The Journal of Language Teaching and Learning™

2025 Volume 15/Issue 2 Article 4

Efficacy of Implementing Micro-Credential Programs for Foundation School English Language Remedial Classes

Chinaza Solomon Ironsi, University of Mediterranean Karpasia, Nicosia, North Cyprus, Mersin 10, Türkiye, solomon.chinaza@akun.edu.tr

Recommended Citations:

APA

Ironsi, C. S. (2025). Efficacy of Implementing Micro-Credential Programs for Foundation School English Language Remedial Classes. *The Journal of Language Teaching and Learning*, *15*(2), 66-80.

MLA

Ironsi, Chinaza Solomon, "Efficacy of Implementing Micro-Credential Programs for Foundation School English Language Remedial Classes." *The Journal of Language Teaching and Learning*, vol. 15, no. 2, 2025, 66-80.

Contents lists available at www.jltl.com.tr

The Journal of Language Teaching and Learning

Published by the Association of Applied Linguistics

www.jltl.com.tr

The Journal of Language Teaching and Learning, 2025*(2)*, pp. 66-80.

Efficacy of Implementing Micro-Credential Programs for Foundation School English Language Remedial Classes

Chinaza Solomon Ironsi[1]

ARTICLE INFO

Article History:
Received 4 Feb 2025
Revisions completed 30 May 2025
Online First 30 Jun 2025
Published 30 Jun 2025

Key Words:
Micro-credentials
Technology
English language teaching
Remedial classes
Potentials and challenges

ABSTRACT

Micro-credentials are gaining popularity in higher education; however, there are limited studies within the language education domain. Already in language teaching, students are experiencing challenges with their language skills. Given the numerous benefits of micro-credentials, especially in personalized learning and improving specific skills, this study foresees that it could be implemented in remedial English classes to improve the student's language skills. On this premise, this study decides to conduct an exploratory study to investigate micro-credential efficacy in improving students' language learning outcomes. This study used a mixed-method research design to elicit information from 53 participants on their language skills improvements after using a micro-credential program. The study further examined the students' opinions on using micro-credentials for language learning. After collecting and analyzing data, the study revealed that using micro-credentials improved some language skills while others remained unchanged. Also, the study provides insights into the potential of micro-credential learning while revealing its strengths and pitfalls.

[1]Foreign Languages and English Preparatory School, University of Mediterranean Karpasia, Nicosia, North Cyprus, Mersin 10, Türkiye, solomon.chinaza@akun.edu.tr

Ironsi, C. S. (2025). Efficacy Of Implementing Micro-Credential Programs For Foundation School English Language Remedial Classes. *The Journal of Language Teaching and Learning*, *15*(2), 66-80.

Numerous efforts are made in foreign language foundation schools to ensure that the instructional objectives are achieved, as indicated in the common European framework of reference for languages. Given the influence of students' individual differences and learning styles in determining positive learning outcomes, most foreign language foundation school programs use several strategies to improve student language skills (Ironsi, 2023; Sutarto et al., 2020). One strategy is improved teaching methods, one-on-one tutoring, remedial classes, conducive learning environments, computer-assisted language learning, artificial intelligence, interactive online resources, and others (Deslauriers et al., 2019; Ironsi & Solomon Ironsi, 2025).

Already, research acknowledges that integrating the above-mentioned especially technology in language teaching plays a significant role in language acquisition (Loderer et al., 2019). Besides, evidence shows the application of technological and online resources in the language classroom to foster learning (Fidan & Tuncel, 2019; Ironsi, 2022). During the pandemic outbreak, learning management systems were used to facilitate learning and teaching; this led to the reintroduction of Blackboard, moodle, google Classroom, and other online learning platforms in higher education (Ali et al., 2019: Ironsi, 2022 a). Generally, the above assisted in facilitating learning and providing a personalized learning experience.

Another strategy for personalized learning that provides learners with opportunities to access short learning experiences following transparent standards was introduced in education, referred to as micro-credential learning (Kuznetsova, 2023). Many European institutions have integrated micro-credential programs into their learning platforms, allowing students to access and improve their skills in other areas. However, this concept is still at the cradle stage (Aruldason, S., & Edwards, 2022, Ironsi & Ironsi, 2025). Micro-credentials could be applied in language teaching to improve language instruction. However, they are rarely used within the field of language teaching for improve language teaching (Kumar et al., 2022). Micro-credential programs have become increasingly popular in higher education to provide targeted, specialized training to students seeking to enhance their skills and knowledge in specific areas (Gaftandzhieva et al., 2022).

Furthermore, given micro-credentials usefulness, students can benefit from high-quality teaching and more effective learning (Felton et al., 2022). Besides, micro-credential programs can expose educators to innovative teaching approaches and new technologies, which can help them to engage students in new and exciting ways (Li & Ironsi, 2024; Tamoliune et al., 2023). Moreover, research affirms that micro-credential programs can allow educators to personalize student learning by providing specialized knowledge and skills tailored to individual student needs (Carțiș et al., 2022). Research in scholarly literature documents that by improving teachers' teaching practice, educators who participate in micro-credential programs can help to improve student outcomes, such as increased test scores, higher graduation rates, and improved critical thinking and problem-solving skills (Desmarchelier & Cary, 2022).

In addition, commendable studies show that micro-credential programs can help students develop the skills and knowledge needed for success in the workforce (Kiiskilä et al., 2022; Ironsi & Ironsi, 2025). Overall, micro-credential programs can offer several benefits to students by improving the quality of teaching and learning, promoting innovation and personalized learning, and preparing students for success in the workforce. Investing in the professional development of educators, schools, and districts can help create a more effective, equitable, and successful educational system for all students.

While these programs offer many benefits, such as flexibility and affordability, higher education institutes face several challenges and issues when developing and implementing micro-credential programs. For instance, research accounts for the fact that developing a relevant and high-quality micro-credential program requires significant investment in time, expertise, and resources (Thi Ngoc Ha et al., 2022). Similarly, institutes must identify the skills and knowledge required by the industry or field and develop programs that meet

those needs (Kuznetsova, 2023). This requires collaboration between academic and industry experts to ensure the program curriculum is aligned with current and future industry needs (Braxton, 2023). In addition, unlike traditional degree programs, micro-credential programs are often non-degree offerings that may not be accredited by regulatory bodies, making it difficult for students to obtain credit for their learning (Ahmat & Ridzuan, 2022).

Equally, micro-credential programs are often not subject to the same accreditation and quality assurance processes as traditional academic programs (Clausen et al., 2022). This can create challenges for higher education institutes in ensuring that the micro-credential programs they offer are of high quality and meet the needs of learners (Fischer et al., 2022). Nonetheless, some reports assert that they can be used to develop several skills required for higher achievements in higher education subjects (Pirkkalainen et al., 2022). Given this, debates that micro-credential programs lack relevance concerning allocating credit units may not necessarily be important.

Concerning assessment, integration with other programs, and technological infrastructure, several authors contend that these aspects usually pose a concern with implementing micro-credentials in most higher education (Varadarajan et al., 2023). Research acknowledges that micro-credential programs often focus on specific skills and knowledge areas, so institutes must develop effective assessment and evaluation methods to ensure students have mastered the required competencies (McGreal & Olcott Jr, 2022). Some authors affirm that this requires developing rigorous and valid assessments that accurately measure student learning (McGreal et al., 2022). Again, many higher education institutes struggle to integrate micro-credential programs with their existing academic programs, making it difficult for students to access a university-based micro-credential program (Alsobhi et al., 2023). This requires coordination and collaboration between departments and faculties to ensure that micro-credential programs align with broader academic goals and objectives (Olcott Jr, 2022).

Regarding technological infrastructure, micro-credential programs often require specialized technology, such as learning management systems and digital badges, to effectively deliver and track student learning (Arslan et al., 2022). Institutes must invest in the necessary technology infrastructure to support these programs and ensure students can access the necessary tools and resources (Ward et al., 2023). Agreeably, developing and implementing micro-credential programs requires significant investment in time, resources, and expertise, and institutes must address various issues and challenges related to accreditation, assessment, marketing, integration, and technology infrastructure to deliver these programs effectively.

An exegesis of some studies on micro-credential programs in higher education indicates that students face several challenges while using micro-credentials for learning and teaching. Some recent studies affirm that micro-credential programs are often designed to be completed quickly, which can be challenging for students who are already balancing multiple commitments (Olcott Jr, 2022). This implies that students must manage their time effectively to complete the program requirements while also meeting other academic or professional obligations if they are to benefit from micro-credential programs (Lok et al., 2022). Some authors revealed that micro-credential programs are often self-paced and require students to take responsibility for their learning (Msweli et al., 2022). Other authors found this challenging for students who are used to a structured learning environment and may struggle with self-motivation or discipline (Maina et al., 2022). Besides, laudable studies reiterate that issues of access to technology, rigorous assessment, global recognition, and cost may continue to challenge students' acceptability of micro-credential programs (Conrad, 2022).

Agreeing with this assertion, others reaffirm that micro-credential programs often require the use of specialized technology, such as learning management systems and digital badges, to effectively deliver and track student learning, and inaccessibility of technology and tools to participate in the program may pose a threat to students (Navanitha et al., 2022). Again, students must

demonstrate their learning through assessments and evaluations, which can be challenging if they are not familiar with the assessment methods or the expectations of the program (Kiiskilä et al., 2022). Moreover, while micro-credential programs are often more affordable than traditional degree programs, they still require a financial investment from students (Heggart, 2022). Students must consider the program's cost and weigh the benefits against the potential return on investment (Shanahan & Organ, 2022). Analyzing the above, it is important for students to consider these challenges carefully and to develop strategies for addressing them to ensure a successful learning experience.

Theoretically, the concept of personalized instruction was conceived by Fred Keller to provide a learning platform where students can experience learning by mastering content and following the course at their own pace alongside a transparent assessment method (Keller, 1968). Equally, the theory of mastery learning, as proposed by Benjamin Bloom in 1968, is an educational philosophy that insists on students' mastery of learning before progressing to the next level (Bloom & Carroll, 1971; Kule et al., 2022). Studies recognize that mastery learning is an approach to education that emphasizes a student's ability to master a subject before moving on to the next level or topic (Epstein et al., 2022). This approach gives students the necessary support, time, and resources to learn a particular skill or concept (Bradley et al., 2022).

Mastery learning aims to ensure that students attain a high level of competency in a given subject matter by requiring them to demonstrate mastery of the material through assessments (Matayoshi et al., 2022). Mastery learning typically involves breaking down a subject or skill into smaller, more manageable units, with each unit building upon the previous one (Sulman et al., 2022). Students must demonstrate mastery of each unit before moving on to the next one (Epstein et al., 2022). This approach allows students to work independently and provides targeted feedback and support to help them achieve mastery (Winget et al., 2022). Mastery learning effectively improves student learning outcomes, especially for struggling students. This approach has also been successful in helping students retain information and apply what they have learned in real-world settings.

Conceptually, this study foresees that given the usefulness of micro-credential learning in higher education, this personalized learning model could be implemented in foundation school remedial classes as an approach for improving specific language skill challenges of language learners. This study anticipates that given the consistent difficulties that students experience while learning specific language skills, utilizing micro-credential learning (where subjects are divided into smaller manageable units) in language remedial classes could help improve the language skills of the students and facilitate the language learning and teaching process at the English foundation school program. This study could help unveil its potential and possible challenges while using this model for learning. This conceptual framework is presented in Figure 1.

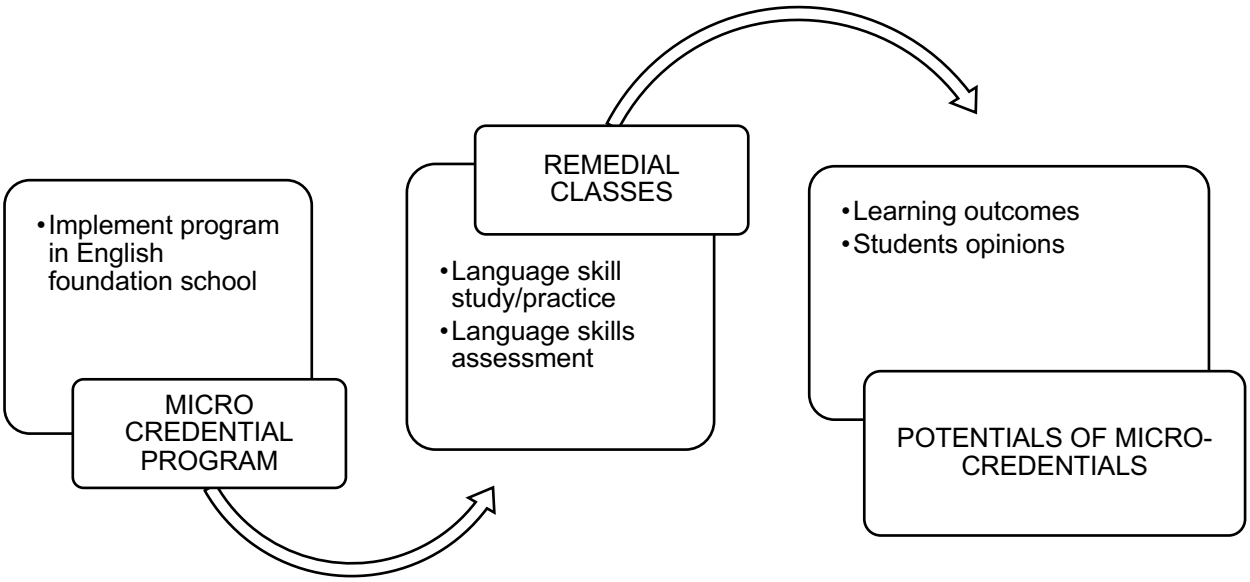

Figure 1
Conceptual framework of the study

Given the potential of micro-credential learning, this study foresees that implementing this in language learning help improve students' language skills. Besides, studies on the use of micro-credentials in language education are scarce. This implies that this domain, as it relates to language pedagogy, is quite understudied, requiring more investigation. This study provides insights into the potential of micro-credential learning in language learning and teaching, which is so far lacking in the broader literature on language education. This study open up interesting aspects of this model while showcasing possible impediments (if any) to its successful implementation in the language education domain. Furthermore, careful exegesis of this topic as it relates to language learning and teaching shows limited empirical studies. This indicates little is known about micro-credentials' potential in language learning and teaching. These empirical and knowledge gaps in the scientific literature can be bridged through this study. On these premises and to add to this special issue, this study decides to investigate the following research questions;

1. How effective is micro-credential learning in improving students' language skills in remedial classes?
2. What are the student's perceptions of using micro-credential programs for learning?

2. Method

2.1. Research Design

The study adopted a mixed-method research design. This research design makes use of post-test, and interviews in collecting both qualitative and quantitative data (McKendrick, 2020). This study foresees that this research design would be appropriate in eliciting information from participants using pre and post-tests to determine the micro-credential program's effectiveness in improving the students' language skills. Also, the interviews will provide insights into students' perceptions of the potential of this instructional model. To implement this design, a one-group quasi-experimental group was used for this study. students studying at the foundation school of a private university in Turkey were recruited. This experimental design was employed given the non-availability of students.

Specificaly, students who scored below the cut-off point of 50% during the pre-test were recruited into a 5 weeks remedial language class. They were enrolled in a micro-credential program for reading,

listening, writing, and speaking. After the duration of the study, they took the micro-credential assessment and, thereafter, the foundation school resit examination, which served as the post-test. Their grades were obtained and compared afterward. Also, they were interviewed to share their experiences using the micro-credential program.

2.2. Participants

A total number of 53 students were purposively recruited for this study. They were students studying at the foundation school of a private university in Turkey. They were specific students who obtained scores below 50%. The Fifty-three undergraduate students were within the ages of 18–22; 32 for female participants and, 21 male for the male participants. The students did not achieve the 50% threshold in the institution's English language proficiency placement examination, hence necessitating their enrollment in a 5-week remedial program. The institution admits students from all backgrounds, primarily from Turkey and adjacent Central Asian nations.

Before commencing the study, oral consent was obtained from the participants to participate or withdraw from the study. They were told that this study would assist in improving their language practices at their own pace. For the interviews, 30 participants were randomly selected and coded as B1- B30 for anonymity. The interview was recorded and later on transcribed.

2.3. Data Collection

The study adopted pre-test/post-tests and interviews as the major instruments for data collection. A pre-test was administered to the students to ensure that only those required for the remedial class were recruited for this study. This helped ensure the students were at the same level before starting the study. After the study, the students were administered a post-test to determine if their language skills were improved. Two expert raters were employed to score the student's test. After administering the test, they were collected and analyzed. The pre- and post-test were similar, conforming to CEFR B1 descriptors. They comprised of multiple-choice reading/listening items, a 200-word essay prompt, and a one-minute spoken answer recorded using Flipgrid.

Also, semi-structured interview guides were used to elicit information from the participants on the study's objective. The interviews were semi-structured, with 8 questions focused on learners' experiences, usability, and impressions of micro-credential platforms. Permission was obtained from the participants to record the interview session. The interview lasted for 2 hours 45 minutes and 07 seconds. The data obtained were transcribed and analyzed.

2.4. Data Analysis

The students' scores (pre-test and post-test) in various language skills were analyzed by calculating the percentile and mean ratings. To ensure accuracy, a thorough evaluation process was carried out. First, two external expert raters assessed the students' answer samples. Then, the researcher assessed the samples and compared the scores with the external raters' scores to ensure consistency. Another expert rater reviewed the grades to ensure agreement among the raters. After reaching a consensus, the final scores were recorded in tables. Statistical analysis was conducted using SPSS version 27. Before conducting the analysis, a normality test was conducted. Due to the limited sample size and non-normal distribution of scores (Shapiro-Wilk $p < .05$), a Wilcoxon Signed-Rank Test was employed.

The interview questions were analyzed using thematic analysis. Thematic analysis of the interview data according to Braun and Clarke's using the six-phase methodology. The coding process was inductive and conducted manually by two researchers. Discrepancies were rectified by dialogue. This involved generating initial codes by identifying patterns in the data and then interpreting the codes to generate themes that describe aspects of the data. Codes that did not fit were discarded, and themes were reviewed repeatedly. The data were transcribed carefully,

and all aspects of the analysis were documented. There was member checking to improve inter-rater reliability. The interviewees confirmed that the transcription was a true representation of their responses. The themes were compared with the researcher's analysis, and a consensus was reached. The themes were named, defined, and presented in tables.

2.5. Ethical consideration

Before commencing the study, a written informed consent was obtained from all the participants. The participants declared their willingness to participate in the study or withdraw at any given time. Afterwards, an ethical approval was obtained from the ethical committee of the university declaring that the study will adhere ethical standards of conducting scientific research according to the Helsinki Declaration of 1964.

3. Results

RQ 1: How effective is micro-credential learning in improving students' language skills in a remedial class?

Table 1
Descriptive Statistics of Mean Scores across the Pre-test and Post-test

	T1	T2	*MD*
	M	M	
Speaking	45.25	43.50	-1.75
Writing	33.11	65.49	30.40
Reading	42.08	58.02	12.03
Listening	29.05	72.28	43.23

M: Mean, T1: Pre test, T2: Post test, MD: Mean difference

Table 1 displays a descriptive analysis of the language skills' pre and post-test scores. The results indicate no improvement in students' speaking skills as the mean scores for the pre and post-test were 45.25 and 43.50, respectively, with a negative mean difference of -1.75. Conversely, there was an improvement in students' writing, reading, and listening skills. The mean scores for writing were 33.11 and 65.49, with a mean difference of 30.40, indicating improved writing skills. The mean scores for reading were 42.08 and 58.02, with a mean difference of 12.03, while the mean scores for listening were 29.05 and 72.28, with a mean difference of 43.23, demonstrating improvement in reading and listening skills. Overall, the table suggests improving students' writing, reading, and listening skills but not their speaking skills. As the number of participants was small and there were differences in mean scores across student performance, a non-parametric test was administered to determine if there was an improvement in overall learning outcomes, as presented in Table 2.

Table 2
Mean Rank and Wilcoxon Signed-rank Test Statistics across the Pre and Post-test

	N	Mean Rank	Sum of Ranks
Pre-test Negative Ranks	38	56	63
Post-test Positive Ranks	59	56	75
Ties	2		
Total	99		

	Pre-test
Post-test	
Z	2. 9
Assymp. Sig (2-tailed)	0.036

Table 2 provides data showing the mean rank and the sum of ranks across the pretest and post-test. The table further shows the test statistics to indicate a significant difference in the participants' test scores. The table shows a mean difference of 38 for the pre-test, indicating no improvement in the student's language skills. Nonetheless, a mean difference of 59 was obtained for the post-test, showing an improvement in their language skills. When a Wilcoxon test was applied to show if there was a significant difference in the mean scores across the pre and post-test, (Z = 2.9, P = 0.036) was obtained at a 0.05 significance level. The result implies that a significant difference exists across the pre- and post-test.

3.1. Interviews

RQ 2: What are the student's perceptions of using micro-credential programs for learning?

Table 3
Thematic Analysis of Students' Opinions of Using Micro-credentials for Learning

Themes	f(%)
Effective tools for learning	9
Improved language skills	8
Difficulty to use	7
Internet Problems	5
Challenges resulting from other educational commitments	9

Table 3 presents a thematic analysis of the students' perceptions using micro-credentials for learning. The table indicates that 5 themes emerged, namely: *effective tools for learning, improved language skills, difficulty to use, internet problems, and challenges resulting from other educational commitments*. The themes obtained are discussed below;

3.1.1. Theme 1: Effective tools for learning

This theme suggests that using micro credentials was perceived as an effective tool for learning. Some of the students' comments indicate this. Below are some of their response;

"I like this learning platform. We should have more like this." (B2)
"I learned a lot using this platform, its good." (B9)

Another student indicated that students should be encouraged to use the tool, given its efficiency. This was his comment;

"I think it was good for learning." (B30)

These were some of the comments of the students that reflect this theme.

3.1.2. Theme 2: Improved language skills

The students also thought that using micro credentials assisted in improving their English language skills. Some of their comments that reflect this theme is presented below;

"This tool has helped me to improve my language skills." (B20)
"My reading skills has tremendously improved." (B13)
"I know I learned a lot about writing while using this medium." (B11)

Others indicated improvement in some language skills;

"My grammar and vocabulary is ok, thanks to this tool." (B21)

These were their comments, which reflect this theme.

3.1.3. Theme 3: Difficulty to use

The students provide insights into the potential and possible challenges students could encounter while using micro-credentials. Here are some responses that reflects this theme;

"Sometimes we experience difficulty." (B29)
"I think integrating some translations may help Sometimes it was difficult to use." (B24)
"The teacher was very supportive, but we experience some problems while using this platform." (B12)

This theme showed that the students were of the opinion that technical support is required to ensure the smooth use of micro-credential programs.

3.1.4. Theme 4: Internet Problems

Aside from issues on using the platform, the participants indicated that unstable internet connection was another major challenge that they experienced. These are some of their responses:

"The university must know that stable internet connection is required for this type not learning but this was a major setback." (B22)
"Many of us experience these issues of bad internet connection. We need good internet." (B18)
"Everyone complained about this issue of internet connection but nothing was done about it. This should be resolved to have a smooth learning using micro-credential platforms." (B16)

These reflect the students' opinions on the potential and problems of using micro-credentials for learning.

3.1.5. Theme 5: Challenges resulting from other educational commitments

This theme unveils that the students opined that studying using the micro-credential program was challenging, given other educational commitments. Here are some of their comments that reflect this theme;

"I take other foundational courses which are mathematics and Russian, it was difficult to learn these and still use the micro-credential program for studying the English language." (B29)

Others provided this explanation:

"The workload for this semester was too much because of other educational engagements that we were required to fulfill. I like the program, but I think other things we do in the school coincide with the time spent using the micro-credential program. If this is reviewed and another time is provided for these classes when we do not have to study any other lessons, then this learning platform will be more useful to us." (B9)

"I am a member of the school football team, and we practice regularly. This conflicts with my timetable for the remedial classes. This does not give me enormous time to study using the learning platform." (B13)

These were the comments of the students that reflect this theme.

4. Discussion

After careful analysis of the data, the following findings were obtained. The study found no improvement in students' speaking skills after using the micro-credentials program for learning. Although this finding is contextual to this educational setting, it is contrary to the assertions of studies that suggest that using micro-credential learning enhances students' skills and knowledge in specific areas (Gaftandzhieva et al., 2022; Tamoliune et al., 2023). While this may be contextual to this study, the result at least hints that while micro-credential programs may be useful for other subjects or specific skills, they fall short in this area.

Nonetheless, this study revealed that while micro-credentials are ineffective in improving students' speaking skills, they assisted in improving their reading, listening, and writing skills. This is the first novel finding in tandem with the reports of numerous studies that this personalized learning model assists in providing specialized knowledge and skills in specific areas (Carțiș et al., 2022; Desmarchelier & Cary, 2022). Importantly, this study is the first to provide empirical evidence on the effectiveness of micro-credential learning in improving language skills. From the experimental study, it was deduced that there was an improvement in the student's learning outcomes when the pre-test and post-test were compared. This result correlates with the position of similar studies that using micro-credential programs improves learning outcomes on specific skills (Felton et al., 2022; Kiiskilä et al., 2022). Overall, the results of this study provide clues on the effectiveness of micro-credential programs in improving language learning outcomes. Besides, this result informs practitioners about integrating micro-credentials as a supportive personalized learning platform for supporting language students.

Furthermore, the findings of this study reveal that the students perceived micro-credential programs as effective tools for learning. This result corroborates the assertions of studies on using this learning model for effectively improving the knowledge and skills of learners (Braxton, 2023; Thi Ngoc Ha et al., 2022). Already, the quasi-experiment unveiled improvement in students' language skills except for their speaking skills. Equally, as reiterated by similar studies (Carțiș et al., 2022; Desmarchelier & Cary, 2022; Kiiskilä et al., 2022), during the interviews, the students thought that using micro-credentials improved their language skills. This result provides novel insights for implementing micro-credential programs in the language education domain, which is so far lacking in scientific studies. Furthermore, the interview results revealed certain challenges; for instance, the result showed that students thought that micro-credential programs were difficult to use, which is similar to the opinions of similar studies (Ahmat & Ridzuan, 2022; Kuznetsova, 2023).

Moreover, the study found that students thought that accessing quality internet connections was a huge challenge while using this learning model. Similar studies reiterated that huge investments in technological infrastructure supporting the programs are necessary before setting up micro-credential learning spaces (Arslan et al., 2022; Ward et al., 2023). Already, authors in broader literature submit that poor technological infrastructure and resources will impede the success of this learning model (Navanitha et al., 2022; Shanahan & Organ, 2022**)**. This was one of the laudable insights of this study relating to the use of micro-credentials for language skill improvement.

Also, the students indicated that other educational commitments prevent them from fully focusing on learning through these platforms. Already, some studies have reported that given that most institutes do not use microlearning for a traditional course, other educational commitments may coincide with the time students may decide to use micro-credentials (Alsobhi et al., 2023; Lok et al., 2022; Olcott Jr, 2022). On this premise, some authors recommend collaboration between different departments to ensure that micro-credential programs align with broader academic goals and objectives so students' academic activities will not

prevent their use of this learning platform (Olcott Jr, 2022). From these results, it's obvious that while micro-credentials offer numerous learning benefits, the abovementioned challenges can impede their use in improving students' language skills.

5. Conclusion

The study investigated the potential and challenges of implementing the micro-credential program in English language remedial classes. After analyzing the results of this study, the following conclusions were made. The study summarizes that micro-credentials did not improve students' speaking skills within the language education pedagogy. This conclusion is made because while other language skills were improved after using micro-credentials, their speaking skills remained unchanged. Drawing from this conclusion, this study concludes that while micro-credentials may not be effective in improving students' speaking skills, they are effective in improving their reading, listening, and writing skills. Broadly translated, micro-credentials could be used to improve students' language skills, except for speaking skills, although this specific aspect of this study may be contextual, requiring more investigation.

Furthermore, this study deduced from the interview that students benefitted from using micro-credentials programs to improve their language skills. This makes it an effective tool for supporting language learning in higher education. However, this study concludes that students may face challenges using this personalized learning model. First, the study concludes that students may face difficulty using micro-credentials without technical personnel's support. Secondly, this study infers that setting up micro-credentials requires a huge investment in providing technological support without which students will face trouble accessing the technology and internet connections required for the success of this learning model. Thirdly, the study concludes that using micro-credentials to improve specific skills may coincide with other students' academic programs and pose a challenge for them. These and many more must be considered before implementing micro-credential learning in language learning and higher education.

Analyzing the novel findings of this study, it is concluded that while these findings contribute to ongoing discussions on the role of micro-credentials in learning, especially language learning, more investigations are required to validate the findings of this study in another educational setting. This study foresees that future investigations in different educational settings may yield different and interesting results on similar topics. Further studies within this domain are encouraged to consider experimenting with micro-credentials using a large population size. The small population of participants resulted from the small setting of our university; similar studies carried out with many participants will give room for an experimental study (not a quasi-experimental approach) that provides deeper insights into more potentials of micro-credential learning.

Furthermore, this study focused on foreign language learners learning languages at the English foundation school of a university, and more studies could consider investigations on developing specific English language subjects offered in higher education to provide results on the efficacy of micro-credentials in improving specific English language subjects. Interestingly, this study revealed that students speaking skills were not improved; another investigation that probes the use of micro-credential learning for improving only the speaking skills of students may provide laudable results that could be used to make robust pedagogical conclusions on the effectiveness of micro-credential learning concerning speaking skills. Above all, it was interesting that this study unveiled that micro-credentials could support students' language skills while providing some insights into its potential and pitfalls.

References

Ahmat, N. H. C., & Ridzuan, A. H. A. (2022). Perceptions and readiness of educators toward micro-credential certification programme. *International Journal of Education and Pedagogy, 4*(1), 38–50.

Ali, M., Raza, S. A., Qazi, W., & Puah, C. H. (2018). Assessing e-learning system in higher education institutes: Evidence from structural equation modeling. *Interactive Technology and Smart Education.*

Alsobhi, H. A., Alakhtar, R. A., Ubaid, A., Hussain, O. K., & Hussain, F. K. (2023). Blockchain-based micro-credentialing system in higher education institutions: Systematic literature review. *Knowledge-Based Systems*, *110*, 110238. https://doi.org/10.1016/j.knosys.2021.110238

Aruldason, S., & Edwards, A. (2022). Micro credentialing in the landscape of higher education. In *Innovations in the design and application of alternative digital credentials* (pp. 30–56). IGI Global.

Bloom, B. S., & Carroll, J. B. (1971). *Mastery learning: Theory and practice* (J. H. Block, Ed.). Holt, Rinehart, and Winston.

Bradley, S., Lindquist, L. A., Jones, E. M., Rowe, T. A., O'Brien, K. T., Dobschuetz, D., ... & Barsuk, J. H. (2022). Development and evaluation of a simulation-based mastery learning maintenance of certification course. *Gerontology & Geriatrics Education, 43*(3), 397–406.

Braxton, S. N. (2023). Competency frameworks, alternative credentials, and the evolving relationship of higher education and employers in recognizing skills and achievements. *The International Journal of Information and Learning Technology.*

Carțiș, A., Leoste, J., Iucu, R., Kikkas, K., Tammemäe, K., & Männik, K. (2022, September). Conceptualising micro-credentials in the higher education research landscape: A literature review. In *Polyphonic construction of smart learning ecosystems: Proceedings of the 7th Conference on Smart Learning Ecosystems and Regional Development* (pp. 191–203). Springer Nature Singapore.

Clausen, J. M. (2022). Learning to fly: Development and design of a micro-credentialing system for an educator preparation program in the absence of a required educational technology course. *TechTrends, 66*(2), 276–286.

Conrad, D. (2022). Accreditation and recognition of prior learning in higher education. In *Handbook of Open, Distance and Digital Education* (pp. 1–17).

Deslauriers, L., McCarty, L. S., Miller, K., Callaghan, K., & Kestin, G. (2019). Measuring actual learning versus feeling of learning in response to being actively engaged in the classroom. *Proceedings of the National Academy of Sciences, 116*(39), 19251–19257.

Desmarchelier, R., & Cary, L. J. (2022). Toward just and equitable micro-credentials: An Australian perspective. *International Journal of Educational Technology in Higher Education, 19*(1), 1–12.

Epstein, L. J., Plante, D. T., & Rosen, I. M. (2022). Mastery learning program to teach sleep study scoring. *Journal of Clinical Sleep Medicine, 18*(12), 2745–2750.

Felton, S. D., Whitehouse, G., Motley, C., Jaeger, D., & Timur, A. (2022). How I stopped fearing micro-credentials and began to love digital badging–A pilot project. *Industry and Higher Education.* https://doi.org/10.1177/09504222221117951

Fidan, M., & Tuncel, M. (2019). Integrating augmented reality into problem-based learning: The effects on learning achievement and attitude in physics education. *Computers & Education, 142*, 103635.

Fischer, T., Oppl, S., & Stabauer, M. (2022). Micro-credential development: Tools, methods, and concepts supporting the European approach.

Gaftandzhieva, S., Doneva, R., & Stoeva, M. (2022). Towards micro-credentialing in European higher education. In *EDULEARN22 Proceedings* (pp. 3392–3401). IATED.

Heggart, K. (2022). Responsive online course design: Microcredentials and non-linear pathways in higher education. In *Global perspectives on educational innovations for emergency situations* (pp. 295–303). Springer International Publishing.

Ironsi, C. S. (2022). Navigating learners towards technology-enhanced learning during post COVID-19 semesters. *Trends in Neuroscience and Education, 29*, 100189.

Ironsi, C. S. (2022a). A switch from flipped classrooms to emergency remote online teaching (EROT): Misconceptions, instructors and preservice teachers perceptions. *The International Journal of Information and Learning Technology, 39*(1), 13–28.

Ironsi, C. S. (2023). Improving communicative competence levels of pre-service teachers through spoken-based reflection instruction. *Journal of Education, 203*(3), 678–689.

Ironsi, C. S., & Ironsi, S. S. (2025). Efficacy of micro-credential learning environments for developing students' 21st century skills: Toward achieving sustainable development goals. *International Journal of Educational Management.*

Ironsi, C. S., & Solomon Ironsi, S. (2025). Experimental evidence for the efficacy of generative AI in improving students' writing skills. *Quality Assurance in Education, 33*(2), 237–252.

Keller, F. S. (1968). Good-bye, teacher…. *Journal of Applied Behavior Analysis, 1*(1), 79–89. https://doi.org/10.1901/jaba.1968.1-79

Kiiskilä, P., Hanafy, A., & Pirkkalainen, H. (2022). Features of micro-credential platforms in higher education. In *CSEDU (1)* (pp. 81–91).

Kule, A., Richards, R. A., Vazquez, H. M., Adams, W. H., & Reed, T. (2022). Medical student ultrasound-guided intravenous catheter education: A randomized controlled trial of overtraining in a simulation-based mastery learning setting. *Simulation in Healthcare, 17*(1), 15–21.

Kumar, J. A., Richard, R. J., Osman, S., & Lowrence, K. (2022). Micro-credentials in leveraging emergency remote teaching: The relationship between novice users' insights and identity in Malaysia. *International Journal of Educational Technology in Higher Education, 19*(1), 18.

Kuznetsova, N. B. (2023). *Micro-credentials as an innovative tool of modern higher education.* Baltija Publishing.

Li, W., & Ironsi, C. S. (2024). Efficacy of micro-credential learning spaces in developing students' twenty-first century skills: Towards graduate work readiness. *Education and Information Technologies, 29*(1), 1201–1216.

Loderer, K., Pekrun, R., & Lester, J. C. (2020). Beyond cold technology: A systematic review and meta-analysis on emotions in technology-based learning environments. *Learning and Instruction, 70*, 101162.

Lok, P., Beyene, K., Awaisu, A., Woods, D., & Kheir, N. (2022). Microcredentials training in pharmacy practice and education: An exploratory study of its viability and pharmacists' professional needs. *BMC Medical Education, 22*(1), 332.

Maina, M. F., Guàrdia Ortiz, L., Mancini, F., & Martinez Melo, M. (2022). A micro-credentialing methodology for improved recognition of HE employability skills. *International Journal of Educational Technology in Higher Education, 19*(1), 1–22.

Matayoshi, J., Cosyn, E., & Uzun, H. (2022). Does practice make perfect? Analyzing the relationship between higher mastery and forgetting in an adaptive learning system. *International Educational Data Mining Society.*

McGreal, R., Mackintosh, W., Cox, G., & Olcott Jr, D. (2022). Bridging the gap: Micro-credentials for development: UNESCO chairs policy brief form. *International Review of Research in Open and Distributed Learning, 23*(3), 288–302.

McGreal, R., & Olcott Jr, D. (2022). A strategic reset: Micro-credentials for higher education leaders. *Smart Learning Environments, 9*(1), 9.

Msweli, N. T., Twinomurinzi, H., & Ismail, M. (2022). The international case for micro-credentials for life-wide and life-long learning: A systematic literature review. *Interdisciplinary Journal of Information, Knowledge, and Management, 17*, 151–190.

Navanitha, M., Savita, K. S., Arshad, N. I., Isawasan, P., Adams, D., Ahmat, N. H. C., & Shariman, T. P. N. B. T. (2022, December). The preliminary investigation on micro-credentials practices in Malaysia. In *2022 International Conference on Digital Transformation and Intelligence (ICDI)* (pp. 272–277). IEEE.

Olcott Jr, D. (2022). Micro-credentials: A catalyst for strategic reset and change in US higher education. *American Journal of Distance Education, 36*(1), 19–35.

Pirkkalainen, H., Sood, I., Padron Napoles, C., Kukkonen, A., & Camilleri, A. (2022). How might micro-credentials influence institutions and empower learners in higher education? *Educational Research*, 1–24.

Rieder, A. T. (2022, April). Using micro-credentials and digital badges in education and training: A literature review. In *Society for Information Technology & Teacher Education International Conference* (pp. 195–200). Association for the Advancement of Computing in Education (AACE).

Ruddy, C., & Ponte, F. (2019). Preparing students for university studies and beyond: A micro-credential trial that delivers academic integrity awareness. *Journal of the Australian Library and Information Association, 68*(1), 56–67.

Shanahan, B. W., & Organ, J. (2022). Harnessing the benefits of micro-credentials for Industry 4.0 and 5.0: Skills training and lifelong learning. *IFAC-PapersOnLine, 55*(39), 82–87.

Sulman, F., Yuliati, L., Kusairi, S., & Hidayat, A. (2022). Hybrid learning model: Its impact on mastery of concepts and self-regulation in Newton's second law material. *Kasuari: Physics Education Journal (KPEJ), 5*(1), 65–74.

Sutarto, S., Sari, D. P., & Fathurrochman, I. (2020). Teacher strategies in online learning to increase students' interest in learning during COVID-19 pandemic. *Jurnal Konseling dan Pendidikan (JKP), 8*(3), 129–137.

Tamoliune, G., Greenspon, R., Tereseviciene, M., Volungeviciene, A., Trepule, E., & Dauksiene, E. (2023, January). Exploring the potential of micro-credentials: A systematic literature review. In *Frontiers in Education* (Vol. 7, p. 1037). Frontiers.

Thi Ngoc Ha, N., Spittle, M., Watt, A., & Van Dyke, N. (2022). A systematic literature review of micro-credentials in higher education: A non-zero-sum game. *Higher Education Research & Development*, 1–22.

Varadarajan, S., Koh, J. H. L., & Daniel, B. K. (2023). A systematic review of the opportunities and challenges of micro-credentials for multiple stakeholders: Learners, employers, higher education institutions, and government. *International Journal of Educational Technology in Higher Education, 20*(1), 1–24.

Ward, R., Crick, T., Davenport, J., Hanna, P., Hayes, A., Irons, A., ... & Walters, J. (2023). Using skills profiling to enable badges and micro-credentials to be incorporated into higher education courses. *Journal of Interactive Media in Education.*

Winget, M., & Persky, A. M. (2022). A practical review of mastery learning. *American Journal of Pharmaceutical Education, 86*(10).