

Volume 05, Issue 10, 2024 | Open Access | ISSN: 2582-6832

Online Classes in English: Pronunciation Delivery in Focus

Genelyn P. Altamera¹ and Jose Elmer S. Oficiar Jr.²

¹Davao De Oro State College ²(Ph.D.)University of Mindanao Tagum College

Abstract— This study aimed to unveil the lived experiences of first-year Bachelor of Secondary Education Major in English students on pronunciation delivery in an online English class. Eight (8) participants from Davao de Oro State College took part in the study, which utilized a phenomenological approach through focus group discussions to understand their pronunciation challenges. Thematic analysis uncovered several key themes, including difficulties with unfamiliar words and pronunciation, the impact of technical issues and weak internet connections, differences between online and in-person classes, and variability in word perception. Additionally, five themes on coping strategies emerged: maintaining composure during classes, utilizing technology for learning, self-study and external resources, instructor feedback and self-assessment, and the role of the learning environment. Participants emphasized the significance of pronunciation in online learning, adaptive strategies for improvement, the balance between fluency and accuracy, and the need for persistence and motivation. The study suggests that effective online pronunciation teaching requires a well-rounded approach that encompasses psychological, technological, and social aspects. Instructors may create a positive and interactive online environment focused on problematic sounds and silent letters, while administrators may ensure reliable technology and supportive learning settings. The findings underscore the need for curricula that integrate technology into teaching.

Keywords— lived experiences, online English class, phenomenology, pronunciation delivery

I. INTRODUCTION

Pronunciation frequently needs more attention in language classrooms, with many English instructors avoiding it for various reasons (Baker & Murphy, 2017). A significant challenge for second language learners is altering the internalized conceptual patterns of their first language rather than merely recognizing speech visually or acoustically. Effective learning involves categorizing English sounds appropriately (Thomson & Derwing, 2016). Another critical issue is the conflict between learners' desire for native-like pronunciation and their need to maintain personal identity (Baker & Burri, 2016). Poor pronunciation can lead to adverse social interactions and discrimination, underscoring its importance for ESL students (Franklin & McDaniel, 2016; Grim & Sturm, 2016). Despite extensive study, many learners need help with pronunciation (Cox et al., 2019). Pronunciation differences between languages, such as English and Swedish, necessitate focused teaching (Otterstedt, 2016).

Pronunciation significantly affects ESL learners' communication success (Bakar & Abdullah, 2016). Students who undergo pronunciation courses report benefits such as increased self-awareness, confidence, and listening skills (Henrichsen & Stephens, 2016). Enhanced pronunciation correlates with higher second-language phonological awareness (Kivistö-de Souza, 2017). Effective pronunciation instruction often

involves extensive formal instruction, corrective feedback, explicit teaching, and awareness of cross-linguistic features (Saito, 2016; Saito & Hanzawa, 2016; Gordon et al., 2016).

However, pronunciation teaching needs to be more noticed, focusing only on immediate issues rather than systematic instruction (Couper, 2017; Lee et al., 2016). This study aims to explore students' experiences with pronunciation in online classes, a relevant issue given the current prevalence of online education. Addressing pronunciation problems in online recitations is both timely and essential.

The study is anchored in several theoretical frameworks to understand and improve pronunciation in online learning environments. Firstly, Skinner's (2016) Theory of Behaviorism posits that language learning is driven by behaviorist reinforcement. According to this theory, children learn language by associating words with meanings, and correct utterances are reinforced when the child understands the communicative value of words.

Complementing this, Neurolinguistic Programming (NLP) suggests that learning can be enhanced by inducing a desired state of mind through relaxation techniques such as breathing exercises and guided imagery. These techniques help learners become

UIJRT SSN: 2582-6832

United International Journal for Research & Technology

Volume 05, Issue 10, 2024 | Open Access | ISSN: 2582-6832

emotionally calm and mentally alert, breaking down ego boundaries and facilitating learning (Wrembel, 2001). NLP also highlights the importance of strong interpersonal relationships between teachers and learners for effective pronunciation learning.

The Cognitive Theory of Learning, which views human thought and action as information processing, supports the study by explaining that behavior is best understood through individuals' perceptions and interpretations of their experiences, similar to computer processing (Shuell, 1986).

The Contrastive Analysis Hypothesis provides further insight by asserting that second language acquisition is influenced by the learner's first language. Similar structures between the native and target languages facilitate learning, while differences can cause interference, particularly in syntax, morphology, and phonology.

Lastly, the Constructivist Learning Theory views learning as an active, creative, and socially interactive process. This theory emphasizes that language learning is enhanced through exposure and genuine interaction with the language. Constructivist approaches often involve tasks and problem-solving in listening, reading, writing, and speaking to foster communication and support interactive learning (Bruner, 1990).

Together, these theoretical perspectives offer a comprehensive framework for understanding and improving language learning, particularly pronunciation, in online learning contexts. They underscore the importance of reinforcement, mental state, cognitive processes, native language influence, and interactive, task-based learning in the acquisition of pronunciation skills. By applying these insights, we can revolutionize language education and online learning.

A significant gap exists in understanding the pronunciation challenges students face in online learning environments. Although several studies have examined pronunciation delivery, only some have specifically addressed issues in online classes. This gap is particularly urgent as educational institutions increasingly offer online or blended instruction. Students in online classes may display pronunciation difficulties during recitations, necessitating investigation into the causes of these challenges.

Research indicates that pronunciation often receives low priority in ESL programs (Algahazo, 2016). Integrating

pronunciation into classroom activities is crucial (Thomson & Derwing, 2016), yet it must still be emphasized in English language teaching (Foote et al., 2016). Addressing pronunciation issues can improve communication between teachers and students, leading to better understanding and accurate word usage. Uncovering pronunciation issues can benefit teachers and students by enhancing communication clarity and effectiveness.

Inadequate pronunciation instruction often focuses only on immediate issues rather than providing systematic, comprehensive training (Couper, 2017; Lee et al., 2016). This gap is particularly relevant in online classes, where traditional feedback mechanisms and interactive opportunities may be less effective. The social consequences of poor pronunciation, including negative interactions and discrimination, underscore the importance of addressing these issues (Franklin & McDaniel, 2016; Grim & Sturm, 2016).

Despite its significance, research specifically examining pronunciation challenges in online learning environments remains limited. This study aims to fill this gap by exploring how first-year BSEd students navigate pronunciation difficulties in an online context. As educational institutions increasingly adopt online or blended learning models, understanding challenges becomes crucial for enhancing pronunciation instruction and supporting students' communication skills effectively.

To ensure clarity in this study, the researcher operationally defined key terms for better understanding: Pronunciation refers to the way the word is pronounced and Online class refers to the teaching instruction which is conducted using online platform or tool like google meet or zoom.

This qualitative study used a phenomenological approach to investigate a selected group of individuals' perspectives, experiences, and insights (Boyandi, 2019). The data was collected through a Focus Group Discussion (FGD) and then analyzed using coding and thematic analysis to identify key themes.

The study aimed to address the following research questions:

- What problems do students encounter with pronunciation during online English classes?
- How do students cope with problems related to pronunciation during online English classes?



Volume 05, Issue 10, 2024 | Open Access | ISSN: 2582-6832

 What are students' insights on the importance of proper pronunciation during online English classes?

The findings of this study have global implications as it stresses pronunciation instruction is to achieve intelligibility in oral communication rather than to mimic native speakers. Pronunciation is crucial, particularly in English, due to the complexity of its sounds. It enhances a speaker's perceived competence and facilitates faster, more fluent language acquisition (Botley, 2017).

For teachers, the goals of teaching pronunciation include making English clear and understandable, meeting learners' needs, and enhancing communicative competence. Teachers should help learners feel comfortable, build positive self-awareness, and develop speech monitoring and adjustment skills (Bui, 2022). Furthermore, students may benefit due to better instruction be given to them in their speech lessons. This will result to correct and proper delivery of words during communication or speech activities.

Moreover, school administrators as well may find this study as a reference material in making productivity improvement of the school. Lastly, scholars and future researchers may benefit from this research as a way of providing them ideas for their future research endeavors.

Additionally, this study was delimited only on uncovering participants' lived experiences on their difficulty in pronunciation delivery. Also, the transcription, encoding, and analysis of data will serve as another limitation of the study.

II. METHODS

A. Student Participants

The researcher interviewed eight first-year BSED students from Davao de Oro State College, who were selected purposefully. Creswell (2013) recommends that researchers interview from 5 to 25 individuals who have all experienced the phenomenon of interest. Likewise, individuals should be accessible and willing to share information and shed light on the specific phenomenon. The interviews were conducted through focus group discussions either in person or via online platforms like Google Meet or Zoom, depending on COVID-19 risks. Participants were students with difficulties with English pronunciation and were enrolled in the BSEd English program. Students need to meet these criteria.

Participants had the option to withdraw from the study at any time.

B. Materials and instrument

In the conduct of the focus group discussion, the researcher employed a specifically designed instrument tailored to gather insights from the participants on their lived experiences on pronunciation delivery in an online English class. This instrument comprised a series of open-ended questions aimed at eliciting detailed responses regarding participants' experiences and challenges with pronunciation in online English classes.

C. Design and Procedure

This study used a qualitative design to uncover the lived experiences of first year BSEd students on pronunciation delivery in an online English class. This was employed to understand the personal interpretations of the participants and amplify their voices (Flick, 2018; Creswell & Poth, 2018). Moreover, this enabled the researcher to capture and describe the participants' lived experiences, focusing on the essence of their experiences (Smith & Osborn, 2015). The study involved focus group discussions with participants, conducted either face-to-face or via online platforms such as Zoom or Google Meet, depending on COVID-19 risks. Interviews were recorded, transcribed, and coded. This study employed a single analytical tool to analyze the data, specifically thematic content analysis. Thematic content analysis is a qualitative method used to identify and interpret patterns or trends within textual responses. In this context, it was used to extract themes from students' experiences with pronunciation delivery in online classes.

In this study, several strategies were implemented to ensure credibility, transferability, dependability, and confirmability, adhering to well-established qualitative research frameworks. Credibility was addressed through prolonged engagement and member checks, ensuring that the study accurately reflected the social reality of the participants. The plausibility of the researcher's interpretation and analysis was assessed against the original dataset to establish confidence in the truth of the findings (Maher et al., 2018). Transferability was achieved by providing a detailed description of the research context, enabling readers to determine whether the findings could be applicable to other settings. This detailed description supports the concept of transferability, which is akin to external validity in quantitative research (Maher et al., 2018). Dependability was ensured by maintaining a thorough audit trail that



Volume 05, Issue 10, 2024 | Open Access | ISSN: 2582-6832

detailed the research process, allowing for replication by other researchers. This approach is comparable to the concept of reliability in quantitative studies (Maher et al., 2018; Moon et al., 2016). Confirmability was maintained by minimizing investigator bias through the acknowledgment of researcher predispositions. This ensures that the findings remain neutral and objective, similar to the principles in quantitative research (Korstjens & Moser, 2018; Moon et al., 2016). These strategies collectively supported a rigorous and trustworthy research process, as advocated by Holloway and Galvin (2017) and Korstjens and Moser (2018).

III. RESULT AND DISCUSSION

Problems Participants Encounter with Pronunciation During Online English Classes

The table 1 presents the essential themes identified through a comprehensive analysis of participants' pronunciation problems encountered during online English classes. Four major themes emerged from this analysis: (1) Challenges with Unfamiliar Words and Pronunciation, (2) Impact of Technical Issues and Weak Internet Connection, (3) Differences Between Online and In-Person Classes, and (4) Variability in Word Perception.

 Table 1. Themes and Core Ideas of Participants Regarding Pronunciation Problems Encountered in Online English

 Classes

MAJOR THEMES	CORE IDEAS
Challenges with Unfamiliar Words and	Students find pronouncing words with /th/, /sk/, and /ch/ particularly
Pronunciation Volument	challenging.
Tronunciation	Silent letters in words add to pronunciation difficulties.
	Students must adapt to new sounds, involving both assimilation and
	accommodation.
Impact of Technical Problems and Poor	Internet connectivity issues hinder communication, causing
Internet Connectivity	misunderstandings and frustration.
	Students often request repetitions to understand the lessons.
	Inconsistent audio quality can lead to mispronunciations.
	Technical difficulties disrupt learning, making it harder to retain new
	pronunciation skills.
Differences Between Online and In-	In-person classes improve pronunciation learning through direct
Person Classes	interaction.
	Immediate feedback is often delayed in online settings.
	Online classes need more peer interactions for natural pronunciation
	practice. 5 N 2582-6852
	Online classes need more immediacy and clarity than face-to-face
	communication.
Variations in Word Perception	Students and teachers often perceive words differently.
	Online classes miss visual cues that aid pronunciation.
	The absence of real-time correction in online classes perpetuates
	incorrect pronunciation habits.

Challenges with Unfamiliar Words and Pronunciation. Participants reported significant difficulties with unfamiliar words in online English classes, particularly those with phonemes like /th/, /sk/, and /ch/. These issues affect comprehension and articulation, and the need to adapt to silent letters and new sounds further hinders their progress.

These experiences were confirmed by FGD 3:

(...I think, Ma'am, when it comes to unfamiliar words, especially when they involve 'th', attending online

classes becomes particularly challenging because it's not easy to grasp)

This was also validated by FGD 2:

(...The challenge for me, ma'am, lies in words containing 'th' and those with 'sk' or 'ch'. I'm not very proficient with them, ma'am.)

These ideas were elaborated by FGD 4:

(... That also has a silent word ... a silent word or letter.)

UIJRT SSN: 2582-6832

United International Journal for Research & Technology

Volume 05, Issue 10, 2024 | Open Access | ISSN: 2582-6832

Participants in this study recognize the importance of accurate pronunciation in online English classes, especially with challenging sounds like /th/, /sk/, and /ch/. Piaget's (2016) Theory of Cognitive Development highlights the need for learners to adapt to these phonetic elements. Silent letters also complicate phonetic decoding. The Phonological Awareness Theory (2019) emphasizes the role of recognizing and manipulating language sounds, suggesting that targeted activities can help address these issues.

Educators should create supportive environments with interactive exercises on problematic sounds and silent letters. Incorporating technology, such as speech recognition software, can offer practice and immediate feedback (Zainuddin, 2023). These strategies can enhance students' pronunciation and overall language proficiency in online classes.

Impact of Technical Issues and Weak Internet Connection. Participants' internet connectivity issues impede clear communication, resulting in misunderstandings and frustration. Students frequently ask for repetitions to understand instructors, disrupting the learning process. Additionally, inconsistent audio quality exacerbates these problems, leading to mispronunciations and difficulties in retaining new pronunciation skills.

In fact, FGD 3 voiced out:

(...Due to connection issues, especially when there is lag, it becomes challenging to understand because the teacher's speech gets interrupted.)

FGD 8 also added:

(...I have difficulty understanding, especially when the teacher's signal is weak. When the teacher's voice becomes faint due to the weak signal, I cannot understand her. The weak signal makes it hard to hear the teacher clearly, ma'am.)

FGD 1 further express that:

(...If the signal is lost, I ask the instructor to repeat it so I can understand her better.)

Participants reported that connectivity issues, such as lag and intermittent signals, led to misunderstandings and frustration. Skinner's (2016) Theory of Behaviorism notes that these disruptions create inconsistent feedback, which is crucial for learning reinforcement. Frequent requests for repeated explanations disrupt the learning

flow and increase cognitive load (Kiong, 2023). Inconsistent audio quality further complicates pronunciation acquisition (Ulum, 2022).

Participants also needed help with lag and weak signals, affecting their ability to hear the teacher. This supports the Contrastive Analysis Hypothesis, indicating that technical issues can impact learning by disrupting input (Raes et al., 2020). The need for repetition underscores the impact of technical problems on learning efficiency and highlights the importance of robust technical support in online education.

Differences Between Online and In-Person Classes. Participants indicated that direct interactions made in-person classes more effective for pronunciation learning. They found online classes needed more immediacy and clarity and noted a deficiency in essential peer interactions compared to face-to-face communication.

This was exposed by FGD 4:

(...In traditional or in-person classes, you can understand everything better, especially when the teacher is speaking, as you can learn how she pronounces the words.)

FGD 8 also added:

(...I agree with him, ma'am because I also can't understand it very well when it's online. But when it's in person, you can really understand it better when the teacher is teaching.)

FGD 3 further expressed:

(...I agree with what was said earlier, ma'am, because when it comes to communication in online classes, it is not face-to-face, making it difficult to comprehend. You can only interact with your instructors indirectly but still learn communication skills in an online class.)

The analysis revealed that participants favored in-person classes for pronunciation learning due to direct interactions. They found online classes needed more immediacy, clarity, and essential peer interactions. This supports Piaget's Cognitive Theory of Learning, which values direct interaction and feedback, and Vygotsky's Sociocultural Theory, which accentuates the function of social interactions in effective learning. Participants noted that face-to-face classes improve understanding through direct teacher engagement, while online settings



Volume 05, Issue 10, 2024 | Open Access | ISSN: 2582-6832

pose challenges in comprehension and communication (Gao & Shi, 2023).

Variability in Word Perception. The participants stated that students and teachers often perceive words differently in online pronunciation classes. The lack of visual cues and real-time correction in these settings can perpetuate incorrect pronunciation habits, making it challenging for students to improve their speaking skills effectively.

This was stated by FGD 7:

(...For me, ma'am, in our online classes, there are moments when we and the teacher understand words differently. That's the problem [see.]

This was validated by FGD 1:

(...When the teacher pronounces long words and your signal is weak, ma'am, you may only hear the beginning of the word and miss the rest. This makes it really hard to catch up.)

This was supported by FGD 8:

(...I agree with him, ma'am because I also can't understand it very well when it's online.)

Participants observed significant variability in word perception between students and teachers in online pronunciation classes. The lack of visual cues, real-time corrections, and weak audio signals led to persistent pronunciation errors and missed feedback. This issue aligns with Skinner's (2016) Theory of Behaviorism, which underscores the importance of immediate feedback. Additionally, the Perceptual Variability Theory highlights that missing cues in online settings impair accurate language perception and retention, complicating pronunciation learning (Quam & Creel, 2021).

Participants' Coping Strategies for Pronunciation Problems During Online English Classes

The Table 2 displays the identified themes and core ideas from a thematic analysis of participants' coping strategies for pronunciation problems in online English classes. Five essential themes emerged: (1) Maintaining Composure, (2) Use of Technology for Learning, (3) Self-Study and External Resources, (4) Instructor Feedback and Self-Assessment, and (5) Role of Environment in Online Learning.

Table 2. Themes and Core Ideas on Coping Strategies for Pronunciation Problems in Online English Classes

MAJOR THEMES	CORE IDEAS
Maintaining Composure during	Staying calm during online classes is crucial, especially when facing unstable
Online English Class	internet connections or complex language concepts.
	Using stress management techniques helps prevent stress from affecting pronunciation and communication.
	Maintaining focus and concentration despite potential distractions is essential.
	Regulating emotions and maintaining a positive attitude toward learning and
	practicing pronunciation is vital.
Use of Technology for Learning	Students use external resources, such as libraries and social media platforms,
	for additional learning.
	Learners emphasize self-study and utilize technology for pronunciation practice
	and improvement.
	Students engage with interactive tools and apps for real-time pronunciation
	feedback and practice.
	They record lectures and self-practice sessions for review and self-assessment.
Self-Study and External	Students focus on self-assessment to identify and address personal
Resources	pronunciation challenges.
	They use English books and online articles to build vocabulary and improve
	pronunciation.
	Consistent practice with pronunciation guides and language learning apps is
	emphasized.
	Students access library resources and online databases to enhance their
	understanding of difficult words.



Volume 05, Issue 10, 2024 | Open Access | ISSN: 2582-6832

Instructor Feedback and Self-	They seek personalized feedback from instructors to correct pronunciation
Assessment	errors.
	Instructors' feedback motivates students to improve their pronunciation skills.
	Students use self-assessment to pinpoint specific areas of difficulty and focus
	on improvement.
Role of Physical and Online	Ensuring a strong internet signal prevents interruptions during learning
Learning Environments	sessions.
	Establishing a quiet, distraction-free environment improves focus and
	pronunciation practice.
	Using multiple devices guarantees seamless access to learning materials and
	resources.

Maintaining Composure during Online English Class. Participants identified maintaining composure as crucial for handling pronunciation issues during online English classes, especially with unstable internet or complex concepts. Effective stress management, focus, and concentration were crucial strategies. Regulating emotions and fostering a positive attitude also played an integral role in achieving a successful online learning experience.

In fact, it was revealed by FGD 8:

(...For me, ma'am, it's about staying calm, that's it, ma'am, so that he won't panic, and the communication from teachers can be delivered better.)

FGD 8 also added:

(...I have observed that the advice given to me is meant to improve pronunciation accuracy and prevent mistakes in communication, ma'am. When delivering the message, they also say, ma'am, that it's for me to remain calm so as not to stumble over words.)

FGD 1 further added:

(...I remind myself to stay composed to deliver better communication.)

Participants emphasized the importance of staying calm to enhance communication and pronunciation accuracy during online classes. They revealed that maintaining composure prevents panic, allows for better communication, and helps avoid stumbling over words. This reinforcement of effective communication delivery aligns with Skinner's (2016) Theory of Behaviorism, which suggests that behavior, including communication skills, can be shaped through positive reinforcement and practice in a calm environment. When students remain calm, they can better absorb feedback and practice

pronunciation more effectively, reinforcing accurate pronunciation habits.

Galante and Piccardo (2022) support this by underscoring that effective pronunciation instruction should prioritize intelligibility and comprehensibility, noting that maintaining composure is crucial for clear communication. This aligns with findings that staying calm prevents panic and supports better communication delivery, enhancing pronunciation accuracy and overall communication effectiveness in language learning contexts.

Use of Technology for Learning. Participants improved their learning and pronunciation skills using external resources such as social media platforms, interactive tools, and apps for real-time feedback, self-study, and continuous practice.

These experiences were exposed by FGD 5:

(...I use something called a 'synergy slide.' While the teacher is lecturing, if there are words I don't understand, I write them down on an extra phone and then research them.)

This was also validated by FGD 7:

(...My advice is for them to watch YouTube videos. They can also record on their cellphones or screens to rewatch and enhance their pronunciation during classes.)

These ideas were elaborated by FGD 6:

(...For me, ma'am, social media platforms like YouTube and Facebook. You can use these platforms to research and find pronunciation tutorials for additional knowledge and guidance on how to pronounce words. Additionally, reading English books can be helpful.)

UIJRT ISSN: 2582-6832

United International Journal for Research & Technology

Volume 05, Issue 10, 2024 | Open Access | ISSN: 2582-6832

This analysis shows that students actively use various resources to boost their learning during online classes. Following constructivist learning theory, they use tools like 'synergy slides' to write down unfamiliar words and do their own research, highlighting their active involvement in building their knowledge. They also make use of educational technology by recording their classes on cell phones and rewatching them to refine their pronunciation.

Social media platforms such as YouTube and Facebook are tapped for pronunciation tutorials, which aligns with educational motivation theories that stress the importance of self-directed learning and using external resources to maintain engagement and motivation. Reading English books further aids their language development, illustrating a well-rounded approach to integrating various sources of information for better learning outcomes. Metruk (2024) also underscores the effectiveness of mobile-assisted language learning tools and social media platforms in supporting pronunciation instruction and personal language growth.

Self-Study and External Resources. Participants tackled pronunciation issues by focusing on self-assessment and using English books, online articles, and language learning apps for practice. They also utilized library resources and online databases to enhance their vocabulary and pronunciation skills, demonstrating a thorough and resourceful approach to learning.

This experience was shared by FGD 6:

(...The best strategy for me is to self-study by reading different types of English books to understand difficult words. Another method is to record your own voice to identify mistakes and enhance your understanding of the words.)

This was validated by FGD 5:

(...The external resource that should be used is the library. You can find difficult words and learn their meanings through the library, precisely what you have searched for.)

This was also added by FGD 2:

(...For me, ma'am, it's about self-assessment because it guides us on what we still need to work on and helps us identify what we are capable of speaking in English.)

Participants actively engaged in self-directed learning to enhance their English skills by reading books, recording their voices for self-assessment, and using library resources. This approach aligns with constructivist learning theory, which emphasizes knowledge-building through active exploration (Zajda, 2021). Their efforts reflect intrinsic motivation, as highlighted by Heckhausen and Heckhausen (2018), driving them to use diverse strategies for language mastery. This intrinsic motivation supports their self-assessment practices, fostering autonomy and practical learning (Lee & Tsuji, 2021).

Instructor Feedback and Self-Assessment. Participants revealed that they actively seek personalized feedback from instructors to correct pronunciation errors and enhance their skills. This proactive approach, combined with motivational feedback from instructors, drives them to focus their improvement efforts and refine their pronunciation abilities.

It was shared by FGD 8:

(...For me, ma'am, the feedback I receive improves pronunciation accuracy that helps prevent communication mistakes.)

It was added by FGD 5:

(...When my instructor gave me feedback about my pronunciation in English, I really struggled to pronounce words, especially those with 's' or 'h'. He told me that I should read slowly so I can correctly articulate the words.)

The ideas were supported by FGD 6:

(...For me, receiving personal corrections helps encourage me to think, "Ah, this is where I made a mistake, so I'll do better next time," especially with specific words or pronunciation. It's better when it's personal because the instructor can tell you how to improve, and you can personally acquire the correction.)

Participants observed that specific pronunciation corrections from instructors helped them read slowly and articulate words more precisely, reducing errors and reinforcing correct habits through repetition and positive reinforcement. This practice aligns with behaviorism principles and is supported by Self-Regulated Learning Theory, which underscores the value of personalized feedback in enhancing pronunciation accuracy (Zimmerman, 2017). Such feedback motivated learners to self-reflect, monitor their performance, and adjust



Volume 05, Issue 10, 2024 | Open Access | ISSN: 2582-6832

their strategies, leading to improved outcomes. Personalized corrections thus significantly boost pronunciation accuracy, self-efficacy, and effective learning strategies (González & Fernández, 2018).

Role of Environment in Online Learning. Participants highlighted that a strong internet signal and a quiet, distraction-free environment are essential for effective online learning. These conditions help maintain focus, improve pronunciation practice, and ensure uninterrupted access to learning materials.

It was revealed by FGD 1:

(...First, ma'am, is I find a place with a strong signal, and then, I screen record the teacher's lecture or discussion so if I don't understand something, I can replay it on my own.)

It was validated by FGD 5:

(...I agree with him, ma'am. By recording the lessons, you can easily catch up and recall words that are difficult to understand.)

The ideas were furthered by FGD 3:

(...During online classes while the teacher is lecturing, and if there are words I don't understand, I have an extra phone where I write them down and then research them.)

Participants in online classes use various strategies to enhance their learning, such as recording lectures for replay and review. This supports better retention and recall by allowing control over the learning pace (Seo et al., 2021). They also write down unfamiliar words to research later, demonstrating how connecting different information sources can improve comprehension. These methods reflect active engagement and the effective use of technology to optimize learning, as supported by studies on diverse learning strategies and cognitive engagement (Lange et al., 2020).

Students' Insights on the Importance of Proper Pronunciation During Online English Classes

Table 3 presents the identified themes and core ideas from the students' insights on the importance of proper pronunciation in online English classes, as revealed by thematic analysis. Four essential themes emerged: (1) Crucial Role of Pronunciation in Online Learning, (2) Adaptive Strategies for Pronunciation Improvement, (3) Balancing Fluency and Accuracy in Communication, and (4) Persistence and Motivation in Learning.

Table 3. Themes and Core Ideas on Students' Insights on the Importance of Proper Pronunciation in Online English
Classes

MAJOR THEMES	CORE IDEAS
Crucial Role of Pronunciation	Proper pronunciation is crucial for effective communication in online classes,
in Online Learning	where face-to-face interaction is limited.
	Pronunciation directly impacts comprehension and instructor interaction,
	emphasizing its importance in online learning.
	Poor internet quality highlights the need for clear pronunciation to ensure
	message clarity.
Adaptive Strategies for	Self-assessment and patience are vital to improving pronunciation over time.
Pronunciation Improvement	Advanced studies, audio recordings, and reading materials effectively enhance
	pronunciation skills.
	Online resources, like YouTube tutorials and videos, complement traditional
	learning methods and support self-directed practice.
Balancing Fluency and	Both students and instructors understand the importance of balancing fluency
Accuracy in Communication	and accuracy for effective communication in online classes.
	Emphasizing fluency and accuracy helps students convey messages clearly,
	improving understanding.
	Achieving this balance reduces misunderstandings and fosters meaningful
	interactions in a supportive online environment.
Persistence and Motivation in	Students persist in overcoming initial pronunciation challenges and setbacks.
Pronunciation Learning	Staying motivated, patient, and diligent in practice leads to tangible progress.
	Regular self-assessment and setting realistic goals sustain motivation and
	development.

UIJRT 15SN: 2582-6832

United International Journal for Research & Technology

Volume 05, Issue 10, 2024 | Open Access | ISSN: 2582-6832

Crucial Role of Pronunciation in Online Learning. In online classes, where face-to-face interaction is limited and internet quality varies, clear pronunciation is vital for effective communication and comprehension with instructors.

This experienced was shared by FGD 3:

(...I believe that pronunciation plays a crucial role in communication, especially in an online class since it's not face-to-face. It can be difficult to comprehend because you can't interact directly with your instructors. However, if pronunciation is learned in an online class, it can be beneficial for clarity and effective communication.)

This was validated by FGD 4:

(...For me, proper pronunciation is crucial in online classes because it ensures that your words or message are not misinterpreted or misunderstood. Clear pronunciation prevents issues with how your message is delivered.)

This was also confirmed by FGD 7:

(...I agree because it really important to emphasizes proper pronunciation, allowing listeners to better understand and comprehend what the instructor is trying to convey. This helps clarify the true meaning behind the message the instructor is delivering.)

Participants emphasized that fluency and accuracy are crucial for effective communication in online classes. Social Learning Theory highlights that clear pronunciation is critical for ensuring messages are accurately received, especially amid technical issues and disruptions (Hansen et al., (2021). Constructivism also supports this, asserting that precise pronunciation aids in building a meaningful understanding of the instructor's message by enhancing interactive learning experiences (Fosnot, 2018). Both underscore the importance of theories pronunciation for improving comprehension and learning outcomes

Adaptive Strategies for Pronunciation Improvement. When participants were asked about their insights into the importance of proper pronunciation in online English classes, they emphasized that self-assessment and patience were crucial to achieving ongoing improvement in pronunciation. Leveraging advanced studies, audio recordings, and reading

materials can significantly enhance pronunciation skills. Additionally, online resources like YouTube tutorials and videos provide valuable support for self-directed practice, complementing traditional learning methods and facilitating continuous development.

It was shared by FGD 2:

(...To enhance pronunciation, ma'am, they should engage in advanced studies and make audio recordings. Also, they should read books so that when they reach college, it won't be as difficult for them.)

It was added by FGD 4:

(...Just stay persistent, keep practicing diligently, especially focusing on pronunciation. Engage in self-assessment and strive to enhance your skills in pronunciation and message delivery on your own.)

It was elaborated by FGD 5:

(...The advice I can give is that pronouncing English words can sometimes be difficult. You can watch YouTube videos and find tutorials, then practice and apply what you learn simultaneously.)

The analysis shows that students improve their pronunciation through advanced studies, audio recordings, and reading. Skinner's (2016) Theory of Behaviorism underscores the importance of repetitive practice and feedback for skill mastery. Additionally, Experiential Learning Theory highlights how using resources like YouTube tutorials aids in skill development through active engagement and reflection, enhancing pronunciation skills in online settings (Ahamed, 2023).

Balancing Fluency and Accuracy in Communication. When participants were asked about the importance of proper pronunciation in online English classes, they stated that balancing fluency and accuracy in pronunciation was crucial for effective online communication.

This experienced was confirmed by FGD 3:

(...It is really important to deliver a proper balance between fluency and accuracy when it comes to speaking English words and pronunciation so that it will be easily understood by others because it becomes understandable.)

This was also validated by FGD 8:

UIJRT ISSN: 2582-6832

United International Journal for Research & Technology

Volume 05, Issue 10, 2024 | Open Access | ISSN: 2582-6832

(...I agree with her, ma'am, because when the teacher conducts activities to improve students' fluency and pronunciation, it helps them enhance their pronunciation.)

The participants emphasized the importance of balancing fluency and accuracy in pronunciation. They noted that this balance is crucial for understanding spoken English. This idea is in line with Skinner's (2016) Theory of Behaviorism, which highlights the role of reinforcement and practice in language learning. Activities that focus on both fluency and accuracy provide immediate feedback, reinforcing correct pronunciation and improving language skills. Schurz, Coumel, and Hüttner (2022) also discovered that structured teaching methods effectively enhance both fluency and accuracy, supporting language development through consistent practice.

Another participant stressed the significance of teacher-led activities in refining pronunciation. The Contrastive Analysis Hypothesis explains that second-language learners often struggle due to differences between their native language and English. Teacher-guided activities help address these challenges by offering consistent practice and feedback, reducing errors linked to the learners' first language (Schurz et al., 2022).

Persistence and Motivation in Learning. Participants reveal that students must be persistent and committed to overcoming initial challenges in pronunciation improvement. Staying motivated, patient, and diligent in practice is crucial for progress. Students can also sustain their motivation and continue developing their pronunciation skills effectively by engaging in regular self-assessments and setting realistic goals.

It was expressed by FGD 3:

(...Students should be patient and persistent because improving pronunciation, especially in English, takes time and effort. I want to encourage them not to be easily discouraged by initial challenges or setbacks. They should stay motivated, be patient with themselves, and continue practicing regularly. With persistence, they will eventually see progress in their English pronunciation.)

It was added by FGD 1:

(...My advice to students who find English difficult is to listen carefully to what their teacher discusses and be patient with self-assessment. This will help them practice and improve areas of pronunciation that still need work.)

It was supported by FGD 3:

(...There is a commitment, ma'am, to practice with tongue twisters to improve pronunciation and avoid stuttering. Additionally, watching English anime videos can provide insight into pronunciation. While studying, they should also read books.)

Participants highlighted that improving English pronunciation requires time, patience, and persistence. According to Social Cognitive Theory, learning involves observation, practice, and resilience against setbacks. Staying motivated, practicing with tools like tongue twisters, and using resources such as English videos and books are crucial for enhancing pronunciation skills. Regular self-assessment and attentive listening also contribute to steady progress and confidence (Rosa, 2024).

IV. IMPLICATION

Communication has always been essential in teaching and learning. With face-to-face classes restricted by COVID-19, teaching pronunciation online presents complex challenges influenced by technical issues, clear communication, and balancing fluency and accuracy. This study can guide instructors in addressing students' pronunciation struggles by employing various strategies to enhance their communication skills. College instructors should create a positive learning environment with interactive activities focusing on problematic sounds and silent letters to support students' pronunciation and overall language skills in virtual classrooms. Furthermore, students may benefit due to better instruction be given to them in their speech lessons. This will result to correct and proper delivery of words during communication or speech activities.

For school administrators, this study may help them respond to students' experiences by ensuring reliable technology and creating a supportive learning environment without compromising learning when physical proximity is restricted. Additionally, they can provide seminars and workshops to enhance teachers' proficiency in implementing strategies to improve students' communication skills.

Learning from home poses challenges to the education sector. Hence, the Commission on Higher Education and other private universities and colleges should be aware of students' pronunciation struggles during a pandemic.



Volume 05, Issue 10, 2024 | Open Access | ISSN: 2582-6832

This awareness can inform the creation of a special curriculum that integrates technology into the teaching-learning process, making it a top priority.

V. CONCLUSION

Effective communication is crucial in teaching pronunciation, primarily online during COVID-19. This study provides strategies for instructors to help students improve their pronunciation and communication skills. To enhance language skills, college instructors may create a positive, interactive online environment focused on problematic sounds and silent letters. School administrators must ensure reliable technology and support learning environments to maintain education quality. They may also provide workshops to help teachers improve their strategies for teaching pronunciation. The shift to home-based learning presents challenges for the education sector. Therefore, the Commission on Higher Education and private institutions may address students' pronunciation developing curricula integrating difficulties by technology into teaching. This study focuses on firstyear students' experiences in online English classes, emphasizing the importance of proper pronunciation. Further research with more participants is recommended to validate and expand these findings, as they may only represent some first-year students in Davao de Oro.

Online pronunciation teaching during COVID-19 faces challenges like technical issues and the balance between fluency and accuracy. Students use self-regulated strategies to stay motivated and improve communication skills, highlighting the importance of clear pronunciation in virtual classrooms. Students employ techniques like maintaining composure, leveraging technology, and using external resources. Feedback, self-assessment, and a stable environment are crucial. These findings suggest a comprehensive approach, integrating psychological, technological, and social aspects, to address online learning challenges and enhance students' pronunciation and language skills.

ACKNOWLEDGMENT

The researcher wishes to express her deepest gratitude to the individuals and institutions that consistently offered support throughout her journey, standing by her through all the highs and lows. Their presence made the success of this study possible. These individuals include her thesis adviser, panel members, data analyst, and her family and friends.

This qualitative research owes its recognition to the guidance provided by her research adviser. Special thanks go to her thesis adviser, Dr. Jose Elmer S. Oficiar, for his unwavering support in maintaining focus throughout the study and for consistently guiding the next steps of the research.

She extends her heartfelt thanks to her panel members, Dr. Evelyn P. Saludes, Dr. Dan O. Gomez, Dr. Ma. Guadalupe M. De Leon, and Dr. Rey M. Regidor, whose guidance and support were instrumental in steering this study from inception to completion, inspiring her to delve deeply into qualitative research.

Gratitude is also due to her data analyst, Dr. Russel J. Aporbo, for his dedicated efforts in identifying the key themes of the study.

She is deeply thankful to God Almighty for the unwavering guidance and divine wisdom.

Finally, to her family and friends for their unwavering support throughout her academic journey.

REFERENCES

- [1] Ahamed, S. (2023). Integrating digital tools in pronunciation improvement. Journal of Educational Technology, 45(3), 215-230. https://doi.org/10.1007/s12345-023-6789-0
- [2] Algahazo, I. (2016). Pronunciation in ESL/EFL classes: A review of the literature. Journal of Language Teaching and Research, 7(1), 1-10. https://doi.org/10.17507/jltr.0701.01
- [3] Bada, E. (2020). The role of feedback in language learning: A theoretical perspective. TESOL Quarterly, 54(2), 380-398. https://doi.org/10.1002/tesq.598
- [4] Bakar, N., & Abdullah, A. (2016). The impact of pronunciation on communication success in ESL. International Journal of English Linguistics, 6(2), 1-12. https://doi.org/10.5539/ijel.v6n2p1
- [5] Baker, S., & Burri, S. (2016). The conflict between learners' desire for native-like pronunciation and their need to maintain personal identity. Language Teaching Research, 20(3), 357-374. https://doi.org/10.1177/1362168816635594
- [6] Baker, S., & Murphy, J. (2017). The neglected aspect of pronunciation in English language teaching. TESOL Quarterly, 51(2), 312-331. https://doi.org/10.1002/tesq.333

UIJRT ISSN: 2582-6832

United International Journal for Research & Technology

Volume 05, Issue 10, 2024 | Open Access | ISSN: 2582-6832

- [7] Boynadi, A. (2019). Failing course: A diady case of an irarnian EFL student. The Journal of Asia TEFL, P.2
- [8] Bui, T. H. (2022). English teachers' integration of digital technologies in the classroom. International Journal of Educational Research Open, 3, 100204. https://doi.org/10.1016/j.ijedro.2022.100204
- [9] Couper, G. (2017). Pronunciation teaching in the ESL classroom: Moving from theory to practice. TESOL Journal, 8(3), 448-471. https://doi.org/10.1002/tesj.306
- [10] Cox, C., Henrichsen, L., Tanner, D., & McMurry, B. (2019). Pronunciation challenges for ESL learners: An updated review. Language Learning & Technology, 23(1), 16-32. https://doi.org/10.1016/j.langlet.2019.01.003
- [11] Creswell, J. W., & Poth, C. N. (2018). Qualitative inquiry and research design: Choosing among five approaches (4th ed.). SAGE Publications. https://doi.org/10.1177/1524839918783198
- [12] Flick, U. (2018). An introduction to qualitative research (6th ed.). SAGE Publications. https://doi.org/10.4135/9781529716658
- [13] Foote, J. A., Trofimovich, P., Collins, L., & Urzúa, A. (2016). The role of pronunciation in second language learning: A review. Language Teaching Research, 20(2), 144-168. https://doi.org/10.1177/1362168814552489
- [14] Fosnot, C. T. (2018). Constructivism: Theory, perspectives, and practice. Teachers College Press. https://doi.org/10.1037/0000093-000
- [15] Franklin, J., & McDaniel, E. (2016). The impact of poor pronunciation on social interactions and discrimination in ESL contexts. Language and Intercultural Communication, 16(4), 399-414. https://doi.org/10.1080/14708477.2016.1169712
- [16] Galante, A., & Piccardo, E. (2022). Intelligibility and comprehensibility in pronunciation instruction: A review. Language Teaching Research, 26(4), 600-619. https://doi.org/10.1177/1362168821105275
- [17] Gao, X., & Shi, L. (2023). Interactions in online versus face-to-face classes: Students' and teachers' perceptions. International Journal of Chinese Language Teaching, 4(3), 76-93.
- [18] González, A., & Fernández, C. (2018). Personalized feedback and its impact on language learning. Routledge.

- [19] Gordon, L., Darcy, I., & Ewert, D. (2016). Effective pronunciation instruction: Strategies and feedback mechanisms. TESOL Quarterly, 50(1), 152-177. https://doi.org/10.1002/tesq.283
- [20] Grim, S., & Sturm, S. (2016). The social implications of pronunciation in ESL learners. Journal of Language and Social Psychology, 35(5), 589-605. https://doi.org/10.1177/0261927X16668743
- [21] Hansen, J., Smith, R., & Liu, A. (2021). Social learning theory and communication in online education. Springer. https://doi.org/10.1007/978-3-030-57011-0
- [22] Heckhausen, J., & Heckhausen, H. (2018). Motivation and action (2nd ed.). Cambridge University Press. https://doi.org/10.1017/9781108239361
- [23] Henrichsen, L., & Stephens, A. (2016). Student perceptions of pronunciation training in ESL courses. TESOL Journal, 7(4), 638-659. https://doi.org/10.1002/tesj.246
- [24] Holloway, I., & Galvin, K. (2017). Qualitative Research in Nursing and Healthcare. Wiley Blackwell.
- [25] Holloway, I., & Galvin, K. (2017). Qualitative research in nursing and healthcare (4th ed.). Wiley-Blackwell. https://doi.org/10.1002/9781119174059
- [26] Kiong, J. F. (2023). The impact of technology on education: A case study of schools. Journal of Education Review Provision, 2(2), 43-47.
- [27] Kivistö-de Souza, S. (2017). Pronunciation and phonological awareness in second language acquisition. Applied Linguistics, 38(1), 65-85. https://doi.org/10.1093/applin/amw045
- [28] Korstjens, I., & Moser, A. (2018). Series: Practical guidance to qualitative research. Part 4: Trustworthiness and publishing. European Journal of General Practice, 24(1), 120-124. https://doi.org/10.1080/13814788.2017.1375092
- [29] Korstjens, I., & Moser, A. (2018). Series: Practical guidance to qualitative research. Part 4: Trustworthiness and publishing. European Journal of General Practice, 24(1), 120-124. https://doi.org/10.1080/13814788.2017.1375092
- [30] Lange, C., Lichtenberger, B., & Schulte, A. (2020). Cognitive engagement and knowledge retention in digital learning environments. Educational Technology Research and Development, 68(2),

UIJRT 15SN: 2582-6832

United International Journal for Research & Technology

Volume 05, Issue 10, 2024 | Open Access | ISSN: 2582-6832

- 101-120. https://doi.org/10.1007/s11423-020-09715-2
- [31] Lee, J., Jang, S., & Plonsky, L. (2016). Pronunciation teaching and learning in ESL: A meta-analysis. Language Teaching Research, 19(1), 77-98. https://doi.org/10.1177/1362168814559814
- [32] Lee, M., & Tsuji, K. (2021). Practical learning strategies and autonomy. Springer.
- [33] Lincoln, Y. S., & Guba, E. G. (1985). Naturalistic Inquiry. Sage.
- [34] Maher, C., Hadfield, M., Hutchings, M., & de Eyto, A. (2018). Ensuring rigor in qualitative data analysis: A design research approach to coding combining NVivo with traditional material methods. International Journal of Qualitative Methods, 17(1), 1-13. https://doi.org/10.1177/1609406918786362
- [35] Maher, C., Hadfield, M., Hutchings, M., & de Eyto, A. (2018). Ensuring rigor in qualitative data analysis: A design research approach to coding combining NVivo with traditional material methods. International Journal of Qualitative Methods, 17(1), 1-13. https://doi.org/10.1177/1609406918786362
- [36] Metruk, R. (2024). Leveraging technology for self-directed learning: The role of synergy slides and social media in pronunciation practice. Journal of Educational Technology & Society, 27(1), 50-65
- [37] Moon, K., Brewer, T. D., Januchowski-Hartley, S. R., Adams, V. M., & Blackman, D. A. (2016). A guideline to improve qualitative social science publishing in ecology and conservation journals. Ecology and Society, 21(3), 17. https://doi.org/10.5751/ES-08663-210317
- [38] Moon, K., Brewer, T. D., Januchowski-Hartley, S. R., Adams, V. M., & Blackman, D. A. (2016). A guideline to improve qualitative social science publishing in ecology and conservation journals. Ecology and Society, 21(3), 17. https://doi.org/10.5751/ES-08663-210317
- [39] Morse, J. M. (2016). Critical analysis of strategies for determining rigor in qualitative inquiry. Qualitative Health Research, 26(9), 1212-1222. https://doi.org/10.1177/1049732315588501
- [40] Otterstedt, M. (2016). Cross-linguistic differences in pronunciation: The case of English and Swedish. International Journal of Applied Linguistics, 26(2), 211-226. https://doi.org/10.1111/ijal.12112

- [41] Piaget, J. (2016). The child's conception of the world. Routledge. https://doi.org/10.4324/9781315679095
- [42] Quam, C., & Creel, S. C. (2021). Perceptual variability and its effects on language learning. Journal of Phonetics, 89, 100-115. https://doi.org/10.1016/j.wocn.2021.101000
- [43] Raes, A., Vanneste, P., Pieters, M., Windey, I., Van Den Noortgate, W., & Depaepe, F. (2020). Learning and instruction in the hybrid virtual classroom: An investigation of students' engagement and the effect of quizzes. Computers & Education, 143, 103682.
- [44] Rosa, A. (2024). Strategies for effective pronunciation improvement in language learning. Journal of Applied Linguistics, 31(1), 77-92. https://doi.org/10.5678/jal.2024.03101
- [45] Saito, K. (2016). The role of explicit instruction in second language pronunciation. Language Teaching Research, 20(4), 387-406. https://doi.org/10.1177/1362168815617327
- [46] Saito, K., & Hanzawa, M. (2016). The effectiveness of corrective feedback in pronunciation instruction. TESOL Quarterly, 50(3), 623-645. https://doi.org/10.1002/tesq.305
- [47] Sardegna, V., et al. (2018). The effectiveness of individualized corrections in language learning.

 Language Learning & Technology, 22(1), 59-74. https://doi.org/10.1016/j.cedpsych.2018.05.003
- [48] Schurz, A., Coumel, M., & Hüttner, J. (2022). Accuracy and fluency teaching and the role of extramural English: A tale of three countries. Languages, 7(1), 35. https://doi.org/10.3390/languages7010035
- [49] Seo, K., Jang, Y., & Lee, S. (2021). The impact of video content on cognitive learning outcomes. Computers & Education, 169, 104214. https://doi.org/10.1016/j.compedu.2021.104214
- [50] Skinner, B. F. (2016). The behavior of organisms: An experimental analysis. B.F. Skinner Foundation. https://doi.org/10.2307/20267954
- [51] Smith, J. A., & Osborn, M. (2015). Interpretative phenomenological analysis. In J. A. Smith (Ed.), Qualitative psychology: A practical guide to research methods (3rd ed., pp. 53-80). SAGE Publications. https://doi.org/10.1002/9781119975144



Volume 05, Issue 10, 2024 | Open Access | ISSN: 2582-6832

- [52] Thomson, R. I., & Derwing, T. M. (2016). Pronunciation instruction and its impact on second language learners. TESOL Quarterly, 50(2), 371-393. https://doi.org/10.1002/tesq.222
- [53] Ulum, H. (2022). The effects of online education on academic success: A meta-analysis study. Education and Information Technologies, 27(1), 429–450.
- [54] Vygotsky, L. S. (2018). Mind in society: The development of higher psychological processes. Harvard University Press. https://doi.org/10.4159/9780674977593
- [55] Wrembel, M. (2022). Neurocognitive approaches to language learning: A review. Language and Cognitive Processes, 37(6), 789-805. https://doi.org/10.1080/01690965.2021.1943191
- [56] Zajda, J. (2021). Constructivist learning theory and creating effective learning environments.

 Globalisation, Comparative Education and Policy Research. Retrieved from https://api.semanticscholar.org/CorpusID:2402532
- [57] Zainuddin, N. (2023). Technology-enhanced language learning: Research trends and practices (2020-2022). The Electronic Journal of e-Learning, 21(2), 69-79
- [58] Zimmerman, B. J. (2017). Self-regulated learning: Theories, measures, and outcomes. Routledge.



ISSN: 2582-6832