

Vocational Students' Perceptions of Using QR Code Flashcards to Enhance Pronunciation in Report Text Based Learning

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Abstrak

Penelitian ini mengeksplorasi persepsi siswa sekolah menengah kejuruan terhadap manfaat dan tantangan penggunaan flashcard QR Code untuk pembelajaran pelafalan melalui teks report. Pelafalan merupakan komponen penting dalam komunikasi bahasa Inggris, khususnya bagi siswa vokasi yang sering menghadapi kosakata teknis yang berkaitan dengan bidang keahlian mereka. Namun, praktik pelafalan masih sering mendapatkan perhatian yang terbatas dalam kegiatan pembelajaran di kelas. Penelitian ini menggunakan desain kualitatif deskriptif yang melibatkan lima belas siswa kelas sepuluh dari program Teknik Perminyakan di sebuah sekolah menengah kejuruan di Indonesia. Partisipan dipilih menggunakan teknik purposive sampling berdasarkan pengalaman mereka dalam menggunakan flashcard QR Code pada kegiatan pembelajaran pelafalan. Jumlah partisipan dianggap memadai untuk mencapai saturasi data, karena tema-tema yang muncul menunjukkan pola yang berulang secara konsisten. Data dikumpulkan melalui observasi kelas dan wawancara semi-terstruktur, kemudian dianalisis menggunakan pendekatan analisis tematik secara sistematis yang meliputi open coding, axial coding, dan selective coding. Temuan penelitian menunjukkan bahwa flashcard QR Code secara umum dipersepsikan bermanfaat dalam mendukung pembelajaran pelafalan. Media ini memberikan akses yang mudah terhadap audio pelafalan, memfasilitasi latihan mandiri, meningkatkan kepercayaan diri siswa, serta mendukung kelancaran membaca teks report. Namun demikian, beberapa tantangan juga ditemukan, antara lain kendala teknis, kesulitan linguistik terkait kosakata teknis, hambatan afektif, ketergantungan pada bimbingan guru, serta penurunan motivasi setelah penggunaan berulang. Secara keseluruhan, penelitian ini menunjukkan bahwa flashcard QR Code dapat menjadi media pendukung yang efektif untuk pembelajaran pelafalan di kelas EFL vokasi apabila didukung oleh strategi pedagogis dan pengelolaan kelas yang tepat.

Kata Kunci: Flashcard QR Code, pembelajaran pelafalan, siswa sekolah menengah kejuruan, teks report, persepsi siswa.

Abstract

This study explores vocational students' perceptions of the benefits and challenges of using QR Code flashcards for pronunciation learning through report texts. Pronunciation is a crucial component of English communication, particularly for vocational students who frequently encounter technical vocabulary related to their field of study. However, pronunciation practice often receives limited attention in classroom activities. This study employed a descriptive qualitative design involving fifteen tenth-grade students from a Petroleum Engineering program at a vocational high school in Indonesia. The participants were selected using purposive sampling based on their experience with QR Code flashcards in pronunciation activities. The sample size was considered sufficient to achieve data saturation, as recurring themes emerged consistently across participants. Data were collected through classroom observations and semi-structured interviews and analyzed using a systematic thematic analysis approach, including open, axial, and selective coding. The findings reveal that QR Code flashcards were generally perceived as beneficial in supporting pronunciation learning. They provided easy access to pronunciation audio, facilitated independent practice, increased learners' confidence, and supported reading fluency in report texts. However, several challenges were identified, including technical constraints, linguistic difficulties with technical vocabulary, affective barriers, dependence on teacher guidance, and reduced motivation after repeated use. Overall, this study suggests that QR Code flashcards can serve as an effective supplementary medium for pronunciation learning in vocational EFL classrooms when supported by appropriate pedagogical strategies and classroom management.

Keywords: QR Code flashcards, pronunciation learning, vocational students, report texts, students' perceptions.

INTRODUCTION

In vocational education, English proficiency plays a significant role in preparing students to meet the demands of the global workforce. Among the components of

English language skills, pronunciation is essential for ensuring intelligible and effective oral communication. Accurate pronunciation enables learners to convey meaning clearly, enhances listener comprehension, and increases speaker confidence (Harmer, 2007). For

vocational high school students, pronunciation becomes even more important because they frequently encounter technical vocabulary related to their field of study.

One of the text types taught in Indonesian vocational high schools is the report text, which presents factual information about objects, processes, or phenomena. In vocational programs such as Petroleum Engineering, report texts often contain specialized terminology that may be unfamiliar and difficult to pronounce. However, classroom practices tend to focus more on reading and writing, while pronunciation and speaking skills receive less attention. As a result, students often experience difficulties in pronouncing technical vocabulary and may hesitate to participate in oral activities.

Previous research has identified limited exposure to authentic pronunciation models as a major factor contributing to pronunciation difficulties among EFL learners. Pronunciation learning requires adequate auditory input, repetition, and opportunities for practice (Derwing & Munro, 2021). Without accessible pronunciation models, learners may struggle to recognize correct sound patterns and word stress.

The integration of technology in language learning offers potential solutions to these challenges. Mobile-Assisted Language Learning (MALL) enables learners to access language resources flexibly through mobile devices (Kukulka-Hulme & Shield, 2008). One emerging tool in this context is the use of QR Code flashcards, which link printed materials to digital resources such as pronunciation audio. This allows students to access pronunciation models quickly and repeatedly using their smartphones.

In addition, learner perception plays a crucial role in determining the effectiveness of instructional media. Students' perceptions influence their motivation, engagement, and learning behavior (Robbins & Judge, 2013). Understanding how learners perceive the use of technology can provide valuable insights into its pedagogical effectiveness in real classroom contexts.

Despite the growing interest in MALL, most previous studies have focused on general EFL contexts and emphasized vocabulary or overall language skills rather than pronunciation, particularly in vocational settings. Moreover, limited research has explored how QR Code-based media support pronunciation learning within specific text types such as report texts that involve technical vocabulary. The role of learner autonomy in technology-assisted pronunciation learning also remains underexplored, especially among vocational students who tend to rely on teacher guidance.

Therefore, this study aims to explore vocational students' perceptions of the benefits and challenges of using QR Code flashcards for pronunciation learning through report texts, with particular attention to their role in facilitating access to pronunciation input and promoting learner autonomy.

METHODS

This study employed a descriptive qualitative research design to explore vocational students' perceptions of the benefits and challenges of using QR Code flashcards for pronunciation learning through report texts. A qualitative approach was appropriate as the study aimed to gain in-depth insights into students' experiences and perspectives.

The study was conducted at a vocational high school in Indonesia during the second semester of the 2024/2025 academic year. The participants consisted of fifteen tenth-grade students from a Petroleum Engineering program. They were selected using purposive sampling based on their prior experience using QR Code flashcards in pronunciation learning activities. The sample size was considered sufficient to achieve data saturation, as recurring themes and patterns emerged consistently across the interview data.

Data were collected through classroom observations and semi-structured interviews. Observations were conducted during two learning sessions focusing on students' engagement, interaction with the media, and pronunciation practice. Semi-structured interviews were conducted to explore students' perceptions, emotional responses, and perceived usefulness of the QR Code flashcards.

The data were analyzed using thematic analysis. First, interview data were transcribed verbatim. Second, open coding was conducted to identify meaningful units such as keywords and phrases. Third, axial coding was used to group similar codes into broader categories. Finally, selective coding was applied to generate overarching themes representing perceived benefits and challenges.

To ensure analytical rigor, the coding process was conducted iteratively with repeated data review. Data triangulation between observation and interview findings was also applied to enhance the credibility and trustworthiness of the results.

RESULTS AND DISCUSSION

The findings indicate that QR Code flashcards provide significant support for pronunciation learning, particularly through access to audio models. This supports the input-based perspective of pronunciation learning, which emphasizes the importance of exposure to accurate auditory input (Derwing & Munro, 2021). The availability of immediate pronunciation models helps students recognize word stress and sound patterns, thereby improving phonological awareness.

This finding is consistent with previous studies in Mobile-Assisted Language Learning, which highlight that mobile technologies enhance flexibility and accessibility in language learning. In this study, such flexibility enables students to engage in repeated and self-paced practice, contributing to increased confidence in pronouncing unfamiliar vocabulary.

From the perspective of learner autonomy, the ability to independently access and replay pronunciation audio reflects a shift toward more self-directed learning.

However, the findings also reveal that autonomy is not fully developed, as some students remain dependent on teacher guidance. This suggests that technological tools alone are insufficient to foster autonomy without appropriate instructional scaffolding.

In addition to cognitive benefits, QR Code flashcards also increase student engagement. The integration of technology introduces variation in classroom activities, making learning more interactive and less monotonous. However, this engagement may decrease over time, indicating a potential novelty effect. This aligns with previous research suggesting that sustained motivation requires pedagogical variation beyond initial technological appeal.

Despite these benefits, several challenges were identified. Technical constraints, such as unstable internet connections and slow device performance, significantly affect the implementation of QR Code-based learning. This highlights the importance of infrastructure readiness in technology-enhanced learning environments.

Linguistic difficulties related to technical vocabulary also remain a challenge. Even with audio support, some words with complex stress patterns are difficult for students to pronounce. This suggests that pronunciation instruction should combine technological tools with explicit teaching strategies.

Affective factors, including shyness and fear of making mistakes, also influence students' participation. These findings can be explained by affective filter theory, which posits that emotional barriers may hinder language production. Therefore, supportive classroom environments are essential to complement the use of technology.

Overall, while QR Code flashcards offer valuable support for pronunciation learning, their effectiveness depends on the interaction between technological, pedagogical, and psychological factors.

Table 1
Selective Coding (Main Research Themes)

Theme	Sub-themes
Perceived Benefits of Using QR Code Flashcards	1. Audio pronunciation as immediate learning support
	2. Increased engagement through technology
	3. Support for independent pronunciation practice
	4. Enhanced confidence in pronunciation attempts
	5. Pronunciation support facilitating comprehension of report texts
Perceived Challenges of Using QR Code Flashcards	1. Technical and infrastructural constraints
	2. Linguistic difficulties related to technical

	vocabulary
	3. Affective barriers in pronunciation practice
	4. Dependence on teacher guidance
	5. Decreasing motivation and the novelty effect
	6. Distraction during mobile-assisted learning

Table 2
Open Coding (Initial Codes per Respondent)

Student	Benefit Codes	Challenges Codes
S1	Audio as a guide, More confident in pronunciation	Technical terms are difficult. Network issues
S2	Engaging media, Audio is helpful	Network issues, Noisy classroom
S3	Initial interest, Clear pronunciation examples	Shy, Afraid of making mistakes
S4	Audio helps with technical terms, Repetition	Technical vocabulary, Word stress
S5	Increased confidence, independent practice, practice outside the classroom	Limited time
S6	Audio as an initial model	Lack of confidence, Passive, Dependent on teacher
S7	Awareness that pronunciation \neq spelling, Audio helps with technical terms	Word stress, Suffixes (-tion/-ment)
S8	Technology-driven motivation, High engagement	Loss of focus, Mobile phone distractions
S9	Audio as a supplement	Limited benefits, Doubtful
S10	Pronunciation helps text comprehension	Divided time, Scanning process
S11	Audio helps reading texts	Slow devices, Network issues
S12	Initial interest	Boredom, Decreased motivation
S13	Audio helps identify word stress, better understanding of technical terms	Pronunciation is too fast, Requires repetition
S14	Independent practice, Audio can be replayed	Lack of focus in class, Limited time
S15	More engaging media, Audio supports self-confidence	Network issues, Shyness in speaking

Table 3

Axial Coding (Perceived Benefits)

Perceived Benefits	
Category	Included Initial Codes
Audio as a pronunciation guide	S1, S2, S4, S7, S10, S11, S13, S15
Interest & engagement	S2, S3, S8, S12, S15
Independent practice & repetition	S4, S5, S10, S14
Increased self-confidence	S1, S3, S5, S8, S15
Support for report text comprehension	SA, S7, S10, S11, S13

Increased confidence	Students felt more confident in pronouncing vocabulary found in report texts.
Vocabulary comprehension	Clear pronunciation helped students better understand the content of the report texts.

Table 4

Axial Coding (Perceived Challenges)

Perceived Challenges	
Category	Included Initial Codes
Technical constraints (network/devices)	S1, S2, S9, S11, S15
Linguistic difficulties (technical vocabulary, word stress)	S4, S7, S10, S13
Affective barriers (shyness, fear of making mistakes)	S3, S6, S9, S15
Dependence on teacher guidance	S6, S9
Decreased motivation / boredom	S12
Distraction from mobile phone use	S8
Limited instructional time	S5, S14

Based on the interview data, students identified several benefits of using QR Code flashcards in pronunciation learning. These benefits are summarized in table 4.4.

Table 5

Summary of Students' Perceived Benefits of Using QR Code Flashcards

Theme	Brief Description
Easy access to pronunciation	Students felt supported because they could directly listen to the correct word pronunciation through the QR Code
Independent practice	The media enabled students to practice pronunciation independently both inside and outside the classroom.

Theme 1: Pronunciation Audio as a Pronunciation Guide

Most students reported that pronunciation audio accessed through QR Codes helped them pronounce English words more accurately, particularly technical terms in report texts. The audio enabled students to recognize word stress, sound patterns, and differences between spelling and pronunciation.

“Audio dari QR Code membantu saya memahami cara pengucapan kata-kata, terutama istilah yang jarang saya dengar. Dengan ngedengerin audionya, saya jadi tahu penekanan dan cara baca yang lebih tepat.” (S1)

“Audio membantu aku mengetahui cara baca kata yang sulit, terutama istilah yang jarang digunakan. Jadi aku gak cuman menebak, tapi punya contoh suara aslinya.” (S2)

Theme 2: Increased Interest and Engagement in Learning

Several students stated that learning pronunciation using QR Code flashcards was more interesting and engaging compared to conventional methods. The use of technology created variation in learning activities and reduced boredom.

“Menurutku penggunaan flashcard QR Code cukup membantu dan terasa lebih modern. Belajarnya jadi tidak itu-itu aja karena ada kegiatan scan dan mendengarkan audio.” (S2)

“Menurut saya penggunaan flashcard QR Code cukup menarik karena berbeda dari biasanya. Belajarnya tidak hanya mendengarkan penjelasan guru, tapi bisa langsung scan dan dengar audio.” (S3)

Theme 3: Support for Independent Practice and Repetition

Students perceived QR Code flashcards as supportive of independent learning because they could replay the pronunciation audio as needed, both inside and outside the classroom.

“Membantu, karena aku bisa memutar ulang audionya sendiri. Kalau belum yakin, bisa ulang lagi tanpa harus langsung bertanya ke guru.” (S4)

“Sangat membantu. Saya bisa belajar sendiri tanpa harus selalu menunggu penjelasan dari guru. Jika saya belum paham, saya bisa langsung memutar ulang audionya sampai merasa cukup mengerti.” (S5)

Theme 4: Confidence in Pronouncing Vocabulary

Some students reported increased confidence in attempting pronunciation after listening to the audio models. Although a few students still felt shy when speaking aloud, the availability of pronunciation models encouraged them to practice.

“Sedikit berpengaruh, karena setelah dengar audio saya jadi lebih berani mencoba. Tapi kalau disuruh ngomong keras di depan kelas, saya masih agak malu.” (S1)

“Sedikit membantu, tapi saya masih kurang percaya diri kalau harus melafalkan kata di depan teman-teman. Saya takut salah dan ditertawakan.” (S3)

Theme 5: Supporting Fluency in Reading Report Texts

Students also mentioned that knowing how to pronounce technical vocabulary helped them read report texts more fluently and understand the content more easily.

“Manfaatnya lebih jelas cara bacanya. Sebelumnya kalau ada kata teknis di report text, aku cuman baca sendiri dan sering salah. Dengan QR Code, saya jadi tahu pengucapan yang benar.” (S4)

“Manfaatnya aku jadi tahu cara baca istilah teknis yang sebelumnya salah baca. Kalau sebelumnya hanya membaca teks, sekarang bisa mendengar pengucapan yang lebih tepat.” (S7)

Table 6

Summary of Students' Perceived Challenges of Using QR Code Flashcards

Theme	Brief Description
Technical issues	Problems related to internet connectivity or device performance when scanning the QR codes
Technical vocabulary difficulties	Some vocabulary items remained difficult to pronounce even after listening to the audio
Fluctuating motivation	Some students felt less motivated when the media was used too frequently
Dependence on the media	Students needed additional time to pronounce words independently without audio support

Theme 1: Technical and Device-Related Constraints

Students commonly mentioned internet connectivity problems and slow device performance as obstacles during pronunciation practice.

“Kesulitannya tuh jaringan internet, kadang audionya lama terbuka. Selain itu, ada beberapa kata yang tetap susah ditirukan.” (S1)

“Kendalanya biasanya di jaringan internet, jadi audionya tidak langsung terbuka. Selain itu, kadang suasana kelas berisik jadi aku kurang fokus.” (S2)

Theme 2: Linguistic Difficulties with Technical Vocabulary

Some technical vocabulary remained difficult to pronounce even after listening to the audio, particularly words with complex stress patterns or unfamiliar sounds.

“Ada. Contohnya kata *petroleum, exploration, and transportation*. Aku sering salah di penekanan dan bunyi akhirnya, walaupun sudah dengar audio.” (S4)

“Ada. Contohnya kata *distribution dan equipment*. Aku masih sering salah.” (S7)

Theme 3: Affective Barriers in Pronunciation Practice

Affective factors such as shyness, fear of making mistakes, and lack of confidence affected students' willingness to practice pronunciation.

“Saya merasa kurang percaya diri dan jadi ragu untuk mencoba lagi.” (S3)

“Saya merasa bingung dan lebih memilih diam daripada mencoba mengucapkannya.” (S6)

Theme 4: Dependence on Teacher Guidance

Some of the students relied heavily on teacher explanations and did not fully utilize the QR Code flashcards independently.

“Kalau masih bingung, saya lebih memilih menunggu penjelasan dari guru.” (S6)

“Saya jarang mengulang audio sendiri dan lebih menunggu arahan guru.” (S9)

Theme 5: Decreased Motivation

One student reported reduced motivation after repeated use of QR Code flashcards, indicating a possible novelty effect.

“Tapi setelah beberapa kali, aku merasa biasa saja dan tidak terlalu termotivasi untuk latihan terus.” (S12)

On the whole, from the results of this research that applying use of QR Code flashcards gives advantages and disadvantages for the students in learning report text on pronunciation. These results are presented through the students' experiences seen from interview and observation materials. These research findings are then discussed in more detail in the following chapter.

Theme 6: Distraction from mobile phone use

The use of smartphones occasionally distracted students from learning activities, as observed during classroom sessions and reported in interviews.

“Yang menantang itu menjaga fokus, karena belajar pakai HP kadang bikin terganggu juga.” (S8)

This perception was also supported by classroom observation, where the researcher noticed that a small number of students occasionally shifted their attention from the learning task to their mobile screens for purposes other than scanning the QR codes. This finding indicates that while mobile-assisted learning offers flexibility and engagement, it also requires clear classroom management and guidance to minimize distractions during the learning process.

Theme 7: Limited instructional time

Limited classroom time was identified as a challenge, as students needed sufficient time to scan QR Codes, listen to audio, and practice pronunciation.

“Kesulitannya lebih ke waktu pembelajaran di kelas yang terbatas. Kadang saya ingin mengulang audio lebih lama, tapi waktunya sudah habis.” (S5)

“Saya merasa terbantu, tapi kalau waktunya sedikit jadi kurang maksimal.” (S14)

Table 8

Result of Respondents per Theme

Theme 1: Perceived Benefits of Using QR Code Flashcards		
Sub-theme	Respondents	Total (n= 15)
Audio as a pronunciation guide	S1, S2, S4, S7, S10, S11, S13, S15	8 students
Increased interest & engagement	S2, S3, S8, S12, S15	5 students
Support for independent practice & repetition	S4, S5, S10, S14	4 students
Increased self-confidence in pronunciation	S1, S3, S5, S8, S15	5 students
Support for report text comprehension	S4, S7, S10, S11, S13	5 students

Theme 1: Perceived Challenges of Using QR Code Flashcards		
Sub-theme	Respondents	Total (n= 15)
Technical and infrastructural constraints	S1, S2, S9, S11, S15	5 students
Linguistic difficulties (technical vocabulary, word stress)	S4, S7, S10, S13	4 students

Affective barriers (shyness, fear of mistakes)	S3, S6, S9, S15	4 students
Dependence on teacher guidance	S6, S9	2 students
Decreasing motivation/boredom	S12	1 student
Distraction during mobile-assisted learning	S8	1 student
Limited instructional time	S5, S14	2 students

The table shows that the most frequently perceived benefit was the use of audio as a pronunciation guide, reported by eight out of fifteen students. Meanwhile, the most commonly reported challenge involved technical and infrastructural constraints, mentioned by five students. These results suggest that while QR Code flashcards effectively support pronunciation learning, their implementation is influenced by technical, linguistic, and affective factors.

Table 9

Triangulation of Observation and Interview Data

Analyzed Aspect	Interview Data	Observation Data	Triangulation Result
Audio as a pronunciation guide	Students stated that audio helped them pronounce words correctly	Students replayed the audio and imitated pronunciation	Data mutually reinforce
Student engagement	Learning was more interesting and enjoyable	Students were enthusiastic in scanning QR codes	Data are consistent
Independent practice and repetition	Audio could be replayed repeatedly	Students replayed audio when unsure	Data support each other
Technical constraints	Internet and device issues	Delayed audio playback, limited earphone use	Data are aligned
Affective barriers	Shyness and fear of making mistakes	Students were passive during oral practice	Data confirm each other

Based on the triangulation of observation and interview data, it can be concluded that both data sources complement and strengthen the research findings. Students' perceptions expressed during interviews were consistent with their observed behavior during the learning process. Therefore, the use of triangulation in this study successfully enhanced the credibility of the findings and demonstrated that QR Code flashcards offer

both benefits and challenges in pronunciation learning through report texts in vocational high school contexts.

CONCLUSION

This study explored vocational students' perceptions of the benefits and challenges of using QR Code flashcards for pronunciation learning through report texts. The findings indicate that QR Code flashcards are perceived as a beneficial supplementary tool that supports pronunciation accuracy, independent learning, learner confidence, and reading fluency.

However, challenges such as technical constraints, linguistic difficulties, affective barriers, and dependence on teacher guidance remain significant. These findings suggest that while QR Code flashcards have strong pedagogical potential, their effectiveness depends on appropriate instructional strategies and learning conditions.

Future research is recommended to involve larger and more diverse participant groups and to explore the long-term effectiveness of QR Code-based pronunciation learning in different vocational contexts.

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