



TESOL & EDUCATION



INTERNATIONAL JOURNAL OF **TESOL & EDUCATION**

ISSN 2768-4563



ICTE Press

International Association of TESOL & Education

📍 5243 Birch Falls LN, Sugar Land, Texas, USA, 77479

🌐 <https://i-jte.org> | <https://i-cte.org/press>

International Journal of TESOL & Education (ijte)

ISSN: 2768-4563

November 2023, Volume 3, Issue 4

Doi: <https://doi.org/10.54855/ijte.2334>

Orcid: <https://orcid.org/0000-0002-3233-457X>



Indexed

Crossref

Google Scholar

LOCKSS

CLOCKSS

PKP PN

Library of Congress, U.S. ISSN Center

ROAD

J-Gate

EuroPub



Semantic **Scholar**

Publication frequency

International Journal of TESOL & Education will publish 4 issues per year in February, May, August, and November. The IJTE will publish manuscripts as soon as they are accepted.

Copyright (c) 2023 International Journal of TESOL & Education is published under a Creative Commons Attribution 4.0 International License.

Authors retain copyright and grant the journal the right of first publication with the work simultaneously licensed under a Creative Commons Attribution 4.0 International License that allows others to share the work with an acknowledgment of the work's authorship and initial publication in this journal.

Publisher: ICTE Press

Address: International Association of TESOL & Education, 5243 Birch Falls Ln, Sugar Land, Texas, USA, 77479

Principal Contact

Associate Professor Dr. Pham Vu Phi Ho

Faculty of Foreign Languages, Van Lang University, Ho Chi Minh City, Vietnam

Email: editor@i-jte.org or ijte.editorial@gmail.com

International Journal of TESOL & Education

November 2023, Volume 3, Issue 4

Doi: <https://doi.org/10.54855/ijte.2334>

Orcid: <https://orcid.org/0000-0002-3233-457X>

Editorial Board

Editor-in-chief

Professor Dr. Andrew Lian, Suranaree University of Technology, Thailand; University of Canberra, Australia ([Orcid](#)) ([Scopus](#))

Co-Editor-in-chief

Associate Professor Dr. Pham Vu Phi Ho, Van Lang University, Vietnam ([Orcid](#)) ([Scopus](#)) ([ResearchID](#))

Managing Editor

Dr. Ania Lian, Charles Darwin University, Australia, ([Orcid](#)); ([Scopus](#))

Editorial Team

Professor Dr. Hayo Reinders, Anaheim University, USA; King Mongkut's University of Technology Thonburidisabled, Bangkok, Thailand, ([Orcid ID](#)), ([Scopus ID](#))

Professor Dr. Glenn Stockwell, Associate Dean, Waseda University, Japan ([Orcid](#)), ([Scopus](#))

Professor Dr. M. Rafael Salaberry, Mary Gibbs Jones Professor of Humanities; Research Director, Center for Languages and Intercultural Communication, Rice University, USA ([Orcid](#)), ([Scopus](#))

Professor Dr. Marina Orsini-Jones, Professor in Education Practice and Associate Head of School (Global Engagement) in the School of Humanities and Research Associate in the Centre for Global Learning at Coventry University, United Kingdom ([Orcid ID](#)) ([Scopus ID](#))

Assistant Professor Dr. Sandro Barros, Department of Teacher Education, Michigan State University, USA, ([Orcid](#)), ([Scopus](#))

Dr. Nguyen Huu Cuong, Van Lang University, Ho Chi Minh City, Vietnam ([Orcid](#)), ([Scopus](#))

Dr. Thi Thuy Loan Nguyen, VASS College of Vocational Education, Australia, ([Orcid](#)), ([Scopus](#)) ([ResearchID](#))

Dr. Bui, Thuy Thi Ngoc, Hanoi University of Science and Technologydisabled, Hanoi, Viet Nam ([Scopus](#))

Dr. Pham Thi Huong, Ho Chi Minh City University of Education, Vietnam ([Orcid](#)) ([Scopus](#)) ([ResearcherID](#))

Dr. Mohd Norazmi bin Nordin, Faculty of Education, Universiti Kebangsaan, Malaysia ([Orcid](#)) ([Scopus](#))

Dr. Bao Dat, Monash University, Australia ([Orcid](#)), ([Scopus](#))

Dr. Phan The Hung, Van Lang University, Vietnam ([Scopus](#))

Reviewers

Dr. Kurt Candilas, Lourdes College, Cagayan de Oro City, Philippines

Pham Thi Ngoan, Nguyen Tat Thanh University, Ho Chi Minh City, Vietnam

Dang Thi Minh Ngoc, Hoa Sen University, Vietnam

Dang Thi Nguyet, Faculty of Foreign Languages, Hong Duc University, Vietnam

Truong Hong Ngoc, Faculty of Foreign Languages, Van Lang University, Vietnam

Le Quang Thao, Faculty of Foreign Languages, Van Lang University, Vietnam

Tran Quang Hai, Hoa Sen University, Vietnam

Le Minh Ha, Nong Lam University, Ho Chi Minh City, Vietnam



Table of Content

Vol. 3 No. 4 (2023): TESOL & Education
Doi: <https://doi.org/10.54855/ijte.2334>
Orcid: <https://orcid.org/0000-0002-3233-457X>

Research Articles

Pages

1. Grammatical Error Analysis of EFL Learners' English Writing Samples: The Case of Vietnamese Pre-intermediate Students 1-14
DOI: <https://doi.org/10.54855/ijte.23341>
Le Thi Trung Dinh
2. Exploring Students' Perceptions of Debates for Enhancing English Communication and Critical Thinking: A Swinburne Vietnam Study 15-31
DOI: <https://doi.org/10.54855/ijte.23342>
Vu Ngoc Cuong

Literature Review

3. The Survey of Digital Transformation in Education: A Systematic Review 32-51
DOI: <https://doi.org/10.54855/ijte.23343>
Bui Trong Tai, Nguyen Truong Son



TESOL & EDUCATION

INTERNATIONAL JOURNAL OF
TESOL & EDUCATION

ISSN 2768-4563



ICTE Press

International Association of TESOL & Education

5243 Birch Falls LN, Sugar Land, Texas, USA, 77479

<https://i-jte.org> | <https://i-cte.org/press>



A Note from the Editor-in-Chief

Dear Readers,

It is with great pleasure that I present to you the latest issue of the International Journal of TESOL & Education (Vol. 3, No. 4, 2023). In this edition, we continue our commitment to fostering high-quality research and promoting excellence in the field of Teaching English to Speakers of Other Languages (TESOL) and Education.

Le Thi Trung Dinh offers a valuable contribution with a meticulous analysis of grammatical errors in English writing samples from Vietnamese pre-intermediate students. This research not only addresses the specific challenges faced by learners but also provides insights that will prove instrumental in refining English language teaching methodologies.

Vu Ngoc Cuong presents an engaging study that explores students' perceptions of debates as a means to enhance English communication and critical thinking skills. Conducted at Swinburne Vietnam, this research provides valuable insights for educators seeking effective strategies to foster meaningful language learning experiences.

Bui Trong Tai and Nguyen Truong Son present a comprehensive literature review on the survey of digital transformation in education. This systematic review not only highlights current trends but also serves as a foundation for further research and development in the dynamic and evolving landscape of digital education.

I extend my sincere thanks to the authors, Le Thi Trung Dinh, Vu Ngoc Cuong, Bui Trong Tai, and Nguyen Truong Son, for their outstanding contributions to this issue. Your dedication to advancing the field of TESOL and education is truly commendable.

A heartfelt appreciation goes out to our diligent editorial team for their unwavering commitment to maintaining the highest standards of academic excellence. Additionally, I express my gratitude to the reviewers whose expertise and constructive feedback have been invaluable in shaping the content of this issue.

To our readers, thank you for your continued support and engagement with the International Journal of TESOL & Education. We hope this issue provides you with insights and inspiration for your scholarly endeavors.

Thanks be to God for everything!

Warm regards!



Associate Professor Dr. Pham Vu Phi Ho
Editor-in-chief
International Journal of TESOL & Education

Grammatical Error Analysis of EFL Learners' English Writing Samples: The Case of Vietnamese Pre-intermediate Students

Le Thi Trung Dinh^{1*}

¹Faculty of Foreign Languages, Van Lang University, Ho Chi Minh City, Vietnam

*Corresponding author's email: dinh.ltt@vlu.edu.vn

*  <https://orcid.org/0009-0005-9889-5301>

 <https://doi.org/10.54855/ijte.23341>

® Copyright (c) 2023 Le Thi Trung Dinh

Received: 03/02/2023

Revision: 03/10/2023

Accepted: 09/10/2023

Online: 07/11/2023

ABSTRACT

Keywords: error analysis, writing skill, grammatical errors

Grammatical errors are one of the most serious problems faced by students of pre-intermediate level when they practice writing skills. Vietnamese students also struggle with grammatical errors in writing, which leads to the need to analyze their common grammatical errors in order to create a foundation for teachers to take necessary actions. 246 pieces of English writing from students of pre-intermediate level were collected and checked for grammatical errors. Then, the errors were classified to count their frequency, and they were analyzed to find out their typical features. The results showed the most common types of grammatical errors committed by Vietnamese students presented with the distinguishing features of each error type. Based on the results, language educators could work on and find a more suitable method for their students' problems.

Introduction

Grammar is viewed as the key point of learning a foreign language. Chomsky (1965) stated that grammar could be seen as a theory of a language, which means grammar is an indispensable part of language teaching in the view of foreign language teachers. If students are able to build a strong foundation of grammar from the beginning, it is easier for them to develop their language skills in the future, especially writing skills. Writing was proved to be a complicated skill that requires learners to have critical thinking during the writing process, "including task responses, coherence and cohesion, lexical resources, and grammar range and accuracy acquired via language exposure" (Tran et al., 2021 as cited in Tran & Truong, 2021). Additionally, academic writing is definitely crucial to tertiary students in order to master their studies (Ndoricimpaand & Barad, 2021, as cited in Tran, 2021). However, before learners can reach a high level of writing skill, being able to write grammatically correctly in English is essential at lower levels. According to Chin (2000), teachers could integrate grammar instructions into the editing and revising process, which helps students not only to recognize

their errors but also to see the relation between grammar and writing. This also assists students in figuring out their progress and the next step in their language-learning path (Corder, 1987).

Previous research has been conducted to investigate grammatical errors language learners commit in their writing works. However, in Vietnam, although a lot of written errors, especially grammatical ones, are committed by learners of all levels of English (Bui Thi Tram, 2010), there is little research that investigates their grammatical errors. In fact, from my 3-year experience of teaching writing skills, Vietnamese students, especially students of pre-intermediate level, make various kinds of grammatical errors in their writing works although they already learned all basic grammar points in high school. The part of grammar review in each lesson of the writing course at my university is not effective as it is supposed to be since the content does not meet the student's needs. Therefore, it is necessary to identify the frequency of grammatical errors in pre-intermediate students in order for teachers to take action to assist their students with their grammar problems.

Literature review

Error analysis

Brown (1980) stated that Error Analysis was developed due to linguists' realization of errors' importance in the language learning process. He also claimed that in order to understand the L2 learning process, it is essential to carefully analyze the errors made by learners when they are acquiring the language. According to James (1988), analyzing the errors of L2 learners is concerned with comparing the learners' acquired norms with the target language norms and explaining the identified errors. In Crystal's view (1999), error analysis is the study of the unacceptable forms made by language learners. James (2001) thought of error analysis as "the study of linguistic ignorance, the investigation of what people do not know and how they attempt to cope with their ignorance."

Error analysis plays an essential role in teaching English as a foreign language. According to Corder (1987), errors could assist teachers in identifying how much progress the learners have gained and what remains for them to learn. By analyzing learners' errors, teachers could decide whether they should continue with their teaching strategy or make necessary changes to adjust to the situation. Moreover, error analysis also provides reliable results for reconstructing teaching materials (Keshavarz, 1997).

The reasons resulted in language errors

According to Brown (2000), there are two main sources of errors, which are interlingual errors and intralingual errors. The former refers to those errors that are traceable to first language interference or transfer of the learner's first language. The transfer of interlingual errors may happen as a result of learners' lack of essential information about the target language in order to form the appropriate habit of using the language (Kavaliauskiene, 2009, p. 4). Moreover, intralingual errors refer to those which are made due to faulty or partial learning of the target language (Keshavarz, 2003, p.62; Fang & Jiang, 2007, p. 11). Richards (1972) cites four main types of intralingual errors, namely: (1) overgeneralization, (2) ignorance of rule restrictions, (3) incomplete application of rules, and (4) false concepts hypothesized. After that, he also added six sources of errors, including (1) interference, (2) overgeneralization, (3) performance

errors, (4) markers of transitional competence, (5) strategies of communication and assimilation, and (6) teacher-induced errors.

According to Stenson (1974), there are three main reasons resulting in language errors, including (1) incomplete acquisition of the target grammar, (2) exigencies of the learning/teaching situation, and (3) errors due to normal problems of language performance.

Previous research on grammatical errors in other countries

AbiSamra (2003) conducted a similar study about grammar error analysis in which he investigated written samples of 10 grade-9 students. Then the errors were classified into five categories, namely grammatical (prepositions, articles, adjectives, etc.); syntactic (coordination, sentence structure, word order, etc.); lexical (word choice); semantic and substance (punctuation, capitalization, and spelling); and discourse errors. His study's findings showed that one-third of the errors belonged to the interlingual category, with the most common types involving semantics and vocabulary. The rest of the errors were those of over-application of the L2 language, including spelling, syntax, and grammar.

Darus and Subramaniam also conducted research in the same field in 2009. Errors in 72 essays written by 72 Malay students were examined. All the participants, including 37 male and 35 female, were from non-English speaking backgrounds, and they did not speak English outside the language classroom. In this research, six types of errors were found, including singular/plural form, verb tense, word choice, preposition, subject-verb agreement, and word order. Moreover, Darus, together with Ching, also conducted the same research with Chinese background students in 2009. They found out that the most common grammatical errors committed by Chinese students were tenses, prepositions, and subject-verb agreement.

Another recent study of error analysis conducted by Sarfraz (2011) analyzed the errors in 50 undergraduate Pakistani students' essays. The research was based on the procedure of error analysis introduced by Ellis (1994), which is collecting samples, identifying errors, describing the errors, explaining the errors, and evaluating the errors. He found out that most of the errors committed belonged to the interlingual type rather than the intralingual one.

Another similar study conducted by Ridha in 2012 analyzed 80 EFL college students' writing samples. In this study, errors were classified into four types, namely grammatical, lexical/semantic, mechanics, and word order errors. For the results, the majority of the errors were committed due to L1 transfer. Most of the participants in her study tended to base their L1 when they wrote in L2. According to Ridha, the most frequent errors were the grammatical and the mechanical ones.

Sawalmeh (2013) examined the errors in the essays of 32 Saudi EFL learners in his study and found that the errors with the highest frequency were those of verb tenses, followed by those of articles, sentence fragments and spelling. One more similar study conducted by Singh, Singh, Razak and Ravinthar (2017) checked errors in essays written by 44 Malay diploma students. The results showed that the highest number of errors was subject-verb agreement, which accounted for 34.7% among nine types of errors classified in the study.

Previous research on grammatical errors in Vietnam

Not many studies on grammatical errors were conducted in Vietnam. One study by Nguy Van Thuy (2010) focused on analyzing common written errors of first-year students at Nghe An Economics and Technology College. It is interesting to find out that all common written errors belong to grammar, including articles, prepositions, verb tenses, verb form, pluralization, and subject-verb agreement. Similarly, Nguyen Thi Duyen (2011) also conducted a study on common grammatical errors committed by English-majored students at Hung Yen University of Technology and Education. The findings showed that their common grammatical errors were related to the use of verbs (including verb forms and verb tenses), pronouns, articles, and sentence structures. Another study conducted by Nguyen (2020) also analyzed common written errors of second-year students of information technology at HAU. Besides errors in spelling, expression, and word choice, about 90% of the written errors belonged to grammar, including pluralization, subject-verb agreement, sentence structures, articles, prepositions, verb forms, verb tenses, singular/plural nouns, pronouns, run-on sentences, comparison, relative clauses, and possession. Nguyen (2020) found out grammatical errors related to verb forms, verb tenses, and subject-verb agreement accounted for the highest percentages, while errors of comparison, pronouns, and possession were the least common types.

Summary

Overall, different groups of participants with different backgrounds and mother tongues have different tendencies to make grammatical errors in their writing samples, and the types of grammatical errors were significantly diverse. Nonetheless, taking a closer look into various research on error analysis of students in Asian countries (Saudi Arabia, Malaysia, China, and Pakistan), it is noticeable that the five most frequent types of grammatical errors committed are verb tenses, subject-verb agreements, pluralization, prepositions, and articles. Especially the grammatical errors related to verbs were the most outstanding ones committed by Asian students in all the research mentioned. Thus, verbs in English could be seen as the most problematic grammatical errors for Asian language learners.

Similarly, a few research on the same issue in Vietnamese situations stated above also showed these five types of grammatical errors with the highest frequency, which were referred to as "universal grammatical errors" in writing in this research. Therefore, whether these universal grammatical types of errors are common among students at Van Lang University when they perform their writing skills in English needs to be investigated. If this is not the case, what could be the most common types of grammatical errors they commit in their writing pieces? The results would create the foundation for language teachers to take effective action in their classes in the future.

Research Questions

To fulfill the purpose of the study, the study was conducted to answer the following research questions:

1. Are the five universal grammatical errors the most frequent ones committed by Vietnamese pre-intermediate students in English writing skills?
2. What are the five most frequent types of grammatical errors committed by Vietnamese pre-intermediate learners in English writing skills?

Methods

Pedagogical Setting & Participants

All of the participants are freshmen majoring in English at a university. They are divided into five classes, and each class consists of roughly 50 students. They all passed the first writing course in the first semester, which required them to reach the pre-intermediate level of writing skills. The research was conducted in the second semester when students were already familiar with the new educational environment at the tertiary level. Although the participants have reached the pre-intermediate level, they still need to make a lot of grammatical errors in their writing work in the first lesson of the writing course this semester.

The writing course in the second semester lasted for ten weeks continuously, with one lesson every week. Each lesson lasted for three periods (about 2 hours and 15 minutes) and covered one writing genre together with a small grammar point. The learning outcomes of the course were to be able to write a paragraph about daily topics with correct structures and suitable styles. There was also a requirement about the vocabulary that students used in their writing. The vocabulary should belong to the B1 level to the B2 level, and the words need to be used in appropriate contexts and in correct collocations.

Design of the Study

I decided to choose the qualitative research design, which was suitable for collecting data to find out the answer to my research question. This was supposed to be a case study that examined the grammatical errors in writing made by pre-intermediate ESL tertiary learners in Vietnam.

The research involved a group of Vietnamese students at a university who submitted their writing assignments in a writing class at the pre-intermediate level. The assignments collected were marked based on the specific criteria for writing skills. Then, the assignments were recorded and checked for grammatical errors, which were then counted, classified, and analyzed for the research data.

In the fifth lesson of the writing course of the second semester, all of the participants were required to write a listing-order paragraph (about 120 -150 words) in 20 minutes about a specific topic. The students could choose one among three topics, which are "Advantages of Facebook," "How harmful the junk food is to our health," and "Benefits of living independently." At that time, all students had mastered the basic paragraph structures and appropriate written language so that they could avoid using spoken language in their writing assignments. The topics were

related to health, education, and hometowns, which were covered during the first four lessons of the course. Participants were not allowed to use a dictionary while doing the assignment. They also were not permitted to use other reference materials or to discuss with others.

The marking criteria of the assignment included task completion, grammar accuracy, vocabulary complexity, paragraph structures, and cohesion. Each criterion accounted for the same points. For task completion, students had to reach the word limit required, which was 120 to 150 words for a paragraph. For grammar accuracy, there were certain points for the number of errors made in the paragraph. If students made no errors or just a few minor errors, they could get the whole points for grammar accuracy. For vocabulary complexity, students were asked to use words of B1 to B2 level. The more complex words were used correctly, the more points they could get for this criterion. For paragraph structures, students had to complete the paragraph with three parts, including a topic sentence, a paragraph body, and a concluding sentence. For cohesion, a certain number of connecting words were required to be used properly in the paragraph in order to get points in this criterion.

Data collection & analysis

The procedure was conducted based on the framework introduced by Ellis in 1994. The procedure included participants' sample collection, error identification, error description, error explanation, and error evaluation.

To begin with, 246 paragraphs written in English based on the given topics were submitted by pre-intermediate students after 20 minutes of finishing the assignment in class. All of the students finished the assignment on time, and their paragraphs were complete.

All pieces of writing of the participants were corrected and marked based on the criteria for the assignment. After that, all of the grammatical errors made by students in the assignment were identified, recorded, counted, and classified in terms of types of errors. Then, each type of grammatical error was calculated for its frequency in order to find out the most common one.

Based on the classification of grammatical errors used by Darus and Ching (2009), 11 types of grammatical errors were chosen to be recognized and counted in the participants' writing. They included (1) errors of subject-verb agreement, (2) wrong use of tenses, (3) wrong verb forms, (4) wrong part of speech, (5) errors of countable and uncountable nouns, (6) wrong use of pronouns, (7) wrong forms of adjectives in comparison structures, (8) wrong articles/lack of articles, (9) wrong use of prepositions, (10) fragment sentences, (11) run-on sentences.

Below are the examples of each type of error.

Table 1. Examples of each type of grammatical error.

		Examples
1	Errors of subject-verb agreement	"If someone are far away from you,..." "...chat with a friend that lives far away..."
2	Wrong use of tenses	"You may feel energetic, but your wound actually didn't heal." "I looked in the mirror and tried to find what makes me feel satisfied about myself."
3	Wrong verb forms	"Choose the movie you want to watch by clicking the image..." "They still let you to take the food..."
4	Wrong part of speech	"Studying English helps us increase confident." "Students can use facebook to study effective."
5	Errors of countable and uncountable nouns	"There are some way to stay healthy." "Though it has too much fats, nutritions are..."
6	Wrong use of pronouns	"...experience things we have never done and learn for themselves..." "...to save ourself some money."
7	Wrong forms of adjectives in comparison structures	"To make our life more longer..." "Avocado salad is one of the most healthy dish..."
8	Wrong articles and lack of articles	"Facebook contains lots of information with a variety of topics." "Everyone is so generous when they first meet stranger."
9	Wrong use of prepositions	"In conclude, using Facebook has negative impacts..." "...and we are not afraid about the language..."
10	Fragment sentences	"When you decide to live outside. You can do anything you want." "You can build your confidence by working and studying. Because you have to meet new people."
11	Run-on sentences	"Junk food causes damage to our health, you shouldn't eat it too much." "Children often learn from their parents; the influence of parents on children is very important."

Findings and discussion

There were 246 writing samples collected from the participants. After correcting and analyzing their pieces of writing, 1163 grammatical errors were recorded and classified into 13 categories. The average number of grammatical errors per writing sample was 4.73. The frequency of each type of grammatical error was presented in table 2, table 3 and table 4, grouped based on the grammatical features.

Table 2. The frequency of grammatical errors related to verbs.

		Frequency	Percentage
1	Errors of subject-verb agreement	139	12%
2	Wrong use of tenses	26	2.3%
3	Wrong verb forms	185	15.9%
	Total	350	

Grammatical errors related to wrong verb forms accounted for 15.9%, which is the highest one, and subject-verb agreement came third (12%). The figures prove that the participants have big problems when dealing with verbs in writing.

For wrong verb forms, participants tended to use the bare infinitive as the subject of the sentence and to use the wrong verb forms with some verbs requiring special structures such as *spend money doing something*, *let someone do something*, *avoid doing something*, etc. Some other errors of this type were wrong verb forms with prepositions and after modal verbs.

- Wrong verb forms with prepositions: “*Choose the movie you want to watch by clicking the image...*”
- Wrong verb forms with verbs requiring special structures: “*They still let you to take the food...*”
- Wrong verb forms with modal verbs: “*Facebook can help you to reach out to almost everyone and make friends with people all around the globe.*”
- Wrong verb forms when using verbs as the subject of a sentence: “*Have a balanced diet is very important.*”

For errors of subject-verb agreement, students did not pay attention to the main subject of the sentence and used the singular form of the verbs instead of the plural one, or vice versa. The most noticeable error of subject-verb agreement was wrong verbs with subjects as V-ing forms and indefinite pronouns such as *someone*, *somebody*, *everybody*, etc. Moreover, students also made errors in subject-verb agreement in relative clauses in case the relative pronouns played the role of the subject of the clause.

- Using plural verb forms with singular subjects or vice versa: “*There are lots of ways that junk food destroy our health...*”
- Wrong verb forms with subjects as infinite pronouns: “*If someone are far away from you,...*”
- Wrong verb forms with relative pronouns as subjects: “*...chat with a friend that live far away...*”

In the study of Singh, Singh, Razak and Ravinthar (2017), subject-verb agreement was the most common type of error committed by Malay diploma students, while this type is the third most common one made by Vietnamese students. According to Nguyen (2020), second-year students of information technology at HAUI also committed a lot of grammatical errors related to verbs. Verb forms and subject-verb agreement were also the most common grammatical errors in the participants' writing works. Therefore, it is noticeable that errors related to verbs are prominent among Asian EFL learners.

For verb tenses, surprisingly, participants made just a few errors of this type. All participants got the right structure of verb tenses, but a few errors of wrong choice of verb tenses could be found among their 246 writing pieces. According to Sawalmeh's study (2013), Saudi EFL learners made the most errors related to verb tenses. In Nguyen's study (2020), errors of verb tenses were the most common among 13 types of grammatical errors. However, the most common grammatical errors which Vietnamese students in this research committed in writing is those related to verb forms (infinitives and gerunds). Errors of verb tenses only accounted for 2.3%, the second least common type found in the samples collected.

Table 3. The frequency of grammatical errors related to parts of speech, articles and prepositions.

		Frequency	Percentage
1	Wrong part of speech	119	10.2%
2	Errors of countable and uncountable nouns	137	11.8%
3	Wrong use of pronouns	49	4.2%
4	Wrong forms of adjectives in comparison structures	13	1.1%
5	Wrong articles and lack of articles	101	8.7%
6	Wrong use of prepositions	108	9.2%
	Total	527	

Errors related to part of speech, especially nouns, were recorded as the fifth most common type in this research. Other research on grammatical errors, which were mentioned in the literature review, did not focus on errors of part of speech. Thus, the fact that the result showed Vietnamese students made a significant number of errors related to word class was prominent.

About 10.2% of the grammatical errors were using the wrong part of speech. Most of the errors of this kind were that participants could not distinguish the nouns and adjectives with the suffix -ence and -ent, such as *confidence* and *confidance*. Other errors found were the wrong use of adjectives and adverbs in a sentence. Students tended to use adjectives to modify their verbs instead of adverbs.

- Misuse of nouns and adjectives: "*Studying English helps us increase confidence.*"; "*Healthy is an important issue...*"
- Misuse of adjectives and adverbs: "*Students can use Facebook to study effective.*"

When it comes to nouns, approximately 11.8% of the grammatical errors recorded belonged to errors of countable and uncountable nouns, making this type of error one of the most common ones. This is similar to the case of first-year students at Nghe An Economics and Technology College in Nguy Van Thuy's research (2010), which also stated pluralization was one of the

most common types of grammatical errors. When analyzing this type of error, we could see some popular cases below.

- Using singular forms of countable nouns when needed: “...and eat a lot of vegetable and fruits...”
- Using wrong plural forms for irregular nouns: “According to scientific researches, ...”
- Not recognizing whether the nouns were countable or uncountable, leading to using the plural form for uncountable nouns: “Though it has too much fats, nutritions are...”

For pronouns the most noticeable errors of this type were related to the reflective pronouns. Participants used the wrong forms of reflexive pronouns or put the reflexive pronouns in the wrong place in a sentence, as in “...experience things we have never done and learn for themselves...” and “...to save ourself some money.”. Additionally, some errors were redundant pronouns in relative clauses in which the relative pronouns played the role of the object of the clause, as in “Being a book club member is a way to experience the new books that you might like it”. These errors are scattered among the participants' writing pieces, but they are not significant. Nguyen (2020) also proved in her study that errors in pronouns were not common compared to the other types.

Errors of wrong forms of adjectives in comparison structures accounted for only 1.1% of the total grammatical errors recorded, which was the least common type found in this research. Only a few errors of comparative adjectives were found in pre-intermediate students' writing. The two typical cases of this type are:

- Wrong comparative forms of short adjectives: “To make our life more longer...”, “Avocado salad is one of the most healthy dish...”
- Wrong forms of “comparative and comparative” structures: “...keep your heart more and more strong”

Nonetheless, a few errors were noticed in the writing samples written by the participants of this study although it only accounted for 1.1%, the least common one. The finding is similar to Nguyen's study (2020), in which there were also 1.1% of the errors related to comparison, one of the least common types.

Grammatical errors related to both articles and prepositions accounted for roughly 9%. To be more specific, the lack of prepositions and using the wrong prepositions with adjectives and with verbs were the most noticeable in the students' writing, as we can see in “To avoid dust, which results sore eyes...”, “...and we are not afraid about the language...”. A few participants also used the wrong prepositions in some idioms or frequently-used phrases, such as “to my point of view, harsh punishment is unnecessary...”, “in conclude, using Facebook has negative impacts...”. Darus and Subramaniam (2009), Darus and Ching (2009), and Nguy Van Thuy (2010) stated that prepositions are one of the top common errors committed by Asian students. However, the figures for this type in this research only proved that they are on average of the frequency compared to the other types. Nguyen (2020) also stated that errors of prepositions and articles were not as common as other types of grammatical errors.

The figures for the frequency of error-related articles proved that the types are rather common

but not the most common ones, unlike the case of Nguyen Thi Duyen (2011) and Sawalmeh (2013). For articles, 3 typical errors found in the participants' writing works are:

- Misuse of the article *a* and *an*: “*Punishment does not help a child with a emotion to act out...*”
- Misuse of definite and indefinite articles: “*...and your body needs food to have energy for a next day.*”, “*Going on the diet, people often eat...*”
- Lack of articles when needed: “*Everyone is so generous when they first meet stranger.*”

Table 4. The frequency of grammatical errors related to sentence structures.

		Frequency	Percentage
1	Fragment sentences	179	15.4%
2	Run-on sentences	107	9.2%
	Total	286	

To take a closer look at errors of fragment sentences, it was noticeable that a lot of fragment sentences scattered the whole paragraphs of the participants. Students did not pay attention to the main verb of the clause and could not distinguish between dependent clauses and independent clauses, leading to the appearance of fragment sentences. Some typical fragment sentences that were found in the participants' writing are “*Adopting a healthy lifestyle by doing what is right for your body.*”, “*When you decide to live outside. You can do anything you want.*”, “*In my bathroom, there are basic things. Like shampoo, shower gel...*”

Surprisingly, fragment sentences were not one of the most common grammatical errors mentioned in other previous studies about Asian students' error analysis, but this type got the second highest percentage in my study. At least one fragment sentence was found in each writing sample of the participants, and the same situation happened to run-on sentences, although not as common as fragment ones.

For errors related to run-on sentences, the participants tend to use two, or more than two in some cases, independent clauses in one sentence without any connecting words, such as “*Your motorbike is broken, they'll help you to push it to the nearest mechanic...*”, “*It has a wardrobe at the right corner, beside the wardrobe is a mini fridge.*”, which lead to various run-on sentences in their paragraphs. The frequency of run-on sentences was about 9.2%, the average among 11 types of grammatical errors analyzed in this research. Compared with the study conducted by Nguyen (2020), the same findings were confirmed with run-on sentences. The percentage of run-on sentences in Nguyen's study (2020) was also around 9%, which proved that this type was quite common after errors related to verbs.

Summary

To answer the first research question, based on the findings, among the five most common types of grammatical errors committed by Asian students (verb tenses, subject-verb agreements, pluralization, prepositions, and articles), only errors of verb tenses are very limited; while the rest is more frequent in students' writing pieces. However, the findings showed that the most

common type recorded in this research was none of the five mentioned.

Among 11 types of grammatical errors analyzed in the research, the five most common ones are wrong verb forms, fragment sentences, subject-verb agreement, countable/uncountable nouns, and wrong part of speech, respectively. As a result, not only verbs in English but also sentence structures are proven to be the most serious grammatical problem that students need to overcome in order to make progress in their writing skills.

Conclusion

Analyzing student's types of grammatical errors helps educators realize the main problem that their students have to encounter and suggest a practical measure to tackle the issue. The research has found 11 common types of grammatical errors that pre-intermediate learners make in writing, including wrong articles and lack of articles, errors of subject-verb agreement, wrong use of tenses, wrong part of speech, wrong verb forms, errors of countable and uncountable nouns, wrong use of pronouns, errors of prepositions, wrong forms of adjectives in comparison structures, fragment sentences, run-on sentences. The top 3 most common types are wrong verb forms, fragment sentences, and subject-verb agreement. On the other hand, it is surprising that no errors of dangling modifiers and misplaced modifiers were found during the process of data analysis.

The results have shown that teachers of writing skills should integrate more grammar points with writing techniques in the lessons of writing, especially errors related to verbs. Vietnamese students tend to use wrong verb forms and be confused with subject-verb agreement. As a result, more focus on grammatical points related to verbs should be considered in the syllabus. In addition, teachers' grammar correction with detailed feedback plays an essential role in assisting students to figure out their weaknesses in grammar and find a way to improve the situation. Students should rewrite the paragraphs after their errors are shown so that they might not make the same errors in the future.

Although the research was conducted with a small population, the findings are significant and worth considering. It is expected that more research with a bigger population can be conducted in the future to get more important findings.

References

- AbiSamra, N. (2003). *An analysis of errors in Arabic speakers' English writing*. In Mourtaga, K. (Ed.). Investigating writing problems among Palestinian students studying English as a foreign language. Unpublished doctoral dissertation.
- Brown, H.D. (1980). *Principles of language learning and teaching*. New Jersey: Prentice-Hall Inc.
- Brown, H. D. (2000). *Principles of Language Learning and Teaching*. New Jersey: Prentice-Hall Inc.
- Bui Thi Tram, 2010. *Common Written Errors Committed by First-Year Students at the Faculty*

- of English Language Teacher Education, Hanoi University of International Studies and Foreign Languages*. Dissertation. Vietnam National University, Hanoi, Vietnam (in Vietnamese).
- Chin, B. A. (2000). *The role of grammar in improving students' writing*. Sadlier: Oxford.
- Chomsky, N. (1965). *Aspects of the theory of syntax*. Cambridge, MA: MIT Press.
- Corder, S.P. (1987). *Error analysis and interlanguage*. Oxford, Oxford University Press.
- Crystal, D. (1999). *The penguin dictionary of language* (2nd ed.). London: Penguin Books.
- Darus, S. & Ching, K.H. (2009). Common Errors in Written English Essays of Form One Chinese Students: A Case Study. *European Journal of Social Sciences*, 10 (2), 242-253.
- Darus, S. & Subramaniam, K. (2009). Error Analysis of the Written English Essays of Secondary School Students in Malaysia: A Case Study. *European Journal of Social Sciences*, 8(3), 483-495.
- Ellis, R. (1994). *The Study of Second Language Acquisition*. Oxford: Oxford University Press.
- Fang, X. & Jiang X.(2007). Error Analysis and the EFL Classroom Teaching. *US-China Education Review*, 4 (9), 10-14.
- James, C. (1988). *Errors in language learning use: Exploring error analysis*. Harlow, Essex: Addison Wesley Longman Limited.
- James, C. (2001). *Errors in language learning and use: Exploring error analysis*. Beijing: Foreign Language Teaching and Research Press.
- Kavaliauskiene, G. (2009). *Role of the Mother Tongue in Learning English for Specific Purposes*. ESP World, Issue 1(22), Vol.8. Retrieved from <http://www.esp-world.info/Articles>
- Keshavars, M.H. (1997). *Contrastive analysis and error analysis*. Tehran, Rahmana Pub.
- Keshavarz, M. (2003). *Error Analysis and Contrastive Analysis*. Error Analysis in Translation and Learner Translation Corpora. In Mitchell, R. and Myles, M. (2004). *Second language learning theories*. New York: Hodder Arnold.
- Ndoricimpa, C., & Barad, D. P. (2021). *Does online instruction in discourse conventions of literary analysis affect L2 students' critical stance in academic writing? A longitudinal study*. *AsiaCALL Online Journal*, 12(4), 66-87.
- Nguy Van Thuy, 2010. *An Investigation into Common Written Errors Committed by First-Year Students at Nghe An Economics and Technology College*. Master thesis. Vietnam National University, Hanoi, Vietnam (in Vietnamese).
- Nguyen Thi Duyen, 2011. *Common English Writing Errors Made by English Major Students at Hung Yen University of Technology and Education and the Significance of Correcting errors to English Writing Teaching*. Master thesis. Vietnam National University, Hanoi, Vietnam (in Vietnamese).
- Nguyen, T. H. (2020). *Common grammatical errors in English writing - A case study with*

- second-year students of information technology at HAUU*. Can Tho University Journal of Science, 12(1), 37-44. <https://doi.org/10.22144/ctu.jen.2020.005>
- Rahma, A. A., & Rosa, R. N. (2021). *An Analysis on Students' Ability in Using Compound-Complex Sentences in Writing a Short Essay*. Journal of English Language Teaching, 10(1), 53-60.
- Richards, J. (1972). *A non-contrastive approach to error analysis*. English Language Teaching Journal, 25(3), 204-219.
- Ridha, N. (2012). *The Effect of EFL Learners' Mother Tongue on their Writings in English: An Error Analysis Study*. Journal of the College of Arts. University of Basrah, 60, 22-45.
- Sarfraz, S. (2011). *Error Analysis of the Written English Essays of Pakistani Undergraduate Students: A Case Study*. Asian Transactions on Basic & Applied Sciences. 1(3), 29-5.
- Sawalmeh, M. H. M. (2013). *Error Analysis of Written English Essays: The case of Students of the Preparatory Year Program in Saudi Arabia*. English for Specific Purposes World, Issue 40, Vol. 14. Retrieved from <https://pdf4pro.com/amp/view/error-analysis-of-written-english-essays-the-case-of-47669c.html>
- Singh, C. K. S., Singh, A. K. J., Razak, N. Q. A. & Ravinthar, T. (2017). *Grammar Errors Made by ESL Tertiary Students in Writing*. English Language Teaching, 10 (5), 16-27.
- Stenson, N. (1974). *Induced Errors*. In J. H. Schumann and N. Stenson (eds.). *New Frontiers in Second Language Learning*. Massachusetts: Newbury House Publishers.
- Tran, T. T. M. (2021). *Use of Self-regulated Learning Strategies in Paragraph Writing at Van Lang University*. International Journal of TESOL & Education, 1(3), 1–13. Retrieved from <https://i-jte.org/index.php/journal/article/view/80>
- Tran, T.Q.T., Nguyen, T.M.N., Luu, T.T., & Pham, T.B.N. (2021). *An evaluation of English non-majored freshmen's attitude towards EFL learning at Can Tho University of Technology*. International Journal of TESOL & Education, 1(2), 72-98. EOI: <http://eoi.citefactor.org/10.11250/ijte.01.02.005>
- Tran, T. T., & Truong, D. M. D. (2021). *The Influence of Single-Clause Sentences on IELTS Writing Task 2 Band Score*. International Journal of TESOL & Education, 2(1), 23–39. <https://doi.org/10.54855/ijte2202012>

Biodata


Le Thi Trung Dinh is currently an English lecturer in the Faculty of Foreign Languages at Van Lang University, Vietnam. She has 7-year experience in teaching language skills, especially for tertiary students. Her research interests involve language acquisition and language skill teaching.


Exploring Students' Perceptions of Debates for Enhancing English Communication and Critical Thinking: A Swinburne Vietnam Study

Vu Ngoc Cuong^{1*}

¹ Swinburne Vietnam, Ha Noi, Vietnam

* Corresponding author's email: cuongvn2@fe.edu.vn

*  <https://orcid.org/0009-0003-2289-1940>

*  <https://doi.org/10.54855/ijte.23342>

® Copyright (c) 2023 Vu Ngoc Cuong

Received: 14/09/2023

Revision: 13/11/2023

Accepted: 15/11/2023

Online: 17/11/2023

ABSTRACT

Keywords: debates; global citizenship education; critical thinking skills; communication skills; English teaching

In recent years, Vietnam has witnessed the emergence of numerous innovative approaches to English language instruction. One such method gaining traction is the integration of debates as a means to augment students' communication skills and cultivate critical thinking abilities. This study seeks to investigate university students' attitudes toward incorporating debate into their academic curriculum. The research was conducted with first-year students at Swinburne Vietnam, and data were collected through semi-structured interviews. The results illuminate the suitability, advantages, disadvantages, and areas for improvement in optimizing debate as an effective educational tool. By highlighting both the strengths and weaknesses, this research contributes to the ongoing enhancements of debate practices, fostering continuous development and refinement of this pedagogical approach in Vietnam's educational landscape.

Introduction

Debates have been prevalent in Vietnam's educational settings recently. According to Professor Vu Duc Vuong, Director of the General Education Program - Hoa Sen University (Ho Chi Minh City, Vietnam), "Debate was employed too late in Vietnam, despite its popularity since the Ancient Greek time" (Dang, 2016, para. 14). They can take the form of an extra-curriculum activity or mandatory teaching-learning content. The students will be divided into two teams: affirmative or proposition on one side and negative or opposition on the other. Often, they will debate a contentious topic by putting forward their arguments backed up with various evidence and expert opinions to prove their points of view. The formats may vary from school to school, but each side generally takes turns presenting their perspectives. Questions can be raised during the debates so that debaters can challenge their opponents. In some educational institutions, Vietnamese can be the language for debate; however, in others, English is in use to facilitate

the student's foreign language development.

Swinburne Vietnam Alliance Program (Swinburne Vietnam) is a collaborative university-level initiative established in 2019 between FPT University (Vietnam) and Swinburne University of Technology (Australia). Within this program, students can choose from a diverse range of academic disciplines, including Computer Science, Business, and Media and Communication. A unique aspect of Swinburne Vietnam is that all courses are conducted in English, adhering to Australian educational standards. As a result, students are required to possess a strong command of the English language.

To facilitate students' language proficiency and cultivate essential 21st-century global citizenship skills, Swinburne Vietnam offers the Global Citizenship Education Program, which comprises six levels, ranging from beginner to advanced. This program not only enhances students' English language skills but also fosters critical thinking, teamwork, problem-solving, and other vital qualities of a global citizen.

One of the activities integral to this program is debate, where students actively engage in activities designed to improve their English communication abilities while simultaneously nurturing their global citizenship competencies.

In previous studies worldwide, researchers have pointed out the relationship between the use of debates in teaching English at schools and the enhancement of students' communication skills (Akerman & Neale, 2011; Scott, 2008; Aclan & Aziz, 2015) and critical thinking (Tumposky, 2004). Various benefits of this approach have been identified and discussed. However, there is a lack of research that specifically examines the current situation in Vietnam related to this issue. Consequently, the research presented in this report aims to clarify this matter. By investigating the implementation of debate activities in Vietnamese schools, this study seeks to provide valuable insights into the effectiveness of using debates as a pedagogical tool in enhancing students' English language proficiency. Furthermore, it aims to explore the practical challenges and opportunities in integrating debates into the Vietnamese educational context and assess whether debates are suitable for all students. The findings of this research will not only provide empirical evidence but also serve as a foundation for educational policymakers and practitioners to make informed decisions regarding incorporating debates into English language teaching methodologies in Vietnam. Ultimately, this research will contribute to improving English language education in the country.

Literature Review

Debates

The history of debates can be traced back to 2080 B.C. in Egypt, and Protagoras in Athens, Greece, is believed to have initiated debate use for educational purposes between 481 and 411 B.C. (Doody & Condon, 2012). Then, academics continued employing debate as an efficient and effective teaching method. Debate's golden age in educational settings was from the nineteenth century to the early twentieth century, then suffered a setback. Subsequently, the debate re-gained its fame in the 1980s when educators began to promote teaching methods that encouraged students to think critically and logically (Darby, 2007).

Freeley and Steinberg (2008) defined debate as the advocacy and inquiry process, which ends up with a persuasive judgment on a motion. In education, the debate is a long-established learning-teaching tactic that presumes a given positive or negative on a particular issue (Fluharty & Ross, 1996, as cited in Darby, 2007). More specifically, an academic debate refers to a two-team competition where each team argues for a different side of a particular statement about a community-based issue (Nur, 2017). Apart from the two groups, a moderator monitors the debate, and a board of adjudicators observes, gives comments, and decides on the winning side when the debate ends. Usually, there are five primary steps in an academic debate: constructive speech, cross-examination, attack, rebuttal, and summary (Nur, 2017). In a debate, a Point of Information (POI) allows a non-speaking debater to briefly interrupt and ask a concise question or challenge the speaker's argument. The debater with the POI usually has a brief time, like 15-30 seconds, and it encourages active interaction among debaters (Aclan & Aziz, 2015).

Debates in English as a Foreign Language (EFL) can serve as valuable activities to enhance language proficiency, proper sentence structure, and pronunciation and promote knowledge acquisition, social interaction skills, and effective communication (García-Sánchez, 2020). In the study conducted by Aclan et al. (2016), it was highlighted that debates can serve as an educational strategy for enhancing soft skills. They categorized this process into three key stages: the pre-debate phase, the actual debate, and the post-debate phase. Their research findings indicated that during the pre-debate stage, skills such as teamwork, critical thinking, and problem-solving are commonly improved. On the other hand, in the actual debate phase, the most frequently enhanced skills are rapid critical thinking and effective communication abilities (Aclan et al., 2016).

Critical thinking

It is challenging to seek a proper definition of critical thinking as specialists have come up with numerous terms and interpretations (Zare & Othman, 2015). In particular, Hadley and Boon (2022) defined critical thinking as an ability to identify the underlying assumptions and beliefs behind the messages one encounters daily. It is a mental skill that can be learned. This notion shares some similarities with other scholars' ideas. According to Ennis (1987), critical thinking is sensible and reflective thinking concerned with choosing what to believe or do. Likewise, Norris (1985) describes critical thinking as the logical choice of whether to accept or not. Exercising critical thought is beginning to question and reevaluate what we often consider normal (Sofa, 2004).

Critical thinking is considered one of the essential skills for students to acquire. According to Tran's (2023) study, the majority of university students expressed a preference for critical thinking, collaboration, and literacy in Information and Communication Technologies (ICT), which can contribute to enhancing their employability after graduation. This inclination is reflected in students' behaviors such as posing questions, engaging in collaborative idea-sharing, fact-finding, information sharing, and embracing diverse perspectives, as indicative of the manifestation of critical thinking (Le, 2023).

Debate plays a significant role in promoting critical thinking, particularly in educational settings. Tumposky (2004) argued that debate helps nurture students' critical thinking skills and

awareness of ideas. However, he also cautioned that debate might, over time, undermine and distort the learning process. For instance, students might prioritize persuasiveness over accuracy to influence others' opinions. On a positive note, El Majidi et al. (2015) conducted a study involving 44 secondary education students learning a foreign language. They found that these students had a favorable view of the debate task. They described it as an enjoyable and stimulating activity that not only enhanced critical thinking but also encouraged active participation, teamwork, and language proficiency. Interestingly, the students preferred debate over traditional coursework because it offered a holistic approach to developing various interconnected skills and abilities. Furthermore, other research studies have also indicated a connection between debates, critical thinking, and effective communication skills in the field of education (Hall, 2011; Yang & Rusli, 2012).

Communication skills

Communication skills contain both oral and non-oral features. While oral factors refer to conversation, negotiation, and discussion, the non-oral factors include writing, body language, and facial expression (Alshumaimeri & Alhumud, 2021). According to Al-Mahrooqi (2012), more than knowing the basic rules of grammar and vocabulary is needed to have good communication skills; one also needs to be able to express oneself effectively and correctly.

There are many approaches to teaching communication skills in English-teaching contexts. One is using debate as an educational tool, which brings many advantages to English language learners. According to Akerman and Neale (2011), debate enhances the development of communication skills because it requires oral communication. Debating involves the learner in action, allowing teachers to create an atmosphere encouraging students to participate actively in the learning process rather than passive recipients of knowledge as in lectures (Scott, 2008). Aclan and Aziz (2015) found that the pre-debate part of a debate can significantly increase students' vocabulary, which they claim to use during and after the debate. This connects with the Noticing Hypothesis by Schmidt (1990) in that debaters pay attention to new linguistic aspects, such as vocabulary and syntax, they come across when reading, use them, and eventually, incorporate them into their interlanguages. Furthermore, students engaged in in-class debates have highlighted the development of communication skills as a significant benefit (Munakata, 2010). This is because debates involve the use of presentation skills like hand gestures, eye contact, and tone of voice. Through active participation in debates, students were able to practice and enhance their public speaking abilities, leading to increased self-confidence (Ryan, 2006; Roy & Macchiette, 2005). Moreover, students also had the opportunity to become proficient in communication and persuasion by employing non-verbal techniques (Roy & Macchiette, 2005).

Debates as a means of teaching English in Vietnam

Recently, debates have gained recognition as a valuable pedagogical tool for enhancing English language skills in Vietnam. Many educational institutions are enthusiastically promoting debate competitions as extracurricular activities for their students. However, Dr. Nguyen Hoang Khac Hieu from Ho Chi Minh City University of Education has observed that there is still a substantial deficiency in cultivating critical thinking skills among Vietnamese students within

the academic setting (Dang, 2016); in this context, debates serve as an in-class activity that educators can utilize to address this gap. More needs to be done regarding research on this topic. Therefore, this study aims to shed light on the merits and drawbacks of employing debates in teaching English and enhancing students' critical thinking and communication skills.

Research problem

Educators, faculty members, and parents in Vietnam frequently regard debates as a highly effective and efficient method for instructing students in English and fostering the development of their critical thinking and communication abilities. Nonetheless, there is a dearth of understanding from the learners' standpoint regarding the actual impact of this approach. As noted by Nguyen Ngọc Quynh, President of Debate Empowering Sociality, a debate has been a relatively recent addition to Vietnam's educational landscape, with a presence of just six years (Dang, 2016). Consequently, there is a need for a better understanding of students' perceptions of debates and how they feel about these activities. Through this study, students enrolled in Swinburne Vietnam's Global Citizenship Education Program can express their perspectives on the studied subject. The research aims to identify the benefits and drawbacks of employing debates in teaching English and helping students improve their critical thinking and communication skills from the learners' eyes. Furthermore, this research also illuminates the applicability of debate as an educational tool, raising questions about its suitability for diverse student populations. The questions that need to be answered in particular are:

- Research Question 1: What are the advantages and disadvantages of using debates to teach English and enhance critical thinking and communication skills from students' perspectives?
- Research Question 2: What can be done to make better use of debates?
- Research Question 3: Are debates suitable for all students?

Methods

Pedagogical Setting & Participants

This study will be conducted in the Center for Global Citizenship Education (CGCE), Swinburne Vietnam (Hanoi). CGCE serves as the institution actively delivering the Global Citizenship Education Program, with debates being an obligatory element of the curriculum for all students. It is crucial to emphasize that the Global Citizenship Education Program is compulsory for every student, irrespective of their chosen major. This program is meticulously designed to furnish students with academic English proficiency and provide them with opportunities to refine their communication skills, critical thinking abilities, problem-solving acumen, creativity, and innovation. Remarkably, debates represent a unique hallmark of the Global Citizenship Education Program, setting it apart from major-specific courses. The participants are seven first-year students currently studying at CGCE. This group of students consists of five males and two females. They are all 18 years old and have been given debate instructions during their course at CGCE. While certain students may already have some exposure to debate formats, it remains essential for them to attend all debate training sessions at Swinburne Vietnam to ensure that every student possesses a uniform foundation. Furthermore,

students with prior debate experience generously share their expertise with their peers, offering valuable insights to help them navigate and overcome challenges in debates. In addition, they obtained IELTS certificates with a minimum overall band score of 6.0 as an entry requirement of Swinburne Vietnam.

The study's sampling process adhered meticulously to the specified rigorous methodology, employing a purposive sampling approach to ensure the inclusion of a diverse and representative group of participants. This widely employed research method relies on the investigator's convenience, allowing for the selection of respondents available at the appropriate location and time. Notably, its advantages encompass broad applicability, cost-effectiveness, and the absence of a requirement for a comprehensive population list, as demonstrated by Acharya et al. (2013). Through the application of this approach, participants with varying levels of experience in the Global Citizenship Education Program and debate were intentionally chosen, encompassing individuals entirely new to debates and those with prior experience.

Design of the study

In the field of applied linguistics, qualitative approaches are extensively employed, particularly in studies that emphasize the exploration of participants' perspectives (Wafaa, 2019). In this research, qualitative methodologies are employed to explore students' perceptions regarding the effectiveness of debates as an instructional approach aimed at enhancing English communication and critical thinking skills through interviews with seven students studying at CGCE. The researcher clarified the study's objectives and obtained consent from all participants. The data must only be gathered in research activities with their written agreement (Tiu Wright, 2009). Also, pseudonyms were employed by the researcher when presenting the research findings. Utilizing pseudonyms in research findings was essential to protect the confidentiality of participants, concealing their true identities and aligning with ethical research standards, preserving anonymity (Dornyei, 2007).

Data collection & analysis

Semi-structured interviews are selected for their adaptability and ability to facilitate organic dialogue (Dornyei, 2007), offering flexibility in guiding discussions and enhancing research reliability and validity (Lindlof & Taylor, 2011). The interview guide, meticulously developed following Kallio et al.'s five-phase model (2016), enhances qualitative research trustworthiness through prerequisite identification, prior knowledge utilization, preliminary guide formulation, pilot testing, and comprehensive guide presentation.

Pilot testing, a common research feasibility assessment method (Maxwell, 2013), ensures question appropriateness. In this study, the guide was trialed with two students, with input from CGCE researchers as recommended by Kallio et al. (2016) to broaden perspectives. This led to removing a redundant section on students' English language improvement plans, streamlining the interview process. These adjustments align the guide with the research's focus on students' debate experiences in CGCE. Valuable insights gathered during pilot testing enhance the guide's efficiency and effectiveness, ensuring alignment with research objectives and respecting participants' time (Maxwell, 2013).

Following the pilot testing phase, the interview guide was refined and finalized. Subsequently,

official interviews were conducted with seven students who had been invited in advance, enabling them to schedule the interviews at their convenience. The interviews were recorded using mobile phones and later transcribed verbatim for analysis. To improve information security, the interview recording files will be kept on computers that require passwords.

Furthermore, this study will use thematic analysis, which enables thorough data interpretation and interpretive discussion on a wide range of subjects (Boyatzis, 1998). Thematic analysis, a crucial tool employed in this study, systematically identifies recurring themes and patterns within qualitative data. It offers several benefits: (1) In-depth understanding of participants' experiences and perspectives regarding the debate in the Global Citizenship Education Program at CGCE; (2) recognition of commonalities and variations, facilitating key insight extraction; (3) support for nuanced data interpretation, uncovering underlying meanings; and (4) encouragement of interpretive discussions, allowing researchers to explore theme significance within broader research objectives (Boyatzis, 1998). This methodology ensures rigorous analysis, enriching the study's understanding of students' perceptions and experiences while upholding data security protocols.

Results/Findings

Research Question 1: What are the advantages and disadvantages of using debates to teach English and enhance critical thinking and communication skills from students' perspectives?

Advantages

Speaking skill improvement

All participants said that their speaking skills improved when they participated in debates in various aspects. Duy Anh emphasized that his English communication ability progressed through using voice, tone, and persuasive language when debating.

Duy Anh: When I learn to debate, I have to learn how to... I have to learn **how to use my voice, my tone**, and also **my words to persuade people**. It has a specific purpose of the speech.

Meanwhile, Chau highlighted how debates had increased her confidence in giving opinions and building strong explanation skills.

Chau: Thanks to the debate program, I can be **more confident in giving my opinion in building strong agreement and explanation skill**.

Huy mentioned that debates provide practice in public speaking and presentation, improving speaking skills.

Huy: We [...] in high school still and have been getting get used to the **public speaking** and the **giving presentation speech**, but not actually the face-to-face argument like in debate. [...]. So as someone who practices debate, I'm sure that their **speaking skill has improved** because... they know how to form an argument logically and therefore persuade people more easily.

Thu expressed how debate helped construct arguments using competitive language, enhancing speaking skills.

Thu: Oh, I think **debate has definitely improved our speaking skills** because first of all, it helps us to **construct arguments in just this different kind of language**. It's very **competitive**. We have to bring up arguments. It makes you have to think quick on your feet and it helps you have this critical thinking and competitive language that when you speak to another you're not only expressing your opinion, you're also trying to convince them, therefore helping people just really have this not only speaking skill in debate but also helped us having more confident in speaking and giving, like **presenting your opinion in a way that captures people's attention**.

Minh described how debate helped implement ideas into words, improving speaking skills.

Minh: Speaking English is **not just about like talking gibberish**, it's about like **implementing your ideas into words** and when I was when I learned how to debate, I learned how to use my critical thinking into speaking and how to kind of **combine my speaking skill with the ideas I have**, the ideas I've got in my head and I think that's that's how it helped me.

Tung described using polite language and learning different methods of speaking through debates.

Tung: On YouTube people are not used to talking politely or respectfully. So I use slang and I use improvised words, word phrases a lot. In here I know how to like **use a polite word** but still **respecting the opponent**. It's just a **good way to learn**, a good method.

Critical thinking skill enhancement

All participants believed that debates made a beneficial impact on their critical thinking skills. For example, Duy Anh noted that debates required preparation from both sides, promoting critical thinking.

Duy Anh: I think it certainly helped me improve my critical thinking. The way that we have to come up with the idea from the motion, right? So we have to **prepare both of the sides**, so we have to **put ourselves in different positions**. That is the **practice in critical thinking**.

Huy highlighted that debates involve researching, analyzing arguments, and finding evidence, enhancing critical thinking.

Huy: Yes, this is also a yes, because as I mentioned, the **debate has a lot of preparation phase**. And also you have to, you have to continuously **write and take note** and **think about the opponent argument** in the middle of the debate. And therefore, you can rebut them. And so I think that part and the preparation phase has a lot to do with critical thinking.

Thu mentioned that debate encourages thinking about different perspectives and constantly questioning, promoting critical thinking.

Thu: debate about is not about what you personally believe in, but it's about **researching and understanding an idea that maybe you don't agree with**, but you get to **understand why a crowd is thinking that way**. And you get to take in all this information and you digest it. And it's really just about **two sides giving you constructive criticism** and you try to find what questions. Just **trying to find questions**, you're putting out questions constantly.

At the same time, Minh emphasized that debates fostered critical thinking by encouraging participants to think differently and find gaps in arguments.

Minh: Debate is all about trying to **find the gaps** and trying to **think differently** when it comes to an **argument**. And when you debate, it's really essential to **find those gaps to attack and defend yourself**.

Tung acknowledged that debates improve critical thinking skills by encouraging participants to question their perspectives and seek answers.

Tung: Our **perceptions are changed** and we must **question ourselves what's right and what's wrong**. And we realize that... everything is not that simple and we need to **dig deeper to find the true answer** and most of this is based on our own experience to come up with the real answer it's pretty diverse.

Disadvantages

Preparation and Rebuttal Skills

Huy noted the difficulty in the preparation phase of debates, expressing the need for improvement, particularly in critical rebuttals.

Huy: I think as I mentioned, the preparation phase **we have not have a lot of experience** with debate. So I have some difficulties in that.[...] And also the rebut part, **people in our part have not been critical enough in rebutting the opponent**. And they just listen to the opponent and then head right on to their argument with everybody.

Chau discussed the complex format of debates, time management, and the challenges of preparing a comprehensive argument system within limited time constraints.

Chau: The second challenge is **the format of the debate** because as usual, I tend to have like from six to seven minutes to debate, and my case is really like and then I have to set the goals, and then I have to target the audience to, it is like, who do I have to solve the problems, and then build the argument system with explanation, with solution, with policies, it is like really complicated. And so I have... **I have a long time to explain my case** [...] Everything is really fast. And I have only four minutes to talk about all the arguments. And **we don't have much chance to rebut the commentator** because the speaker two and the speaker three also speak their, have to speak their argument too.

Tung expressed a short time frame to understand and execute debating, highlighting a need for skill development in speech delivery and body language.

Tung: Even though I love debating, I **have a really short time** to like... **get to know**

it and execute it and before I know it I can't do it anymore. So I'm pretty... the **journey lasts pretty short** so **I still have some some other skills** like my **speech** and my **body language** I need to **work on**.

Language Barriers

Chau addressed the language barrier as a major challenge in debates, lacking confidence in academic English and fearing a lack of understanding by judges and opponents.

Chau: As I said before, **the first and the most challenging for me is the language**. Because in Swinburne, we have to use English all the time. And I'm not really confident in my English speaking, especially in academics. So **it is hard for me**, it is quite hard for me to catch up with by debating in English. **Especially sometimes when I have to rebut my friend**, I have to rebut my friend. **I know how to rebut it but I cannot express** in but it is **quite hard for me to express in English** because I afraid that **they would not understand and the judge would not understand**.

Duy Anh expressed difficulty in catching the main points or important details when listening to friends or opponents in debates.

Duy Anh: When I listen to my friends or the opponents, **it's really hard to catch the point**. Sometimes it just slips away. The main point or some details just slip away. **I can't catch it**.

Emotional Challenges and Ethical Considerations

Thu discussed the emotional turmoil of debating topics they personally disagree with, emphasizing the importance of understanding different perspectives and balancing personal morals.

Thu: I think that it takes a lot and **it takes an emotional turmoil**, especially when you're presented with a topic or at least a side of the topic that you do not believe in. And I found a lot of debaters really **having a battle with the ethics of it**. And like, why are we debating about something that I personally don't believe in? And **it took a lot of me to get over that and understand that what I debated personally doesn't need to be what I believe in**, but rather just trying to understand point of view. And also when the topic is very controversial, you have to find data that is legit, but also **crafting up arguments that are not harmful to what you're debating against about**.

Research Question 2: What can be done to make better use of debates?

Motion Selection

Both Chau and Duy Anh highlighted the need for carefully selecting debate motions. Chau suggested that some motions were too argumentative, making it difficult for the affirmative team to present their case effectively. Duy Anh had a desire for more balanced motions that allowed both teams to have equal opportunities to argue their points.

Chau: And the second thing is the motion of the debate. I think most of the motion that we have given is **quite argumentative** [...] and the topic, some of the emotion would be like **the negative team would have many things to say**, but **it is really hard**

for the affirmative team.

Duy Anh: I don't know, it's quite subjective, but sometimes I find the motion is **one-sided**. [...]. It is **not really balancing**. Yeah. Yeah, okay. You need something that can be debatable.

Preparation Support

Huy proposed the idea of providing students with more detailed preparation guidance. He suggested that mentors or counselors could offer advice and help teams identify overlapping claims during the preparation phase. This would enable teams to improve their debates and perform better.

Huy: Maybe you could **provide student with somewhat more detailed preparation phase**. Like, like if they, in my team, our team had three claims, which we think kind of overlapping on each other. But we have only realized that after we have done the debate. So I think that with some **counseling or with some advice from somewhat mentor**, we could improve our debate and therefore perform better in the actual debate.

Research Question 3: Are debates suitable and appropriate for all students?

Minh and Chau highlighted the challenges of implementing debate as a teaching method for individuals with limited English proficiency or a lack of English background, raising questions about its suitability for all students. They argued that it could be difficult for these students to effectively communicate their ideas in English, potentially hindering their ability to fully engage in debates.

Minh: I think it's a very good way to teach English, but for people with **a little of English background**, for someone **who's very new and not very used to speaking English, that's just very hard** and they cannot really implement their ideas well. When you see the debate, there are only four members and our class, they try to choose the best people who can speak English well. Students with **no English background, they have difficulties and they will not have a chance to experience debates**.

Chau: I think **debate would be suitable for students in high level**. And it is like really, we can really easily to see that because when students in the level like three or four in GC, their ability and their proficiency in **English is really low**, they are **not like really confident** in talking with usual topics in English.

Discussion

The insights gathered from interviews with student participants provide valuable insights into the pros and cons of using debates as a tool for teaching English and improving critical thinking and communication skills. This discussion will center on the main themes that surfaced during these interviews, which encompass the advantages of using debates, the difficulties encountered by students, the strategies suggested by participants to enhance English teaching through debates and foster critical thinking, and the appropriateness of debates for the students.

Advantages of Using Debates

The participants in this study expressed various significant advantages associated with incorporating debates into English teaching. Specifically, debates emerged as a powerful tool for improving speaking skills, providing students with valuable opportunities to enhance their abilities in persuasive language, voice modulation, and effective communication techniques. Students highlighted the essential role of structuring well-organized arguments and translating their thoughts into clear expressions. Furthermore, debates were recognized for their role in enhancing critical thinking skills. Participants stressed the importance of thorough preparation, research, and analysis when constructing persuasive arguments. They praised debates for their capacity to stimulate critical thinking by encouraging students to consider diverse perspectives, challenge their own beliefs, and identify gaps in arguments. Moreover, participants attributed debates to boosting their confidence in expressing their opinions and constructing convincing arguments. Engaging in debates led to a profound increase in their self-assurance when it came to public speaking and presenting their ideas. In summary, students strongly believe that debates provide them with numerous benefits. This implies that the utilization of debates in English teaching is advantageous for students from a pedagogical perspective.

In concurrence with previous research, the interview results affirm the efficacy of debates as a teaching method to enhance students' English communication and critical thinking skills. The attitudes and responses of the students align with the findings of prior studies conducted in the field of language teaching and learning (Akerman & Neale, 2011; Tumposky, 2004; Alasmari & Ahmed, 2013; Aclan & Aziz, 2015). In summary, debates emerge as a potent catalyst for a range of educational benefits, including the development of communication skills through oral expression, the stimulation of critical thinking, the cultivation of confidence, and the facilitation of language development.

Disadvantages of Using Debates

In addition to recognizing the manifold advantages, participants in the study also illuminated specific challenges associated with using debates as a means to enhance students' communication and critical thinking skills. Notably, time constraints emerged as a prominent hurdle, significantly impeding participants' ability to engage deeply and effectively in debates within the confines of limited timeframes. Participants expressed the need for more extensive preparation time, believing it would enable them to construct more comprehensive and thorough arguments. Furthermore, participants raised concerns about emotional challenges and ethical dilemmas linked to debates. Engaging in debates on topics they personally disagreed with stirred emotional turmoil, emphasizing the importance of appreciating diverse perspectives and balancing personal values with the demands of the debate. Overall, this suggests that some students may face challenges related to time management, language proficiency, and emotional regulation, and teachers should develop strategies to help them overcome these difficulties.

These findings are consistent with earlier research that has underscored the downsides of using debates for language teaching purposes, as highlighted by Somjai and Jansem (2015). Debate undeniably demands a substantial investment of preparation time to ensure its seamless execution. It necessitates students to thoroughly prepare their arguments in advance, facilitating

their ability to effectively counter opposing viewpoints. Additionally, it requires students to maintain emotional composure while defending their arguments, a skill that can be challenging for many students. Moreover, Darby (2007) has pointed out that one of the primary limitations of debates lies in their emphasis on competition, with a focus on winning and losing, often at the expense of compromise and consensus building, which are essential for reaching the best solutions. This competitive aspect may lead some students to trivialize issues in their pursuit of victory, while others may find the confrontational nature of debates uncomfortable. Additionally, some minority students, regardless of gender, may hail from cultures that prioritize group harmony over individual opinions and arguments. These cultural differences can further compound the challenges associated with debates.

Ways to improve debate-based teaching and learning

The participants shared their perspectives on various aspects of debate organization, structure, and support that could enhance the overall experience and learning outcomes. Based on their inputs, the following solutions and suggestions can be proposed:

1. **Balancing Motions:** It is important to carefully select debate motions to balance the affirmative and negative teams. Participants can engage in more fruitful debates by choosing motions that allow both sides to present their arguments effectively. This balance will also promote a fair evaluation of skills and ideas.
2. **Preparation Support:** Students suggested that teams could benefit from more detailed preparation guidance, such as mentoring or counseling. Providing students with advice and assistance during the preparation phase can help them refine their arguments, identify overlapping claims, and deliver more cohesive and effective debates. Experienced debaters, teachers, or debate coaches could offer this support.

These recommendations underscore the necessity for modifications in the organization of debate events, emphasizing the need for educators to implement these changes effectively. They are in accordance with the guidance provided by scholars on how to enhance the overall efficacy of debating organizations. One key aspect is ensuring that debate topics are selected in a manner that allows for an equitable distribution of both supporting and opposing arguments, as advocated by Susanto (2023). Furthermore, in the case of students who initially lack confidence in participating in debates, it is imperative to offer them supplementary support aimed at enhancing their delivery and communication skills. This recommendation is consistent with the insights provided by Brown (2015) and Lustigova (2011).

The appropriateness of debates for the students

The central question in this discussion is whether debate is appropriate for students with varying levels of English proficiency. Some argue that debate is better suited for those with higher English proficiency because they believe that students with lower proficiency levels may struggle with the language demands and timing required in debates. The implication is that there is an urgent need to thoughtfully structure debate activities to make them inclusive for students with varying levels of English proficiency. This entails recognizing the importance of scaffolding activities and the essential role they play. To address the varying proficiency levels within debate teams, teachers should be prepared to offer additional support to ensure that all students can actively participate and derive educational benefits from these activities. This

approach aligns with prior research on teaching debate to lower-level students. When teaching debate, it is essential to follow a systematic, scaffolded approach, as recommended by Lustigova (2011). This method begins by assisting students in expressing their own opinions and gradually introduces language structures, grammar rules, and new vocabulary throughout the learning process. Additionally, previous research emphasizes the importance of grouping students with similar proficiency levels for group activities. This strategy aims to prevent fatigue among lower-level members and helps maintain their motivation (Hadavi, 2004, as cited in Mohammad et al., 2016).

Conclusion

In conclusion, the utilization of debates in Swinburne Vietnam's Global Citizenship Education Program comes with its set of advantages and disadvantages. On the positive side, debates contribute to the improvement of students' speaking skills, foster critical thinking, boost self-confidence, and aid in language development. However, they also pose certain challenges, including time constraints, emotional considerations, and language barriers. To enhance the effectiveness of debate-based teaching and learning, participants have put forth several valuable suggestions. These include the careful balance of debate motions and the provision of preparation support. It is also important to consider the organization of debates and tailor them to different proficiency levels.

Furthermore, this research is not without its limitations, which pave the way for future studies to build upon. The most apparent constraint is the relatively small sample size, involving just seven students. Consequently, it is imperative for future research endeavors to expand the participant pool, allowing for a more comprehensive exploration of the subject matter. Moreover, this study relies exclusively on semi-structured interviews as its research instrument, lacking triangulation techniques to validate findings. Future researchers should consider a wider range of data collection methods to bolster the reliability and credibility of their results. Additionally, it is essential to acknowledge that this study is specific to a tertiary education alliance program, and its findings may not universally apply to other educational settings, such as larger universities and high schools. As such, future research should venture into these diverse contexts to gain a more nuanced perspective. Finally, it is worth emphasizing that this research primarily centers on the viewpoints of students. For a more holistic analysis of the subject, future researchers should also delve into the perspectives of teachers, providing a more well-rounded understanding of the issue.

References

- Acharya, A. S., Prakash, A., Saxena, P., & Nigam, A. (2013). Sampling: Why and How of It? *Indian Journal of Medical Specialities*, 4(2), 330-333.
<https://doi.org/10.7713/ijms.2013.0032>
- Aclan, E. M., & Aziz, N. H. A. (2015). Exploring Parliamentary Debate as a Pedagogical Tool to Develop English Communication Skills in EFL/ESL Classrooms. *International Journal of Applied Linguistics & English Literature*, 4(2), 1-16.
<https://doi.org/10.7575/aiac.ijalel.v.4n.2p.1>
- Aclan, E. M., Aziz, N. H. A., & Valdez, N. P. (2016). Debate as a Pedagogical Tool to Develop Soft Skills in EFL/ESL Classroom: a Qualitative Case Study. *Pertanika Journal of Social Science & Humanities*, 24(1), 213-240.
- Al-Mahrooqi, R. (2012). English Communication Skills: How Are They Taught at Schools and Universities in Oman? *English Language Teaching*, 5(4), 124-130.
<https://doi.org/10.5539/elt.v5n4p124>
- Alasmari, A., & Ahmed, S. S. (2013). Using Debate in EFL Classes. *English Language Teaching*, 6(1), 147-152. <https://doi.org/10.5539/elt.v6n1p147>
- Alshumaimeri, Y. A., & Alhumud, A. M. (2021). EFL Students' Perceptions of the Effectiveness of Virtual Classrooms in Enhancing Communication Skills. *English Language Teaching*, 14(11), 80. <https://doi.org/10.5539/elt.v14n11p80>
- Boyatzis, R. E. (1998). *Transforming Qualitative Information: Thematic Analysis and Code Development*. Sage Publications.
- Brown, Z. W. (2015). The use of in-class debates as a teaching strategy in increasing students' critical thinking and collaborative learning skills in higher education. *Educational futures*, 7(1), 39-55.
- Dang, T. (2016, December 10). *Khi người trẻ tranh biện*. Người Làm Báo.
<https://nguoi.lambao.vn/khi-nguoi-tre-tranh-bien>
- Darby, M. (2007). Debate: A Teaching-Learning Strategy for Developing Competence in Communication and Critical Thinking. *Journal of Dental Hygiene*, 81(4), 1-12.
- Doody, O., & Condon, M. (2012). Increasing student involvement and learning through using debate as an assessment. *Nurse Education in Practice*, 12(4), 232-237.
<https://doi.org/10.1016/j.nepr.2012.03.002>
- Dornyei, Z. (2007). *Research Methods in Applied Linguistics*. OUP Oxford.
- El Majidi, A., Graaff, R. D., & Janssen, D. (2015). Invest in What Energizes Students to Learn: Investigating Students' Attitude towards Debate in the Foreign Language Classroom. *Journal of Language Teaching and Research*, 6(5), 924.
<https://doi.org/10.17507/jltr.0605.03>

- Ennis, R. H. (1987). A Taxonomy of Critical Thinking Dispositions and Abilities. In J. Baron, & R. Sternberg (Eds.), *Teaching Thinking Skills: Theory and Practice* (pp. 9-26). New York: W. H. Freeman & Company.
- Freeley, A., & Steinberg, D. (2008). *Argumentation and Debate Critical Thinking for Reasoned Decision Making*. Wadsworth Cengage Learning.
- García-Sánchez, S. (2020). Debates in English Language Education. *International Journal of Computer-Assisted Language Learning and Teaching*, 10(4), 33-50. <https://doi.org/10.4018/ijcallt.2020100103>
- Hadley, G., & Boon, A. (2022). *Critical Thinking*. Taylor & Francis.
- Hall, D. (2011). Debate: Innovative Teaching to Enhance Critical Thinking and Communication Skills in Healthcare Professionals. *Internet Journal of Allied Health Sciences and Practice*, 9(3), 1-8. <https://doi.org/10.46743/1540-580x/2011.1361>
- Kallio, H., Pietilä, A., Johnson, M., & Kangasniemi, M. (2016). Systematic methodological review: developing a framework for a qualitative semi-structured interview guide. *Journal of Advanced Nursing*, 72(12), 2954-2965. <https://doi.org/10.1111/jan.13031>
- Le, M. H. (2023). The Application of Critical Thinking to Short Story Analysis: An Experiment on a New Teaching Process. *International Journal of TESOL & Education*, 3(2), 60-75. <https://doi.org/10.54855/ijte.23325>
- Lindlof, T. R., & Taylor, B. C. (2011). *Qualitative Communication Research Methods*. SAGE.
- Lustigova, L. (2011). Speak your mind: Simplified debates as a learning tool at the university level. *Journal on Efficiency and Responsibility in Education and Science*, 4(1), 18–30.
- Maxwell, J. A. (2013). *Qualitative Research Design : an Interactive Approach* (3rd ed., Vol. 41). Sage Publications.
- Mohammad, N., Zohre, M., Hassanali, B. N., & Kamal, N. H. (2016). Debate learning method and its implications for the formal education system. *Educational Research and Reviews*, 11(6), 211-218. <https://doi.org/10.5897/err2015.2316>
- Munakata, M. (2010). The Mathematics Education Debates: Preparing Students to Become Professionally Active Mathematics Teachers. *PRIMUS*, 20(8), 712-720. <https://doi.org/10.1080/10511970902870372>
- Norris, S. P. (1985). Synthesis of Research on Critical Thinking. *Educational Leadership*, 42(8), 40-45.
- Nur, A. (2017). Using Debate in the EFL/ESL Classroom. *Journal of Nishikyusyu University Junior College*, 48, 5-8.
- Roy, A., & Macchiette, B. (2005). Debating the Issues: A Tool for Augmenting Critical Thinking Skills of Marketing Students. *Journal of Marketing Education*, 27(3), 264-276. <https://doi.org/10.1177/0273475305280533>

- Ryan, S. (2006). Arguing Toward a More Active Citizenry: Re-envisioning the Introductory Civics Course via Debate-Centered Pedagogy. *Journal of Public Affairs Education*, 12(3), 385-395. <https://doi.org/10.1080/15236803.2006.12001442>
- Schmidt, R. W. (1990). *The Role of Consciousness in Second Language Learning*. The University Of Hawaii At Manoa.
- Scott, S. (2008). Perceptions of Students' Learning Critical Thinking through Debate in a Technology Classroom: A Case Study. *Journal of Technology Studies*, 34 (1), 39-44.
- Sofo, F. (2004). *Open Your Mind: The 7 keys to Thinking Critically*. Crows Nest, NSW: Allen & Unwin.
- Somjai, S., & Jansem, A. (2015). The use of debate technique to develop speaking ability of grade ten students at Bodindecha (Sing Singhaseni) school. *International Journal of Technical Research and Applications*, 13(13), 27-31.
- Susanto, I. (2023). Speaking Skill Assessment through Debate for University Students. *English Language Education Journal (ELEJ)*, 2(1), 29-43.
- Tiu Wright, L. (2009). The Sage Handbook of Qualitative Research 2009 Edited by Norman K. Denzin and Yvonna S. Lincoln. The Sage Handbook of Qualitative Research. California, USA: Sage Publications Inc. 2005. Pages: ix-xix 1-1210, ISBN: 0-7619-2757-3. *Qualitative Market Research: An International Journal*, 12(2), 249-251. <https://doi.org/10.1108/13522750910948815>
- Tran, T. M. (2023). Integrating 21st Century Skills into Translation Classroom from Students' Perspective. *International Journal of TESOL & Education*, 3(1), 64-78. <https://doi.org/10.54855/ijte.23315>
- Tumposky, N. R. (2004). The Debate Debate. *The Clearing House: A Journal of Educational Strategies, Issues and Ideas*, 78(2), 52-56. <https://doi.org/10.3200/tchs.78.2.52-56>
- Wafaa , A. A. (2019). Effectiveness of Qualitative Research Methods: Interviews and Diaries. *International Journal of English and Cultural Studies*, 2(1), 65-70. <https://doi.org/10.11114/ijecs.v2i1.4302>
- Yang, C.-H., & Rusli, E. (2012). Using Debate As A Pedagogical Tool In Enhancing Pre-Service Teachers Learning And Critical Thinking. *Journal of International Education Research (JIER)*, 8(2), 135-144. <https://doi.org/10.19030/jier.v8i2.6833>
- Zare, P., & Othman, M. (2015). Students' Perceptions Toward Using Classroom Debate to Develop Critical Thinking and Oral Communication Ability. *Asian Social Science*, 11(9), 158-170. <https://doi.org/10.5539/ass.v11n9p158>

Biodata

Vu Ngoc Cuong is currently the Global Citizenship Education Program Coordinator cum lecturer at Swinburne Vietnam. He holds a Master's degree in Teaching English to Speakers of Other Languages and Foreign Language Teaching from the University of Canberra (Australia).


The Survey of Digital Transformation in Education: A Systematic Review

Bui Trong Tai^{1*}, Nguyen Truong Son¹

¹ TNU - University of Sciences, Viet Nam

*Corresponding author's email: taibt@tnus.edu.vn

*  <https://orcid.org/0000-0003-3895-3125>

 <https://doi.org/10.54855/ijte.23343>

® Copyright (c) 2023 Tai Bui Trong, Nguyen Truong Son

Received: 16/03/2023

Revision: 22/11/2023

Accepted: 23/11/2023

Online: 27/11/2023

ABSTRACT

Keywords: Digital transformation, Education, Teaching methods, Learning experiences

This study addresses a gap in the literature regarding the implementation of digital strategies in educational institutions, particularly universities. Despite significant advancements in the development of digital strategies, there remains a lack of commitment and vision for their effective implementation. This study systematically reviewed the literature to evaluate digital transformation in education across three dimensions: campus environment, teaching methods, and learning experiences. Employing the Preferred Reporting Items for Systematic Reviews and Meta-analysis guidelines, this study identified ten pertinent articles for thematic analysis. These findings highlight the critical role of digital transformation in various aspects such as data collection, management, academic advising, and personalized learning, revealing a trend towards improved educational outcomes through blended learning, video conferencing, AR/VR, and adaptive learning technologies. This research underscores the transformative impact of digital strategies on education, suggesting a paradigm shift in teaching/learning methods and emphasizing the need for educational institutions to embrace these changes proactively.

Introduction

The advent of digital technologies has revolutionized various sectors, including education. Over the years, digital transformation has shifted from a trend to a central component of modern educational strategy (Saykili, 2019). However, while numerous studies have explored individual facets of digital transformation in education, comprehensive multi-dimensional analyses still need to be made available (Khitskov et al., 2017; Stone, 2019).

The COVID-19 pandemic has accentuated the urgency for digital transformation, making it a survival imperative rather than a competitive advantage (Nurhas et al., 2021). Yet, educational institutions face challenges in effectively utilizing digital technologies, often due to a lack of

coherent strategy or vision (Oliveira & Souza, 2021; Tawfik, 2022). This research aims to address this gap by systematically reviewing the literature on three dimensions of digital transformation in education: the significance, learning experiences, and teaching methods. By doing so, this study will provide a comprehensive guide for educational authorities to implement effective digital transformation strategies.

This paper conducts a systematic literature review while targeting previous research articles to evaluate the three dimensions of digital transformation in education (the significance of digital transformation, the learning experiences, and the influence of digital transformation on teaching methods) (Truong & Diep, 2023). Thereby delivering a substantial comparison that will help authorities aim for and implement the most effective and potential transformation in education.

Literature review

Today, the digital revolution has nudged almost every aspect of people's lives. The study by Zafari et al. illustrated certain statistics claiming that over 3.5 billion people are estimated to have access to the Internet (Zafari et al., 2018). With this level of connectivity drenched in their lives, people have changed their ways of interacting with each other and have started to observe the world differently. Several sectors, especially the education industry, have necessitated digital transformation in pursuit of becoming highly competitive in their domains and acquiring the position of revolutionary leadership. Naimi-Sadigh et al. illustrated "Digital Transformation" as the process of utilizing digital technologies to either modify the business cultures, processes, and customer experiences or create new ones so that the ever-changing business and market requirements can be fulfilled (Naimi-Sadigh et al., 2022).

According to the study by Iivari et al., digital transformation has significantly influenced classrooms and teaching strategies used by primary as well as higher education educators, whereas the COVID-19 pandemic further accelerated these ongoing alterations (Iivari et al., 2020). To ensure consistent delivery of education to students during the pandemic, educational systems used technology as the ultimate tool to bridge the gap. Although there are numerous conventions in the educational sector, digital transformation is primarily used for tracking students' performance, leveraging analytics to obtain improved outcomes, promoting collaborative learning, encouraging future-focused curriculums, improving parental-teacher synergies, and saving time in education. Ting et al. (2020) indicated the essentiality of digital technology in real-time data collection, either from internal or external stakeholders such as parents, to help improve education for students. On the other hand, Hoel et al. and Car et al. discussed how digital technology can be used for data management and reporting through a centralized system, which helps the institutes to deliver timely and accurate information to stakeholders and also measure their academic performance by obtaining national and global reporting (Hoel et al., 2020; Car et al., 2019). With the advent of online tools such as video conferencing and cloud storage, teachers can access academic material on a global platform (Nguyen & Nguyen, 2023; Pham, 2022). Nevertheless, the need for a collaborative and interactive education system has encouraged teachers to change their teaching strategies and methods of approaching instruction in classrooms (Szymkowiak et al., 2021). At the same time,

digital changes have helped students learn by making it easier for them to work together and giving them more options through personalized learning.

Statistics from various studies have confirmed that to continue functioning efficiently within today's progressive environment, it is necessary for educational institutions to consistently evolve integrally in whichever technological aspect of the administration deems suitable (Cioffi et al., 2020; Ali, W., 2020; Iglesias-Pradas et al., 2021). In addition, businesses may find it challenging to efficiently exploit all the opportunities and potentialities provided by the available system of digital technologies while also reframing the business models across the value chain, as it may prove to be risky. A study by Faria and Nóvoa highlighted that as these challenges could be more critical and serious for organizations in a permanent struggle to attain a competitive edge, educational institutions are consequently related to the situation because of the increasing competition in selecting the best students and researchers (Faria & Nóvoa, 2017). Surprisingly, educational institutions are experiencing a disruptive scenario where organizations are developing new business models, changing their evolution methodology, actively relating to internal and external factors, and escalating their commitment (Benavides et al., 2020).

According to the study by PricewaterhouseCoopers International Limited (PWC), although educational institutions, especially universities, have significantly responded to this major technological shift by developing effective digital strategies, they still lack the commitment, capability, and vision to implement those strategies (PWC, 2018). There is also a lack of extensive research that could provide such aspects to the keen institutes, thereby creating a literature gap. Based on this scenario, the administration and researchers need to acquire a comprehensive vision of digital technology and the ways in which it is being incorporated into the educational system. This extensive overview will eventually assist the educational authorities and researchers in determining the three main areas of digital transformation in education, including transformation in "Campus environment," "Teaching methods," and "Learning methods."

Research Questions

We will discuss the following research questions in this paper:

RQ1. What is the significance of digital transformation in education?

RQ2. What are the digitally transformed learning experiences?

RQ3. What is the influence of digital transformation on teaching methods?

Methods

The methodology for this systematic literature review is based on the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) guidelines (Page et al., 2021). This research study provides a rigorous approach to selecting, assessing, and analyzing pre-existing academic literature in the form of peer-reviewed papers. This approach assists in identifying trends and gaps in the research.

Our study employs a comprehensive search strategy spanning multiple databases. Additionally, our inclusion/exclusion criteria are uniquely designed to capture articles focusing on the technical and pedagogical aspects of digital transformation in education. While existing reviews have focused mainly on the administrative and technological aspects of digital transformation, our study uniquely incorporates three dimensions: "the significance of digital transformation," "learning experiences," and "the influence of digital transformation on teaching methods." This broader thematic scope allows us to present a more holistic view of the subject matter.

Data Sources

The first step in this methodology involved research identification, which was conducted using several data sources. This study used research identification to evaluate digital transformation in education. Although several data sources are used for targeting relevant academic material, in this study, electronic databases, including Google Scholar and Web of Science (WoS), were used. The reason for using these data sources is their relevance as the most suitable information platform that is often used to access the most significant publications in various areas of knowledge. These databases tend to offer advanced structures to allow for more accurate search and research identification, such as the utilization of logical operators, bibliometric analysis, and filtration tools.

Research Strategy

Search strategy is a process through which academic journals and papers are searched from various databases (Bramer et al., 2018). The search strategy used for this systematic review starts with delivering the major key terms that are most relevant to the research questions and are accessible through databases such as "digital transformation," "Digital technologies," "digital transformation in education," "digital technologies used for academic purpose," "digitally transformed teaching strategies," "improved campus environment through digital modification" etc.

This step is followed by identifying synonyms and alternative spelling that are associated with these terms through meaning, eventually leading to more extensive research such as using the word "modification" instead of transformation, "digitally" instead of digital, and "teaching methods" instead of education. For this purpose, Boolean operators, including (OR and AND), are used to connect founded terms such as "digital transformation" AND "education" and "Digital modification in education AND learning methods AND teaching strategies." While conducting the search on Google Scholar, the time limitation of 2018 to 2022 was used for publications.

Study Selection

This step involves developing screening conditions that can be used to obtain more concentrated, accurate, and precise literature in accordance with research questions. This step involves developing screening conditions that can be used to obtain more concentrated, accurate, and precise literature in accordance with research questions. All of the authors performed the document screening. After that, the authors discussed the number of samples selected together and agreed on it.

Considering the keywords and publication date, 192 articles were acquired through databases, which were further passed through the eligibility criteria. However, 68 of these articles were not openly accessible and were therefore excluded, leaving only 124. Specifically, the conditions used to narrow down the search results are as follows:

- The articles must be based on peer-reviewed research journals or conference papers. Several studies have mentioned that peer-reviewed research journals are credible for use in research by practitioners and academics to acquire information and publicize new findings (Hafsi & Assar., 2020; Feki & Boughzala, 2016). This research strategy will subsequently exclude theses, working papers, and textbooks based on this aspect. Peer review research journals and conferences will be targeted for this research.
- The research journals must be written in the English language.
- The publication date for the selected articles must be from 2018 to the present.
- The chosen articles must relate to the keywords mentioned in the search strategy.

At the end of the study selection procedure, 44 articles were not peer-reviewed research papers, and 19 articles that did not match this research aim were excluded, leaving 56 academic articles for quality assessment.

Quality Assessment

This step further extends the screening process, in which the chosen research journals will be monitored and undergo inclusion and exclusion criteria. The selected papers were thoroughly reviewed and evaluated based on their abstracts, keywords, themes, and concepts. To assess the quality of the research papers selected for this literature review, a comprehensive questionnaire mentioned by Nguyen-Duc et al. (2015) will be used as follows:

- Are all of the research questions adequately being answered?
- Are the abstracts presented in the journals relevant to this literature review, and do they present similar keywords, i.e., “digital transformation or modification in education,” etc?
- Are the research aims present clear statements to be assessed?
- Is the concept of digital transformation associated with education in the selected journals?
- Does the article adequately describe the relevant context, such as digital transformation in education, teaching, and learning methods?
- Is the research design of the article appropriate for this literature review?
- Is the data collected from the journal useful in answering the research questions?
- Does the journal offer comprehensible findings?

The questionnaire was designed using a Likert scale, and articles that obtained a score of less than 1 were excluded from the eligibility criteria. The main objective of using this questionnaire is not only to maximize internal and external validity but also to minimize study bias. After quality assessment, 10 articles qualified for data extraction and analysis (Figure 1).

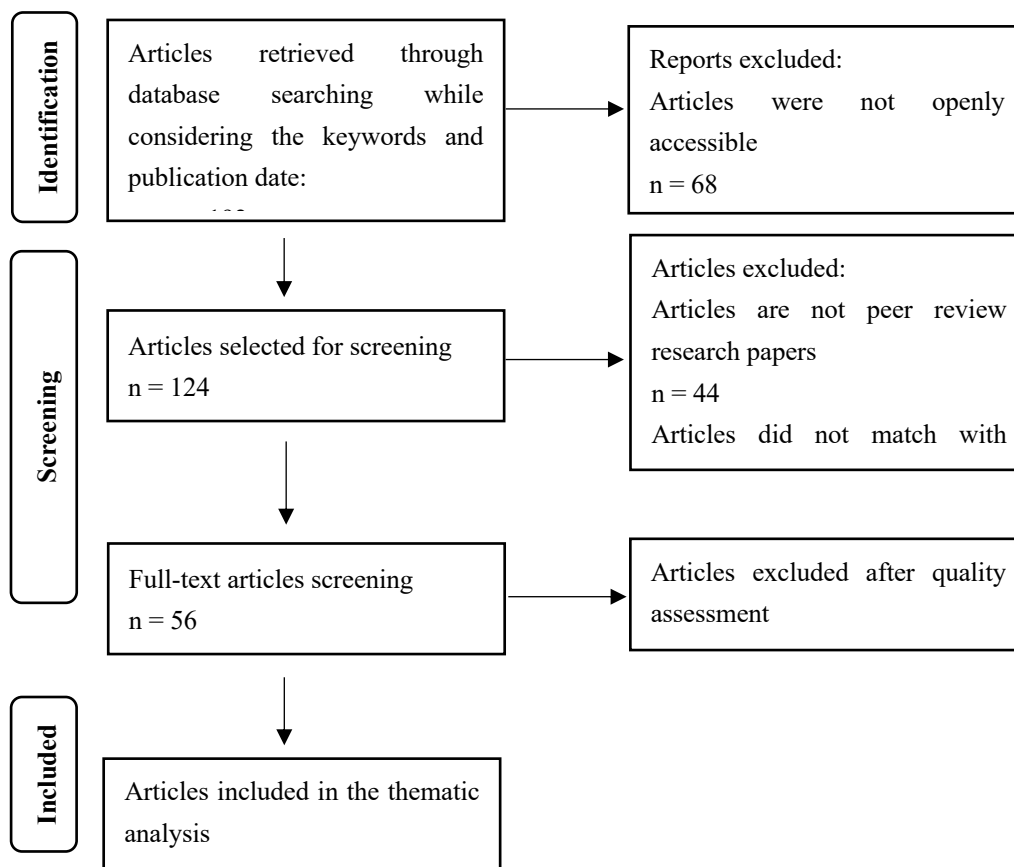


Figure 1. PRISMA flow diagram of study

Data Synthesis and Analysis

Microsoft Excel was used to manage the retrieved articles in sequence. Relevant data were extracted from the selected literature. The retrieved research journals were scrutinized for text fragments that clearly acknowledged any of the research questions mentioned in the literature review. Similar traits and patterns were evaluated along with the identification of variables such as “Areas of digital transformation in education.” According to the four phases of literature analysis mentioned by Morakanyane et al., the thematic analysis technique was used to synthesize the retrieved journals in order to create a conceptualized body of literature (Morakanyane et al., 2017).

Results/Findings and discussion

Several studies have highlighted thematic analysis as a method for investigating qualitative data (Kiger et al., 2018). Considering the research questions in this systematic literature review, answers are technically required in a qualitative format, which urges the need to utilize thematic analysis. A concept-centric matrix was developed for each research question to achieve a more concentrated thematic analysis of the targeted studies while elaborating the research from each article. Further analysis was performed through conceptualization.

RQ1. What is the significance of digital transformation in education?

To answer this research question, three important studies were chosen and put in order by year in a concept-centric matrix (Table 1).

Table 1.

Importance of Digital transformation in education

Author (year)	Key elements (importance of Digital transformation in education)
Seres et al. (2018)	Digital transformation helps with <ul style="list-style-type: none"> • Data collection • Data management • Data reporting
Castro (2019)	Digital transformation in education allow <ul style="list-style-type: none"> • Datafication • Human-to-human interactions enabled by technology • Human-to-machine interactions enabled by technology • Scalability • Teaching-learning experience
Rao (2021)	Digital transformation helps in the development of <ul style="list-style-type: none"> • Collaborative and interactive learning environments • Promote personalized learning

The incorporation of digital transformation into educational systems has turned education into a collaborative and interactive activity while preventing students from solely depending on class lectures (Barabanova et al., 2019). Therefore, digital transformation is assumed to positively affect students' academic performance and learning abilities by providing continuous and massive possibilities and collaboration. Digital learning forces collaboration, creating collaborative and creative learning environments like Google Docs. Online applications make it simpler to conduct blended learning classes.

Starting with the first targeted study by Seres et al. (2018), digital transformation in education is often categorized into three components: data collection, management, and reporting by utilizing digital technology tools (Seres et al., 2018). The data collection process is associated with obtaining feedback from various external or internal stakeholders, such as teachers, parents, students, and school administrations (ElMassah & Mohieldin, 2020). In terms of education, technological advancement fulfills students' specific needs associated with learning while also assisting the institute's staff in creating an effective learning environment with diversified opportunities. Therefore, according to the study, digital transformation can be illustrated as an ecosystem that readily combines technology, security, and services to create and sustain a personalized, collaborative, and interactive learning environment for students (Rao, 2021). This study further highlights some significant issues that tend to drive digital transformation in educational systems, such as campus security, student academic performance, information security, digital integration, artificial intelligence, data enablement, affordability, IT strategy, and student-centric services.

Data Collection, Management, and Reporting

Educational institutes collect data to monitor students' performance so that loopholes can be filled and the overall education process of students can be improved. The process of using automated tools and technologies to collect and analyze data to improve the framework of learning and teaching activities is referred to as datafication (Zhao et al., 2020). The process of how data is collected, managed, and reported in analytics tools (during admission tracking, result tracking, and academic advising) correlates with the findings of Seres et al. (2018) and Castro (2019). This further indicates that digital transformation has also been used in education to enhance the process of data management and reporting other than data collection. A centralized system such as big data analytics allows the staff to acquire accurate information quickly (Tarmizi et al., 2019). In light of the provided facts, it is evident that administrative personnel possess the capacity to render decisions that are efficacious in meeting the requirements of the students. In addition to administration, data regarding students' academic performance can also be used to promote personalized learning in institutes. Therefore, the school can eventually measure its effectiveness in education.

Datafication

Castro further explicated the concept of datafication in a second targeted study (Castro, 2019). An educational institute's management and administration department also functions as analytics, which is why datafication is deemed a major advantage for this department, which often holds diverse data associated with students' academics. However, several types of research have indicated that when pedagogical approaches used by teachers, such as flipped classrooms, are aligned with students' information regarding educational tools, they could eventually lead to improvements in learning and teaching activities. This further highlights the importance of using analytics in students. Castro (2019) explains how digital transformation has changed the trend of analytics and introduced the modern concept of self-service analytics, which could be highly beneficial for the management department of an educational institute. Self-service analytics is a process in which such departments are provided with tools to find answers to their questions rather than direct reporting (Arnaboldi et al., 2020).

Although datafication capabilities for students are often provided by traditional digital tools, such as Massive Open Online Courses (MOOCs) and Learning Management Systems (LMSs), there is still room for improvement in these tools to deliver efficient data (Marachi & Quill, 2020). To augment existing practices, these digital tools or platforms primarily use "big data" and "learning analytics" as their technological approaches. These analytics platforms tend to undergo a sequencing process of data collection, organization, and analysis to evaluate a set of information and provide a final report. The following are the capabilities of the analytics platform.

Table 2.

Analytics Platform Capabilities (Seres et al., 2018).

<u>Collect</u> Hybrid Data Management	<u>Organize</u> Unified Governance & Integration	<u>Analyze</u> Data Science & Business Analytics
<ul style="list-style-type: none"> • Collect all types of data, structured and unstructured; • Include all open sources of data; • Leverage a simple platform with a common application layer; • Write once and deploy anywhere 	<ul style="list-style-type: none"> • Satisfy all matters of finding, cataloging and masking data; • Integrate fluid data sets; • Deliver built-in compliance; • Leverage advanced machine learning capabilities 	<ul style="list-style-type: none"> • Deliver descriptive, prescriptive and predictive insight across all types of data; • Empower the teams and their unique use cases; • Enable advanced analytics and data science methods

These aspects illustrate that the key elements proposed by both studies (Seres et al., 2018; Castro, 2019) demonstrate a close association, thereby conforming datafication as one of the major benefits of digital transformation in education. The study by Seres et al. further highlights the sectors where big data analytics tools and the process of datafication could be used by the administration of an educational institute (Seres et al., 2018). On our technologically advanced day, multiple measurements give schools, colleges, and trainers insights into potential students, internal efficiency, user experiences, and more. Briefly, this is a crucial degree of detail (De Boissieu & Deutsch, 2022). The issue is that these data, particularly in the education industry, are slick, occasionally erroneous, and unreliable. To obtain fluid, rapid, accurate, and structured data, educational leaders must make informed forecasts, integrated business decisions, and innovative educational measures to grasp the most relevant and informative data.

Admission Tracking and Enrollment Optimization

Recruiting and retaining brilliant students is deemed a priority of an educational institute, regardless of whether it is a school, academy, college, or university. The administration department may need to collect data associated with how to conduct the admissions procedure and which scholarships must be offered to students (Seres et al., 2018; Castro, 2019). These data may help the administration department to understand the types of students applying for admission and those who are brilliant enough to succeed (Attaran et al., 2018). With the help of such data analytics, the administration could create a model to improve organizational efficiency and decision-making during admissions, assess the interaction of parents and prospective students with their official websites, and monitor the effectiveness of demographic changes (Gaftandzhieva & Doneva, 2021). Advanced statistical algorithms created by staff could help improve the effectiveness of each admission and recruitment cycle. Tableau and Access are significant examples of data analytics, which allow institutes to merge their data with local data to establish a robust database (Yakubu & Abubakar, 2021).

Academic Advising

Higher secondary staff in academic advising for university and college students could use data obtained from analytics tools, according to Gutiérrez et al. (2020), indicating the importance and criticality of improved academic advising for better student outcomes, whereas with digital transformation, this process has only speeded ever since (Rao, 2021). Academic advising analytics provides extensive insights into students' academic information. With the help of this information, advisors tend to make effective decisions and provide recommendations to students, such as altering the accumulation of credit hours and highlighting critical alternate-year courses (Loucif et al., 2020). Moreover, academic advice can be further extended to personalize learning.

Personalized Learning

While administrative staff and teachers are deemed responsible for tracking students' academic performance, they could eventually use this information to customize learning for each student in accordance with their needs, interests, and skills. This educational approach is referred to as personalized learning (Zhao et al., 2020). This aspect estimates the correlation between all three targeted studies (Seres et al., 2018; Castro, 2019; Rao, 2021) while highlighting the relationship between datafication, analytics tools, data management, and academic advising (personalized learning).

Improved Results

The first targeted studies (Seres et al., 2018; Castro, 2019) highlight how teachers can use big data analytics to digitally record each student's performance to understand which one of them needs more attention and, thereby, take necessary steps to enhance it. In this way, analytics tools and data communication can improve students' results. Big data analytics also allows institutes to compare their results with other educational institutes on national and global levels.

RQ2. What are the digitally transformed learning experiences?

The recent COVID-19 pandemic has significantly affected the world's economies, hindering the progress of several departments, including "education." According to the statistics, 90% of students around the globe who are in primary, secondary, and tertiary education were unable to attend school physically due to quarantine (Psacharopoulos et al., 2021). While this disaster could have affected the students in worst-case scenarios, the utilization of digital technologies slowed teachers from maintaining the rhythm. Online class platforms have also been established to support remote education and learning. Although schools and universities have been using technology for a long time, the necessity of digital transformation was only recognized during the pandemic outbreak. In the educational sector, digital transformation is not restricted to learning and teaching; rather, both students and their personnel can benefit from digital transformation.

Similarly, in a situation similar to the pandemic, where social distancing becomes the first hygienic priority, digital transformation could also be used to transform educational campuses through technologies that can prevent the spread of infection. Table 3 consists of articles targeted at evaluating some digitally transformed learning methods that were only recently

recognized, whereas these articles are arranged in a concept-centric matrix.

Table 3.

Digitally transformed learning methods

Author (year)	Digitally transformed teaching-learning experiences
García-Morales et al. (2021)	<ul style="list-style-type: none"> • web-based learning platforms • Tools used for Video-conferencing • Massive Open Online Courses (MOOCs) • Streamline conferences • Tools used for instant messaging
Zain (2021)	<p>Learning-teaching methods</p> <ul style="list-style-type: none"> • blended learning • multimedia and open education resources (OER) • Communities of practice • E-learning • Online assessment <p>Pedagogical changes</p> <ul style="list-style-type: none"> • Adaptive learning • Artificial intelligence • Microlearning • Critical digital literacy • Teaching through audio-visual media • Blockchain • Virtual and augmented reality • Big data • Increased accessibility • Chatbots <p>Future digital pedagogies</p> <ul style="list-style-type: none"> • Playful learning • Learning with robots • Decolonizing learning • Drone-based learning • Virtual studios
Weerawardane (2021)	<p>Learning experiences</p> <ul style="list-style-type: none"> • Chatbots • Augmented and virtual reality, as well as mixed reality (AR/VR) • Smart classes

Three significant studies evaluated teaching-learning experiences after digital transformation in education. A major ratio of similarity could be illustrated in all the targeted studies concerning the year of publication (2021) and, more importantly, the digitally transformed methods of learning highlighted by each of the studies. García-Morales et al. (2021) focused on online platforms for education while affirming that with the increase of video conferences and online classes as a solution to quarantine, educational institutions have taken a potential step towards acknowledging the importance of digital transformation in education. Based on this aspect, it is deemed appropriate to digitally transform learning strategies and methods through the implementation of digital technology. Zain (2021) and Weerawardane (2021) illustrated chatbots, AR/VR, and the implementation of artificial intelligence (AI) in education as digitally transformed learning experiences for students (Weerawardane, 2021). Many schools aim to adopt chatbots to satisfy students' expectations and effectively use teachers' time in the most

efficient way possible. Chatbots with AI capabilities can be used to assess student quizzes and deliver academic materials, such as notes, based on their requirements. AI-powered chatbots can also be used to instruct pupils by breaking down a lecture into subsequent messages that compile to become a discussion. For instance, Botsify is a chatbot that functions in a manner similar to online lecture delivery. It provides pupil information on a subject through videos, pictures, documents, or a combination of both. Each lecture was followed by a brief quiz, allowing faculty staff to monitor students' performance on one platform.

Blended Learning

García-Morales et al., Rain, and Weerawardane agreed with the assumption that many educational institutions are transforming into tech and releasing learning apps for students, allowing them to access their notes, curriculum and administer practice exams before exams (García-Morales et al., 2021; Zain, 2021; Weerawardane, 2021). This enables them to continue their education. Teachers can create a learning platform with the highest interaction for their students as an education provider that gives them access to the greatest study materials in the form of text, photos, audio, videos, and PDF documents (Neborsky et al., 2020). Online learning activities, led by a teacher where student engagement is the central objective and teacher-led instructions are minimized are referred to as blended learning, as described by Zain. Similarly, García-Morales et al. (2021) stressed that "online learning" platforms, including video conferencing and MOOCs, could also be deemed platforms for blended learning. García-Morales et al. (2021) also mentioned that during the COVID pandemic, students could sustain their learning through online platforms, including video-conferencing tools (such as Google Hangouts, Zoom, and Skype), universities' official websites, instant messaging apps, and educational apps such as Google Classrooms.

Video conferencing

According to García-Morales et al., e-learning is one of the most suitable solutions for international students (García-Morales et al., 2021), whereas Zain also highlighted e-learning as a digital learning experience for students, thereby relating to the first targeted study (Zain, 2021). Due to the pandemic, students are currently unable to travel overseas to complete their higher education, and postponing classes could put students at a disadvantage. To enable students from other countries to continue their education, schools and colleges can introduce video conferencing technologies into their apps or websites (Mladenova et al., 2020). Universities can conduct online exams and support virtual onboarding, student recruitment, and admission through video conferencing. Once overseas travel is approved, students can attend physical, online, or webinars.

AR/VR for Improved Learning Experience

A better learning experience using AR and VR could provide a better learning experience, as illustrated by Weerawardane (2021) and Zain (2021). The education industry must adopt new technologies to remain up to date in an ever-changing world. Virtual and augmented reality will be the next developments in educational systems. As virtual and augmented reality have interactive visual-audio components, these technologies help simplify the process of conveying difficult concepts to students. For instance, Elements 4D is a perfect example of an AR app that

enables students to mix different chemical elements on a digital scale to understand chemistry. This approach uses a 4D program from DAQRI, in which the elements are presented as an animated set of exquisitely crafted wooden blocks. The periodic table elements are represented by a distinct chemical symbol on each face of the block, which quickly transforms into a 4D representation of that element. This may help students comprehend chemical ideas better. Using VR/AR would also reduce the need to interact with the actual object, which could be dangerous to touch in reality (Block et al., 2020). VR can also offer touchless learning for children in this era of pandemics when social distancing is becoming a health priority.

Adaptive Learning

Educational institutions can radically customize academic materials and learning experiences through personal adaptive learning technologies (Zain, 2021). Utilizing particular teaching tools to manage student interactions is known as adaptive learning, which aims to provide personalized solutions tailored to each individual's learning requirements. Another definition of adaptive learning is an educational system built on data analysis that enables faculty members to monitor each student's progress and modify programs in accordance with the needs of each learner. For instance, quizalize is a learning tool that enables teachers to transform tedious assessments into engaging activities. Based on a student's performance, the platform automatically distinguished the learning modules for each student. The inclusion of AI in educational software can aid in providing students with adaptable learning.

RQ3. What is the influence of digital transformation on teaching methods?

Table 4.

Digitally transformed teaching methods

Authors (year)	Digitally transformed teaching methods
Bai and Zhang (2020)	<ul style="list-style-type: none"> • Smart classrooms • 3D video, (Ultra high definition) screens • Augmented and virtual reality • IoT framework model for teaching methods
Das et al. (2021)	<ul style="list-style-type: none"> • Video broadcasting tools • Asynchronous learning systems • Online assessment programs • Online proctoring • Audio-visual analysis • MOOCs
Castaño et al. (2021)	<ul style="list-style-type: none"> • Remotely proctored testing (RPT)
Hall et al. (2022)	<ul style="list-style-type: none"> • Remote proctoring process

Educational institutions view technology as an opportunity to improve teaching strategies and establish effective connections with students. Everyone has smart gadgets, including smartphones, computers, laptops, and tablets. A key strategy for improving student learning is to understand how technology can be used to improve teaching approaches. Three studies that

evaluated enhanced teaching experience after digital transformation showed a significant level of similarity among these targeted studies (Table 4).

Smart Class

Bai and Zhang (2020) compared the effectiveness of a smart classroom system (classroom lessons along with circuit boards and teacher writing on board) and a traditional, simple class with oral referrals. The results obtained by the study showed that the ratio of learners who strongly agreed to use a smart class was higher (approximately 55%), whereas the level of agreement was 73%. Based on these results, it can be estimated that most learners prefer smart classes to traditional ones.

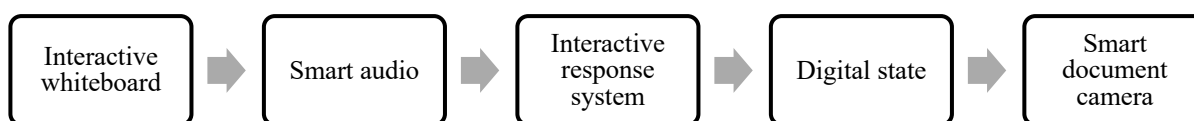


Figure 2. Smart Classroom Teaching Diagram (Bai & Zhang, 2020)

The digital whiteboard, an online classroom, can help students engage in an interactive learning environment that is similar to a traditional or virtual classroom. Teachers are allowed to utilize more than one color so that they can demonstrate concepts in a more comprehensive manner. Unlike whiteboards, they can use colorful shapes such as circles, rectangles, and stars to show complex ideas quickly and in an interesting way.

Online Assessments Powered by Artificial Intelligence

Study Das et al. highlighted the concept of online assessments through video broadcasting tools and online platforms such as MOOCs (Das et al., 2021). According to this study, the ability of an AI-based online assessment system to lock down the app where the assessment is being conducted would limit students' ability to navigate away from the assessment. The shift from a pen-and-paper method to an automated Internet platform serves as a cornerstone in the education industry. Educational institutions have switched to online teaching techniques as colleges and schools close their doors. However, conducting tests and evaluations and establishing learning outcomes presents a dilemma for educational providers.

Artificial intelligence has enabled educational institutions to hold online exams using the Internet and computer networks. AI uses deep learning algorithms and neural networks to teach machines from experience in performing human-like tasks (Mohamed Hashim et al., 2022). To prevent impersonation, an AI/ML-based evaluation system was taught to analyze and compare photographs of the examinee taken during the examination with the candidate information provided.

Remote Proctoring Technology

Among the targeted studies, Hall et al. and Castaño et al. conducted research to evaluate the effectiveness of remote proctoring technology (Hall et al., 2022; Castaño et al., 2021). Hall suggested that remote proctoring procedures tend to affect students differently based on their year within the program, whereas Castaño et al. (2021) indicated that remote proctoring systems

tend to determine academic dishonesty, thereby sustaining examination integrity. With remote proctoring technology, educational institutions can administer online exams without worrying about their students using unethical tactics (Weiner & Henderson, 2022).

Online processing can be performed using an AI-powered facial recognition algorithm and an embedded web camera. It provides several options for online assessment. It does not require manual invigilators to watch over pupils while they are taking the test. Teachers can record every exam from start to finish with AI-enabled online proctoring, not just in the video, but also in screenshots, chat logs, and photos of the desktop. Additionally, it can keep an eye on any unusual event, such as a student turning away from their webcam or leaving the room during the entire exam period. The pupil can be tracked remotely using an AI-assisted facial recognition and tracking system.

Limitations and Future Implications

This study potentially targeted ten pertinent sources, ensuring sufficient thoroughness. Second, the different perspectives of analysis gave the search method access to a wider range of sources; however, these diverse sources made it challenging to reach conceptual saturation while looking for and choosing new materials. However, the most probable limitation of this study is the segmentation analysis of each research question, thereby lowering the literature source for each objective. Future research may examine further tendencies discovered from social, organizational, technological, and pedagogical viewpoints to validate the conclusions and enhance the educational technology capabilities highlighted in this study. Researchers may also examine and summarize empirical investigations to better understand the potential of educational technology. Researchers may also examine and synthesize empirical data on educational technology capabilities to support claims regarding the maturity levels of capability for technological development and user expertise dimensions. Identifying variables and obstacles that support or hinder the deployment of greater capacity maturity levels in blended learning may also be a subject of future research. Finally, a typology-based map of digital technologies may be extremely helpful for practitioners and their future implementations.

Conclusion

By reevaluating the digital tools utilized in the classroom, digital transformation has a significant effect. Digital tools to build a campus with limitless learning opportunities have sparked new levels of invention and collaboration. Schools are making remarkable progress and have started to see the value of digital transformation in education, but there is still much to do. The biggest beneficiaries of these modifications are students who may now take advantage of new collaboration and learning opportunities. Schools gain from improved efficiency and a better ability to satisfy the requirements of their pupils at the same time. Both students and teachers can improve their ability to design an interesting educational process through digitization of the learning process. School administrators may alter their educational institutions in a variety of ways, from online learning to smart classrooms, performance analysis of students, individualized learning, and online exams. Schools may make most of the digital

transformations in a variety of ways.

Training teachers on how to use new technology effectively is crucial. Teachers must be able to use technology to assist students in learning in novel and creative ways. Additionally, school administrators must provide a setting that allows efficient technology usage throughout the entire institution. The availability of tools and Internet connectivity at all times and locations is part of this. The advantages of the digital transformation of education are evident for both schools and students. Both parties stand to gain a great deal by ensuring that these adjustments are implemented successfully.

Acknowledgments

We thank TNU - University of Sciences, which we are working, for their facilitation of our studies in terms of their finances, time, and facilities to implement science and technology projects at the grassroots level, code CS2023-TN06-20, the project leader is the main author of this paper.

References

- Ali, W. (2020). Online and remote learning in higher education institutes: A necessity in light of COVID-19 pandemic. *Higher education studies*, 10(3), 16-25.
- Arnaboldi, M., Robbiani, A. and Carlucci, P. (2020). On the relevance of self-service business intelligence to university management. *Journal of Accounting & Organizational Change*, 17(1), 5-22. <https://doi.org/10.1108/JAOC-09-2020-0131>
- Attaran, M., Stark, J. and Stotler, D. (2018). Opportunities and challenges for big data analytics in US higher education: A conceptual model for implementation. *Industry and Higher Education*, 32(3), 169-182. <https://doi.org/10.1177/0950422218770937>
- Bai, H. and Zhang, Q. (2020). English smart classroom teaching system based on 5 network and internet of things. *Microprocessors and Microsystems*, 36(99), 121-123. <https://doi.org/10.1016/j.micpro.2020.103421>
- Barabanova, S.V., Kaybiyaynen, A.A. and Kraysman, N.V. (2019). Digitalization of education in the global context. *Higher Education in Russia*, 28(1), 94-103. <https://doi.org/10.31992/0869-3617-2019-28-1-94-103>
- Benavides, L.M.C., Tamayo Arias, J.A., Arango Serna, M.D., Branch Bedoya, J.W. and Burgos, D. (2020). Digital transformation in higher education institutions: A systematic literature review. *Sensors*, 20(11), 3291. <https://doi.org/10.3390/s20113291>
- Block, B.M., Haus, B., Steenken, A. and von Geyso, T. (2020), September. Digital transformation of interdisciplinary engineering education. In *International Conference on Interactive Collaborative Learning* (pp. 284-296). Springer, Cham.
- Bramer, W.M., De Jonge, G.B., Rethlefsen, M.L., Mast, F. and Kleijnen, J. (2018). A systematic approach to searching: an efficient and complete method to develop literature searches. *Journal of the Medical Library Association*, 106(4), 531. <https://doi.org/10.5195/jmla.2018.283>

- Car, J., Carlstedt-Duke, J., Car, L.T., Posadzki, P., Whiting, P., Zary, N., Atun, R., Majeed, A., Campbell, J. and Digital Health Education Collaboration. (2019). Digital education in health professions: the need for overarching evidence synthesis. *Journal of medical internet research*, 21(2), e12913. <https://doi.org/10.2196/12913>
- Castaño, M., Noeller, C. and Sharma, R. (2021). Implementing remotely proctored testing in nursing education. *Teaching and Learning in Nursing*, 16(2), 156-161. <https://doi.org/10.1016/j.teln.2020.10.008>
- Castleberry, A. and Nolen, A. (2018). Thematic analysis of qualitative research data: Is it as easy as it sounds?. *Currents in pharmacy teaching and learning*, 10(6), 807-815. <https://doi.org/10.1016/j.cptl.2018.03.019>
- Castro, R. (2019). Blended learning in higher education: Trends and capabilities. *Education and Information Technologies*, 24(4), 2523-2546. <https://doi.org/10.1007/s10639-019-09886-3>
- Cioffi, R., Travaglioni, M., Piscitelli, G., Petrillo, A. and De Felice, F. (2020). Artificial intelligence and machine learning applications in smart production: Progress, trends, and directions. *Sustainability*, 12(2), 492. <https://doi.org/10.3390/su12020492>
- Das, D., Pal, S., Paul, S.R., Debnath, A. and Reza, M. (2021), February. Effect of covid-19 on digital transformations in teaching learning methodology and its consequences in society: A review. In *Journal of Physics: Conference Series* (Vol. 1797, No. 1, p. 012066). IOP Publishing.
- De Boissieu, A. and Deutsch, R. (2022). The long road to education for upcoming data-driven practices in architecture: Gaps, difficulties and silos. In *Structures and Architecture A Viable Urban Perspective?*, pp.1034-1041. CRC Press.
- ElMassah, S. and Mohieldin, M. (2020). Digital transformation and localizing the sustainable development goals (SDGs). *Ecological Economics*, 169, 106490. <https://doi.org/10.1016/j.ecolecon.2019.106490>
- Faria, J.A. and Nóvoa, H. (2017), May. Digital transformation at the University of Porto. In *International Conference on Exploring Services Science*, pp. 295-308. Springer, Cham.
- Feki, M. and Boughzala, I. (2016), May. Big data governance: a literature review and research agenda. In *CIG 2016: 15ième Conférence Internationale de Gouvernance de l'AAIG (Association Académique Internationale de Gouvernance)*.
- Gaftandzhieva, S. and Doneva, R. (2021). Data Analytics to Improve and Optimize University Processes. In *ICERI2021 Proceedings* (pp. 6236-6245). IATED.
- García-Morales, V.J., Garrido-Moreno, A. and Martín-Rojas, R. (2021). The transformation of higher education after the COVID disruption: Emerging challenges in an online learning scenario. *Frontiers in Psychology*, 12, 616059. <https://doi.org/10.3389/fpsyg.2021.616059>
- Gutiérrez, F., Seipp, K., Ochoa, X., Chiluíza, K., De Laet, T. and Verbert, K. (2020). LADA: A learning analytics dashboard for academic advising. *Computers in Human Behavior*, 107, 105826. <https://doi.org/10.1016/j.chb.2018.12.004>
- Hafsi, M. and Assar, S. (2020). Does enterprise architecture support Customer Experience Improvement? Towards a conceptualization in digital transformation context. In *Enterprise, Business-Process and Information Systems Modeling*, pp. 411-427. Springer, Cham.

- Hall, E.A., Roberts, M.B., Taylor, K.A. and Havrda, D.E. (2022). Changes in Academic Performance after Transitioning to Remote Proctoring: A Before-After Evaluation. *Pharmacy*, 10(4), 92. <https://doi.org/10.3390/pharmacy10040092>
- Hoel, T., Chen, W. and Lu, Y. (2020). Teachers' perceptions of data management as educational resource: A comparative case study from China and Norway. *Nordic Journal of Digital Literacy*, 15(3), 178-189. <https://doi.org/10.18261/issn.1891-943x-2020-03-04>
- Iglesias-Pradas, S., Hernández-García, Á., Chaparro-Peláez, J. and Prieto, J.L. (2021). Emergency remote teaching and students' academic performance in higher education during the COVID-19 pandemic: A case study. *Computers in human behavior*, 119, 106713. <https://doi.org/10.1016/j.chb.2021.106713>
- Iivari, N., Sharma, S. and Ventä-Olkkonen, L. (2020). Digital transformation of everyday life—How COVID-19 pandemic transformed the basic education of the young generation and why information management research should care?. *International Journal of Information Management*, 55, 102183. <https://doi.org/10.1016/j.ijinfomgt.2020.102183>
- Khitskov, E. A., Veretkhina, S. V., Medvedeva, A. V., Mnatsakanyan, O. L., Shmakova, E. G., & Kotenev, A. (2017). Digital transformation of society: problems entering in the digital economy. *Eurasian Journal of Analytical Chemistry*, 12(5b), 855-873. <https://doi.org/10.12973/ejac.2017.00216a>
- Kiger, M.E. and Varpio, L. (2020). Thematic analysis of qualitative data: AMEE Guide No. 131. *Medical teacher*, 42(8), 846-854. <https://doi.org/10.1080/0142159X.2020.1755030>
- Loucif, S., Gassoumi, L. and Negreiros, J. (2020). Considering students' abilities in the academic advising process. *Education Sciences*, 10(9), 254. <https://doi.org/10.3390/educsci10090254>
- Marachi, R. and Quill, L. (2020). The case of Canvas: Longitudinal datafication through learning management systems. *Teaching in Higher Education*, 25(4), 418-434. <https://doi.org/10.1080/13562517.2020.1739641>
- Mladenova, T., Kalmukov, Y. and Valova, I. (2020). Covid 19—A major cause of digital transformation in education or just an evaluation test. *TEM journal*, 9(3), p.1163. <https://doi.org/10.18421/TEM93-42>
- Mohamed Hashim, M.A., Tlemsani, I. and Matthews, R. (2022). Higher education strategy in digital transformation. *Education and Information Technologies*, 27(3), 3171-3195. <https://doi.org/10.1007/s10639-021-10739-1>
- Morakanyane, R., Grace, A.A. and O'reilly, P. (2017). Conceptualizing Digital Transformation in Business Organizations: A Systematic Review of Literature. *Bled eConference*, 21, 428-444. <https://aisel.aisnet.org/bled2017/21>
- Naimi-Sadigh, A., Asgari, T. and Rabiei, M. (2022). Digital transformation in the value chain disruption of banking services. *Journal of the Knowledge Economy*, 13(2), 1212-1242. <https://doi.org/10.1007/s13132-021-00759-0>
- Neborsky, E.V., Boguslavsky, M.V., Ladyzhets, N.S. and Naumova, T.A. (2020), May. Digital transformation of higher education: International trends. In *International Scientific Conference "Digitalization of Education: History, Trends and Prospects" (DETP 2020)* (pp. 393-398). <https://doi.org/10.2991/assehr.k.200509.071>

- Nguyen-Duc, A., Cruzes, D.S. and Conradi, R. (2015). The impact of global dispersion on coordination, team performance and software quality—A systematic literature review. *Information and Software Technology*, 57, 277-294. <https://doi.org/10.1016/j.infsof.2014.06.002>
- Nguyen, T. H., & Nguyen, T. N. U. (2023). Teaching English Online Using Video Conferencing: The Challenges to EFL Instructors and Their Solutions. *International Journal of TESOL & Education*, 3(1), 126–143. <https://doi.org/10.54855/ijte.23318>
- Nurhas, I., Aditya, B. R., Jacob, D. W., & Pawlowski, J. (2021). Understanding the challenges of rapid digital transformation: the case of covid-19 pandemic in higher education. *Behaviour & Information Technology*, 41(13), 2924-2940. <https://doi.org/10.1080/0144929x.2021.1962977>
- Oliveira, K. d. S. and Souza, R. P. d. (2021). Digital transformation towards education 4.0. *Informatics in Education*, 21(2), 283-309. <https://doi.org/10.15388/infedu.2022.13>
- Page MJ, McKenzie JE, Bossuyt PM, Boutron I, Hoffmann TC, Mulrow CD, et al. (2021) .The PRISMA 2020 statement: an updated guideline for reporting systematic reviews. *BMJ* 2021, 372:n71. <https://doi.org/10.1136/bmj.n71>
- Pham, N. S. (2022). The Effectiveness of Teaching and Learning Online: A Study on HUFU's English-majorred Students. *International Journal of TESOL & Education*, 2(3), 1–12. <https://doi.org/10.54855/ijte.22231>
- Psacharopoulos, G., Collis, V., Patrinos, H. A., & Vegas, E. (2021). The COVID-19 cost of school closures in earnings and income across the world. *Comparative Education Review*, 65(2), 271-287. <https://doi.org/10.1086/713540>
- PWC. (2018). *The 2018 Digital University Staying Relevant in the Digital Age*. PWC. <https://www.pwc.co.uk/assets/pdf/the-2018-digital-university-staying-relevant-in-the-digital-age.pdf>.
- Rao, G. M. (2021). Digital Transformation in Education. *International E- Research Journal*, 269, 103-108.
- Regan, P.M. and Jesse, J. (2019). Ethical challenges of edtech, big data and personalized learning: Twenty-first century student sorting and tracking. *Ethics and Information Technology*, 21(3), 167-179. <https://doi.org/10.1007/s10676-018-9492-2>
- Saykili, A. (2019). Higher education in the digital age: the impact of digital connective technologies. *Journal of Educational Technology and Online Learning*, 2(1), 1-15. <https://doi.org/10.31681/jetol.516971>
- Seres, L., Pavlicevic, V. and Tumbas, P. (2018), March. Digital transformation of higher education: Competing on analytics. In *Proceedings of INTED2018 Conference 5th-7th March* (pp. 9491-9497).
- Singh, M.N. (2021). Inroad of digital technology in education: Age of digital classroom. *Higher Education for the Future*, 8(1), 20-30. <https://doi.org/10.1177/2347631120980272>
- Stone, C. (2019). Online learning in australian higher education: opportunities, challenges and transformations. *Student Success*, 10(2), 1-11. <https://doi.org/10.5204/ssj.v10i2.1299>
- Szymkowiak, A., Melović, B., Dabić, M., Jeganathan, K. and Kundi, G.S. (2021). Information technology and Gen Z: The role of teachers, the internet, and technology in the education

- of young people. *Technology in Society*, 65, 101565. <https://doi.org/10.1016/j.techsoc.2021.101565>
- Tarmizi, S.S.A., Mutalib, S., Hamid, N.H.A. and Rahman, S.A. (2019). A review on student attrition in higher education using big data analytics and data mining techniques. *International Journal of Modern Education and Computer Science*, 11(8), pp.1-14. <https://doi.org/10.5815/ijmeecs.2019.08.01>
- Tawfik, M. (2022). Complexity and Interaction across Oral, Written and Online Discourse. *International Journal of TESOL & Education*, 2(1), 272–295. <https://doi.org/10.54855/ijte.222117>
- Ting, D.S.W., Carin, L., Dzau, V. and Wong, T.Y. (2020). Digital technology and COVID-19. *Nature medicine*, 26(4), 459-461. <https://doi.org/10.1038/s41591-020-0824-5>
- Truong, T. and Diep, Q. B. (2023). Technological spotlights of digital transformation in tertiary education. *IEEE Access*, 11, 40954-40966. <https://doi.org/10.1109/access.2023.3270340>
- Weerawardane, D. (2021). Digital transformation of Higher Education: what's next?. *New Vistas*, 7(2), 3-7. <https://doi.org/10.36828/newvistas.147>
- Weiner, J.A. and Henderson, D. (2022). Online Remote Proctored Delivery of High Stakes Tests: Issues and Research. *Journal of Applied Testing Technology*, 23, 1-4.
- Yakubu, M.N. and Abubakar, A.M. (2021). Applying machine learning approach to predict students' performance in higher educational institutions. *Kybernetes*, 51(2), 916-934. <https://doi.org/10.1108/K-12-2020-0865>
- Zafari, H., Rafiemanesh, H. and Balouchi, A. (2018). Internet addiction among Iranian medical students: a systematic review. *Medical Science*, 22(94), 518-524.
- Zain, S., 2021. Digital transformation trends in education. In *Future Directions in Digital Information* (pp. 223-234). Chandos Publishing. <https://doi.org/10.1016/B978-0-12-822144-0.00036-7>
- Zhao, M., Liao, H.T. and Sun, S.P. (2020). An Education literature review on digitization, digitalization, datafication, and digital transformation. In *6th International Conference on Humanities and Social Science Research (ICHSSR 2020)* (pp. 301-305). Atlantis Press. <https://doi.org/10.2991/assehr.k.200428.065>

Biodata

Dr. Tai Bui Trong graduated with a doctorate in public policy at the Academy of Social Sciences, Vietnam Academy of Social Sciences in 2023. Currently he is a lecturer at TNU - University of Sciences, Vietnam, majoring in management science and policy. Main research directions include: management science, educational policy, science and technology, religion, politics.

Nguyen Truong Son is currently a doctoral student at the School of Measurement and Evaluation in Education at the University of Education, Vietnam National University, Hanoi, currently working at TNU - University of Sciences, Vietnam, with a research direction. Main research: measurement and evaluation, education quality check, university ranking.

Vol. 3, No. 4 (2023): TESOL & Education
Doi: <https://doi.org/10.54855/ijte.2334>
Orcid: <https://orcid.org/0000-0002-3233-457X>

Publisher: ICTE Press

Address: International Association of TESOL & Education, 5243 Birch Falls Ln, Sugar Land, Texas, USA, 77479

Aims and scopes

Aims and scopes

The mission of the IJTE (ISSN: 2768-4563) is to contribute to the literature of instruction by publishing high-quality studies in the areas of TESOL, Education, Computer-Assisted Language Learning (CALL), m-learning, e-learning, curriculum development, learning environments, Pedagogies & Language Teaching, translation and interpretation, teacher education, educational technology, educational developments, quality assurance in education, cultural studies, and other learning-instruction issues. As a peer-reviewed journal, one of our priorities is to ensure high standards of publishing. Publication ethics is an important concern, and editors, peer-reviewers, and authors should pay great attention to meeting ethical standards.

Open Access Policy

IJTE aims to increase visibility and make easier use of open access scientific papers. Readers and their institutions are supported for online access without asking for any royalty, personal information, or log-in details. According to the open-access policy of our journal, all readers are permitted to read, download, copy, distribute, print, link to, and search our articles with no charge.

Copyright

The copyright of all articles published in the IJTE remains with the Authors, i.e. Authors retain full ownership of their article. Permitted third-party reuse of the open access articles is defined by the applicable Creative Commons (CC) end-user license which is accepted by the Authors upon submission of their paper. All articles in IJTE are published under the CC BY-NC 4.0 license, meaning that end users can freely share an article (i.e. copy and redistribute the material in any medium or format) and adapt it (i.e. remix, transform and build upon the material) on the condition that proper attribution is given (i.e. appropriate credit, a link to the applicable license and an indication if any changes were made; all in such a way that does not suggest that the licensor endorses the user or the use) and the material is only used for non-commercial purposes.

Ethics and Malpractice

The Statement of Publication Ethics & Malpractice

The International Journal of TESOL & Education (ijte) (ISSN: 2768-4563) is committed to upholding ethical standards, retracting and correcting errors. The editorial team's primary responsibility is to discourage publishing malpractice. Any type of unethical conduct is unacceptable, and this Journal's Editorial Team does not tolerate plagiarism in any form. All manuscripts must be the authors' original work and free of indications of plagiarism.

Conflicts of Interests

Authors are requested to disclose interests that are directly or indirectly related to the work submitted for publication. Interests within the last 3 years of beginning the work (conducting the research and preparing the work for submission) should be reported. Interests outside the 3-year time frame must be disclosed if they could reasonably be perceived as influencing the submitted work. Disclosure of interests provides a complete and transparent process and helps readers form their own judgments of potential bias. This is not meant to imply that a financial relationship with an organization that sponsored the research or compensation received for consultancy work is inappropriate. Please download this form.

Disclosures and declarations

All authors are requested to include information regarding sources of funding, financial or non-financial interests, study-specific approval by the appropriate ethics committee for research involving humans and/or animals, informed consent if the research involved human participants, publication on vulnerable populations, and a statement on the welfare of animals if the research involved animals (as appropriate).

The decision on whether such information should be included is not only dependent on the scope of the journal, but also the scope of the article. Work submitted for publication may have implications for public health or general welfare and in those cases, it is the responsibility of all authors to include the appropriate disclosures and declarations.

Compliance with Ethical Standards

To ensure objectivity and transparency in research and to ensure that accepted principles of ethical and professional conduct have been followed, authors should include information regarding sources of funding, potential conflicts of interest (financial or non-financial), informed consent if the research involved human participants, publication on vulnerable populations, and a statement on the welfare of animals if the research involving animals.

Authors should include the following statements (if applicable) in a separate section entitled “Compliance with Ethical Standards” when submitting a paper.

Originality and Plagiarism

Authors can guarantee that their writings are entirely unique and that any writing or words credited to another are properly referenced. Additionally, publications that had an impact on the nature of the finding reported in the manuscript should be acknowledged. The writers must certify that the manuscript has never been written before.

It is not permitted to copy text from other publications without correctly attributing the source (plagiarism) or to publish several papers with nearly identical material by the same writers (self-plagiarism). It is against the law to concurrently apply the same results to more than one Journal. It is prohibited for authors to present results collected from others as their own. Authors should consider the work of those who shaped the direction and course of their research.

Check plagiarism

The ijte will conduct a plagiarism check on all submitted papers using Turnitin's program. The ijte only considers papers with less than 20% similarity index for publication. IJTE will immediately reject any paper that involves plagiarism.

AI and AI-Assisted Tools

Authorship implies human-only responsibilities and duties. Each author is responsible for ensuring that any questions regarding the accuracy or integrity of any portion of the work are adequately investigated and resolved, and authorship requires the ability to endorse the final version of the work and consent to its submission. The authors are also responsible for ensuring that the work is original, that the indicated authors qualify for authorship, and that the work does not violate the rights of third parties.

Papers generated by AI or AI-assisted Tools are not accepted for publication in this Journal. This policy pertains only to the writing process and not to the use of AI tools to analyze data and gain insights for the research procedure. This policy does not prohibit the use of artificial intelligence and AI-assisted instruments in formal research design or research methods. When AI or AI-assisted tools are used in this context, they should be described in the Methods section as part of the work's methodology.

The authors are responsible and answerable for the content of their work. The authors should indicate in their manuscript if they utilized AI and AI-assisted technologies, and a corresponding statement will appear in the final product. Disclosure of the use of these technologies promotes honesty and trust among authors, readers, reviewers, editors, and contributors and facilitates adherence to the tool's or technology's terms of service.

Brief Information

Country of Publication: Texas, United States

Publisher: ICTE Press, <https://i-cte.org/press>

Website: <https://i-jte.org>

Youtube: <https://www.youtube.com/@ictepress>

Open Access: Yes

ISSN: 2768-4563

Frequency: 4 issues per year

Publication Dates: February, May, August, and November

Language: English

Scope: TESOL, Languages & Linguistics, Education, Pedagogies & Language Teaching, Translation & Interpretation, Cultural studies, Quality Assurance in Education

Article Processing Charges: \$70

Types of Journal: Academic/Scholarly Journals

Indexed: Google Scholar, ORCID, Crossref, DOI, Library of Congress, PKP PN, LOCKSS, CLOCKSS, Semantic Scholar, ROAD, EuroPub, J-Gate,

Policy: Double blind peer review

Plagiarism check: Turnitin

Contact: editor@i-jte.org; publishing@i-cte.org



TESOL & EDUCATION

INTERNATIONAL JOURNAL OF TESOL & EDUCATION

ISSN 2768-4563



ICTE Press

International Association of TESOL & Education

5243 Birch Falls LN, Sugar Land, Texas, USA, 77479

<https://i-jte.org> | <https://i-cte.org/press>

