M=4.10), with Perceived Ease of Use (M=4.13) emerging as the strongest construct, followed closely by Perceived Ease of Learning (M=4.11) and Perceived Usefulness (M=4.07). These results validate TAM's core tenet that ease of use is a critical determinant of technology adoption, particularly in contexts where digital anxiety may be a barrier. The study challenges the digital divide narrative by demonstrating that rural students possess sufficient digital readiness to engage with intuitive, gamified platforms. Furthermore, the high scores for ease of learning and usefulness underscore the platform's ability to facilitate learner autonomy and bridge the gap in teacher contact hours, a crucial step in shifting from teacher-centered to student-centered language learning. Ultimately, this research confirms that when educational technologies are designed with both usability and pedagogical relevance in mind, they can effectively enhance English speaking proficiency and sustain student motivation, even in non-urban educational settings.

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