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The Culture of Research: A Systematic Scoping Review

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ABSTRACT

Introduction: Research culture is the core of many processes in science. It is a broad concept presumably entailing practices, traditions, norms, etc. that prevail among researchers and other stakeholders in the field. Its definition, architecture, and taxonomy are essential in generating and pursuing scientific policies at universities and countries. As there is a lack of comprehensive reviews on research culture, the present publication aspires to fill the existing gap in the knowledge. This review aims to define research culture and build an architecture of research culture based on the relevant literature indexed in the Scopus database.

Method: The problem, concept, and context (PCC) framework was applied to establish an effective search strategy and word the research questions corresponding to the aim. Based on Arksey and O'Malley's methodology (2005) and PRISMA checklist (2020) for systematic reviews, the authors sorted out 56 relevant publications for systematic scoping review. In addition, a bibliometric analysis was applied to examine the field.

Results: Using a bibliometric analysis, the 56 publications were distributed by year, country, most prolific authors, sources, research fields, affiliation, and type of publication. With the help of VOSviewer, the authors singled out four thematic clusters (research culture; medical and biomedical research, methodology and research ethics, and clinical studies and human experiments). After synthesizing the data extracted from the documents under review, research culture was defined; components of research culture were singled out and summed up; and a framework of research culture was made up. The authors analysed the review findings in contrast with other research, offering their own comprehensive definition of research culture, its taxonomy, and an architecture of research culture.

Conclusion: The current review adds to the understanding of research culture, its gist, component classification. The limitation related to the period of review (2019-2024) may be overcome by further reviews of relevant publications from a historic perspective that would broaden perceptions of the origin of modern research culture and its negative aspects.

KEYWORDS

research culture, culture of research, publication policy, university, journal, scholarly publications, integrity, open science.

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INTRODUCTION

The culture of research has been in focus for the recent years as it is undergoing substantial change and influences all processes in science and all stakeholders (individual researchers, research teams and laboratories, universities, journals, associations of researchers, ministries, and other related institutions). Open science, e-science, a wide spread of scientometrics and other quantitative tools of assessment, a worldwide "publish or perish" research policy (Jones, 1999; Bond, 2023), and global change of the academic profession (Lenzen, 2015) might have added to the significance of the theme (Munafò et al., 2020).

Though the earliest publications on research culture indexed in the Scopus database date back to the 1980s (Polk,1989). The studies that focused solely on research culture have been rare. The concept was approached from various perspectives: new research culture in design

(Agnew, 1993); developing a research culture in specific environments, including nursing (Farrington, 1996; Thompson, 2003), in disciplines (Finnegar & Gamson, 1996), in music therapy (Kenny, 1998), medicine (Meyer, 2000), in an academic environment (Nicholls & Cargill, 2001), further education (Cunningham & Doncaster, 2002), in library instruction (Cain, 2002), in teacher education (Reid et al., 2010). Many publications cover country-related issues of research culture: research culture in the UK (Holligan, 2011), in Russia (Konnov, 2012), in the Arab Middle East (Armour, 2014), in India (Patel, 2010), in Spain (Ion & Castro Ceocero, 2017), in the USA (O'Connor & Bristow, 2018). Other aspects also attracted attention of the researchers: relationship between ethics and research culture (Gallagher, 2015), research culture and reproducibility (Munafò et al., 2020), building or fostering research culture (Rubdy, 2005; Jenks, 2008; Parse, 2007).

The field seems to be developing. In the Scopus database, the total number of publications on research culture (by their titles, keywords, and abstracts) reached 1,481 documents as of February 2024. The authors failed to find any complex research on the concept, but for few articles with a wide scope (Joynson & Leyser, 2015). The concept is still not included in modern thesauri on social sciences that do not list "research culture"[1] so far. Thus, the definition of research culture also requires refining.

Any culture is a broad multidisciplinary term. Probably, it is one of the widest concepts ever. R. Williams (1985) outlined it as "one of the two or three most complicated words in the English language". Most definitions of culture at large tend to include knowledge, traditions, norms, values, beliefs, habits, etc., acquired and accumulated by a society or a member of society (Taylor, 2016; Abraham, 2006). Research culture is more specific and related to research though it may be approached as a culture at large, from a sociocultural perspective.

One of the most prevailing definitions of research culture was worded on the site of The Royal Society of Science (2018), describing research culture as the one that "encompasses the behaviours, values, expectations, attitudes, and norms of our research communities"[2]. But definitions and structure of research culture are rather disputable as there are numerous viewpoints of the gist of research culture and its most effective trajectory of development. Many publications offered their definitions of research culture from other perspectives (Hill, 1999), including organisational (Johnson & Louw, 2014), context-oriented (Hanover Research, 2014), agent, and mixed (Frias-Navarro et al., 2020). Though, all definitions have much in common. In most, one can see sets of notions and groups of agents, and descriptions of contexts where research is produced, or features relating to research processes and outcomes.

The vagueness of definition is subject to unclear architecture of the research culture concept. In literature, the components of research culture are ambiguous, with various, often contradicting sets depending on the authors' research aims and scope.

There is a definite gap in the knowledge that may impede further studies on the transformations in cultures of research taking shape throughout the world, mainly publications on open research culture (Ma et al., 2024; Sanabria-Z et al., 2024). Tucker & Tilt (2019) maintain that the notion of research culture is inclined to diverse interpretations. They underline "potentially serious ramifications" such interpretations cause for researchers and science. A more profound analysis may align research culture with high-quality research, research performance (Joynson, & Leyser, 2015), motivation for science and other significant aspects of science. There are many approaches to research culture that affect all major aspects of science from governance and funding to research process and performance (Johnson & Louw, 2014).

The search for scoping and systematic reviews in the research field brought a few reviews, though dwelling upon distinct aspects of research culture: open science culture of research (Kahn & Koralova, 2022); institutional citizenship, research cultures, and the role of the State in fostering them (John, 2011); and changing research cultures in U.S. industry (Varna, 2000). None was focused on the culture of research on its own.

The current review aims to build a generic architecture of research culture based on the relevant literature, and this systematic scoping review was conducted to answer the following research questions based on the PCC framework described below in the Method Section:

RQ1. What is the culture of research?

RQ2. What components does research culture entail?

METHOD

Transparency and Protocol

Before commencing the current investigation, we meticulously developed a research protocol. Beyond the enumerated deviations delineated subsequently, the authors

[1] Sage Terminology. Sage Social Science Thesaurus. URL:https://concepts.sagepub.com/vocabularies/social-science/en/ (accessed February 28, 2024); UK Data Service. Hasset Thesaurus. URL: https://hasset.ukdataservice.ac.uk/hasset/en/index/K

[2] The Royal Society. Research Culture. URK: https://royalsociety.org/news-resources/projects/research-culture/ (accessed February 28, 2024)

hereby certify that the present manuscript constitutes a faithful, precise, and transparent depiction of the research conducted; that all significant facets of the study are reported comprehensively; and that any departures from the original study design have been duly elucidated. The reporting of this systematic scoping review was conducted in accordance with the PRISMA guidelines to ensure methodological rigor.

Search Strategies

Search Sources

This review systematically interrogated the Scopus database to identify pertinent scholarly works.The two keywords "culture of research" and "research culture" were used to find the documents in the Scopus database. The literature search was executed over a period extending from February 20 to February 22, 2024. Concurrently, the bibliographies of the incorporated studies were meticulously examined to unearth supplementary studies of relevance.

Search Eligibility Criteria

The population/problem, concept, and context (PCC) were defined to establish an effective search strategy (see Table 1), with a rationale for each criterion. The population/problem component was not identified as the review did not focus on a specific condition or cohort.

Study Selection

Both reviewers independently assessed the titles and abstracts of the identified studies, marking them preliminarily for inclusion or exclusion. This initial flagging was subsequently cross-verified by both reviewers. Studies that met the criteria during the title and abstract review were earmarked for comprehensive full-text analysis, which constituted the next phase of study selection. Discrepancies between reviewers were meticulously examined and resolved through collaborative dialogue, culminating in a consensus.

Table 1

Eligibility Criteria

Criterion	Inclusion	Exclusion	Rationale
Problem	N/A	N/A	This component is irrelevant to the review
Concept	Definitions of research culture (=culture of research); components of research culture	Other concepts relating to research culture	The aim of the review is to build a generic architecture of research culture, defining research culture, identifying and classifying its components
Context	Environment of research culture (universities, research centres, journals); research policy at universities and research centres	Research culture at other educational levels and in business	Focus of the review is on research culture at universities and research centres, and factors fostering or negatively affecting the phenomenon
Language	English	Other languages	English serves as a lingua franca of international science
Time period	2019-2024	Before 2019	The review aims to show today's picture of research culture, the way it is understood and defined at present
Types of sources	Any types, full text	Unavailable sources, no access to full texts	The purpose is to gather all the sources possible
Geographical location	Any location	None	Getting international perspective
Database	Scopus	Other than Scopus	The Scopus database has an impressive international perspective both by countries and high-profile sources relating to the academe and research at large and research culture, in particular
Areas of Research	Social Science	Other Research Areas	The culture of research is thoroughly studied within social sciences

Data Extraction

To collect data systematically, our team designed a tailored data extraction form (Appendix 1). We conducted a preliminary test of this form using a subset of ten relevant studies to ensure accuracy. The form captured key details such as the corresponding author's name and country, publication year, study methodology, and journal title. Additionally, we noted whether each paper included a definition of 'research culture,' marking it as either present or absent. This encompassed both explicit definitions (e.g., «Research culture is characterized by…») and implied references. Furthermore, the data extraction form included separate columns to record information regarding the structural components and characteristics of the research culture, providing a multi-faceted perspective on each document's content.

For articles meeting our inclusion criteria, we carefully extracted sections describing the attributes and components of research culture. Initially, one reviewer performed this task, which was then validated by a second reviewer. Any discrepancies were resolved through consensus discussions. If a particular trait or characteristic of research culture appeared in multiple sections, we extracted a representative quotation for clarity.

Data Analysis and Synthesis

Our data analysis combined quantitative methods (e.g., calculating frequencies and proportions) with qualitative techniques (e.g., thematic content analysis). Initially, we compiled a list of potential features and elements of research culture through collaborative efforts. This list served as a framework for categorizing statements extracted from the articles. New categories were created as needed, and duplicate statements within articles were recorded only once. The focus was on thematic consistency rather than verbatim transcription.

In the subsequent analysis phase, redundant or synonymous categories were merged into overarching themes. Two reviewers systematically examined these themes to synthesize findings. An iterative coding process was employed, with each characteristic and component coded independently and refined through discussion. Consensus meetings were held regularly to finalize thematic categories and their definitions. Reviewers revisited the data to ensure alignment with agreed-upon themes. Finally, a comparative analysis of thematic assignments was conducted, resolving any discrepancies through consensus. Two distinct thematic outcomes emerged: categories representing various aspects of research culture and descriptors qualifying these aspects, often with positive or negative connotations.

RESULTS

Search and Study Selection Results

The following inclusion criteria were used as the Scopus filters: period 2019-2024; publication types – article, review, book chapter, and editorial; Social sciences (subject area); and English (language). The searches brought 39 and 246 documents respectively. All publications brought by the search for "culture of research" were duplicates of the publications included in the search results for "research culture". Visual scanning of the titles was first performed to eliminate the 105 publications that are not eligible for the review. The sample was reduced to 141 documents. Then the second scanning was applied to the abstracts of the 141 documents, decreasing the total to 104 publications. Thus, the research situated outside the environment described as "context" of the review was also eliminated. The full texts of 65 publications (out of 104 left after the abstract screening) were received both via open access and on request from their authors in the Research Gate Network. After extracting the data from the 65 full texts, another 14 publications were eliminated as we failed to find any data to the point. The final sample included 51 documents.

An additional search was conducted through the reference lists of the literature to encompass a broader range of publications pertinent to the objectives of this review. At this stage, the search strategy focused specifically on identifying publications in which authors explicitly and implicitly defined the culture of research or detailed its components.The selected publications added five documents to the review, including two articles, one review, and two editorials. All papers were published within the period stated in the inclusion criteria. All five publications are Social Sciences research. The data were retrieved from those publications following the same eligibility criteria. The supplemented publications brought the total of the full-text documents to 56.

The PRISMA flow-chart (Figure 1) depicts the identification and screening procedure.

A Bibliometric Analysis

The distribution of the ultimate 56 publications under review by year was the following: 2019 - 9; 2020 – 6; 2021 – 13; 2022 – 13; 2023 – 12; 2024 – 3 (incomplete data for the year). They included 48 articles, 1 book chapters, 5 editorials, and 2 reviews.

The most prolific authors were Borders, L.D.A; Dewey, J.; Dix, G.; Schuchardt, A.; Tijdink, J.; and Valkenburg, G. with two publications each. The other 136 researchers claimed to author one publication each, including co-authored papers.

Figure 1

Selection of Publications for the Review

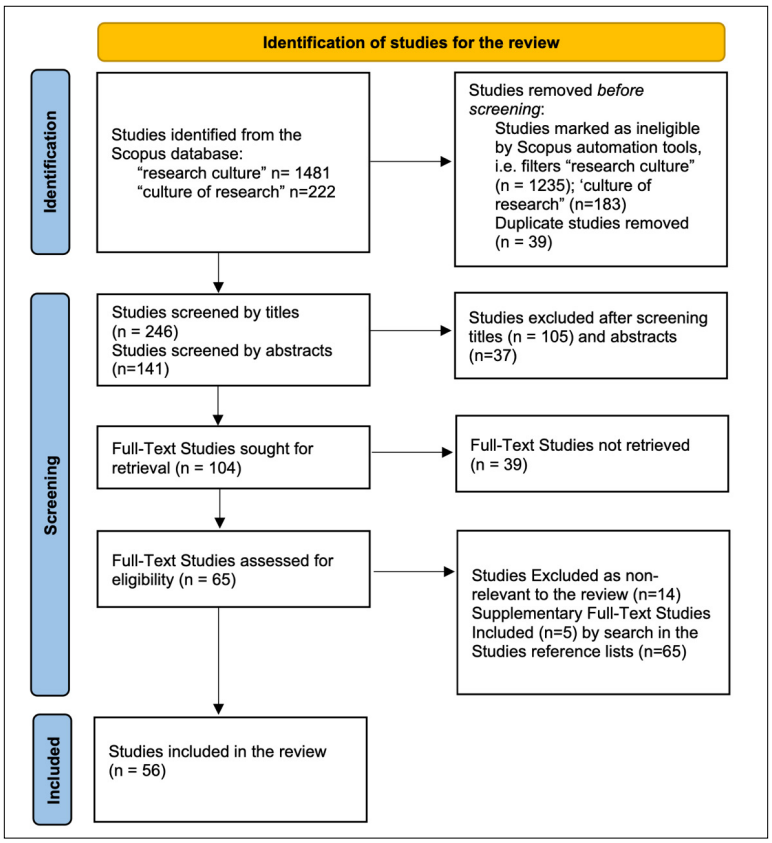
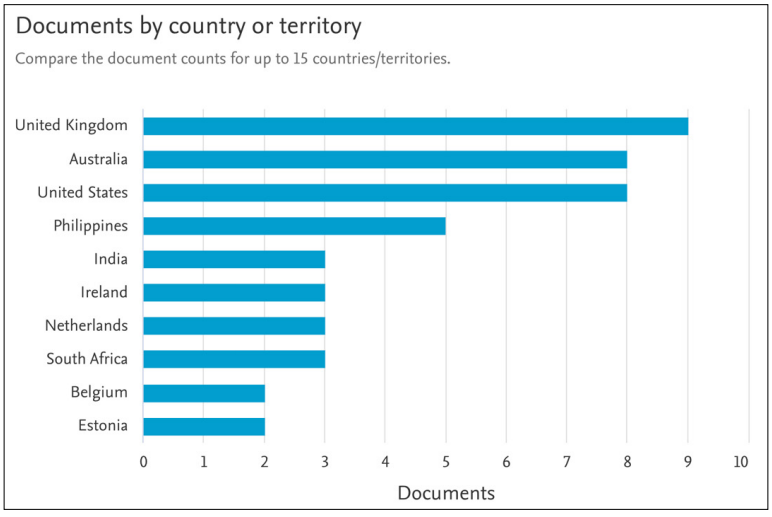


Figure 2

Scopus-Indexed Documents on Research Culture by Country or Territory



Note. Scopus Database as of February 28, 2024.

The geographic breakdown of the reviewed research covered the UK with 9 publications; Australia with 8 publications; the USA with 8 publications; the Philippines with 5 publications; India, Ireland, Netherlands, and South Africa with 3 documents each. The other 23 countries accounted for one to two publications each (Figure 2).

As for the affiliations, the top universities by number of publications (with two papers each) entailed Amsterdam UMC - Vrije Universiteit Amsterdam, Vrije Universiteit Amsterdam, RMIT University, Norges Teknisk-Naturvitenskapelige Universitet, the University of North Carolina at Greensboro, Cebu Normal University, Universiteit Leiden, University

of Oxford, University of Minnesota Twin Cities, Tartu Ülikool, and the Superior University, Lahore.

Though we filtered the search results by research areas (Social Sciences), some of the publications entered more than one area. Thus, all 56 papers were marked as Social Sciences research with 9 publications simultaneously attributed to Medicine; 8 papers to Business, Management, Accounting and Nursing each; 4 articles to Arts & Humanities and Biochemistry, Genetics and Molecular Biology each; and 3 to Health Professions and Psychology each.

The 56 publications of the review were distributed by type as follows: 48 articles, one book chapter, 5 editorials, and 2 reviews. The journals that had published the reviewed papers included *BMC Medical Ethics* (4 publications), *Accountability in Research* (2 publications), *CBE Life Sciences Education* (2 publications), *Counselor Education and Supervision* (2 publications), *Insights: the UKSG Journal* (2 publications), *International Journal of Evaluation and Research in Education* (2 publications), *Minerva* (2 publications), *Science and Engineering Ethics* (2 publications), and the other 36 journals with one publication each.

The authors' most often used keywords included "research culture" (27 publications), human (16 papers), humans (14 papers), article (9 publications), adult (7 publications), higher education (6 papers), questionnaire (6 publications), survey and questionnaires (6 publications), female (5 papers), human experiment (5 publications), male (5 papers), research personnel (5 papers). The other key words were listed by the authors four or fewer times.

Thematic Clusters

The VOSviewer software's analysis of the metadata from the 56 selected publications mapped out a structured landscape of thematic clusters, each color-coded to denote distinct realms of focus within research culture studies. The yellow cluster encompasses the educational and research contexts, delving into how various environments and pedagogical methodologies influence research productivity and academic pursuits. This cluster represents a critical examination of the factors that shape research outcomes within higher education settings.

The blue cluster centers around medical and biomedical research, indicating a rigorous engagement with research methodologies and the implementation of robust standards critical for medical inquiry. This includes the exploration of specialized techniques and ethical considerations unique to medical research, underscoring the need for methodological excellence.

The green cluster addresses the discourse on research ethics, examining the principles that guide researchers and students in maintaining academic integrity. This cluster is concerned with the ethical underpinnings of research practices and the measures taken to prevent misconduct, highlighting the importance of ethical norms in scholarly activities.

In the red cluster, the focus shifts to practical applications in medical schools, clinical studies, and human experiments. This area is indicative of the intersection where theoretical frameworks meet practical application, emphasizing the necessity of applying research findings to clinical settings and the intricacies involved in human studies.

Overall, these clusters illustrate the interconnectedness of various aspects of research culture, with each contributing to a comprehensive understanding of what fosters effective and ethical research practices. Notably, studies within the medical field traditionally pay close attention to the standards of research culture and its characteristics, promoting maximum transparency and objectivity in research endeavors. These considerations are essential for ensuring that research not only advances knowledge but also adheres to the highest ethical and methodological standards.

Defining "Research Culture"

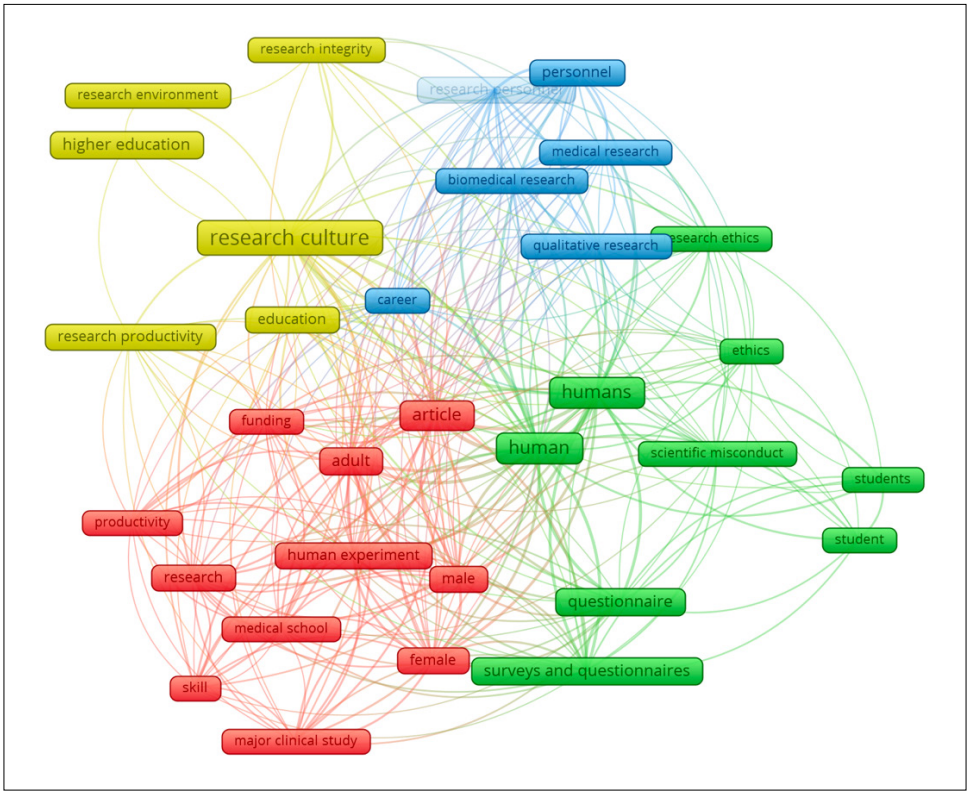
The analysis of 56 publications revealed that definitions of research culture were presented in 19 documents. These definitions were either formulated by the authors of the articles under review or were cited from other sources (Table 2). The two most popular definitions belong to The Royal Society of Science and Evans (2007) cited in 5 and 6 publications respectively. Both definitions have much in common, stating that values, behaviours (both definitions), and assumptions, beliefs, rituals (Evans, 2007) and expectations, attitudes, and norms (The Royal Society of Science) of the research communities (The Royal Society of Science) embody research culture.

Other definitions have much in common with the frontrunners (Nadeem, 2011; Canti et al, 2021; Puplampu, 2021; Kuhn, 1977; Dundar & Lewis, 1998; Deem & Brehony, 2000). Some researchers link research culture to organisational culture (Callard, 2023; Hill, 1999; Alison et al., 2017; Ryan & Hurley, 2007; Puplampu, 2021; Hopwood, 2002), or even an institutional framework (Evans, 2007).

We also found other approaches to definitions of research culture. Some complex definitions reflect an intricate nature of research culture. Adefuye et al. (2021) included actions, environment, and daily routine within an institution in research culture as perceived by the study's participants. Frias-Navarro et al. (2020) focused their definition on a set of actions carried out by all the stakeholders within scientific research and communication. From an agency position, university research culture is seen as an individual's capacity to conduct research (Lodhi, 2012). There are very broad definitions, including policies and practices affecting all aspects related to research (Dill, 1986). Research culture is solely linked to research performance (Dundar & Lewis, 1998) or knowl-

Figure 3

Visualizing the Thematic Clusters of the Reviewed Literature



edge production (Knorr Cetina, 1999). Some studies define research culture to prioritise research integrity (UKRI, 2022 as cited in Callard, 2023).

The 4 out of the 56 publications included in the review aimed to analyse perceptions of researchers regarding research culture. The perceived research culture as seen by the participants of those studies was described diversely (Table 3). The participants dwelt upon the following issues related to research culture: part of daily doing; an enabling and supportive environment; collective actions; unwritten guidelines; an atmosphere of continuous research; a love for doing research; the continuing curiosity to ask questions answerable by the scientific method; the ability to ask a question, investigate, research; working together to achieve a team goal and within the team, framework attaining personal goals; a positive environment where novice researchers are supported and developed by experienced researchers; the environment in which academics attempt to advocate the active increase of scientific/academic knowledge; an environment; collective actions; not easily defined; a way of conducting research; an abstract concept (Adefuye et al., 2021); an investment; a process; a norm (Olvido, 2020); institutional policy; research infrastructure; collaborations; departmental culture; faculty involvement in research; working conditions for research; professional support (Mtshali & Sooryamoorthy, 2019); an open and supportive environment; a willingness of people to engage with research; values that promote intellectual challenges; obtaining the support to publish in top journals; collegiality; it is intangible; a space (Tucker & Tilt, 2019). For more details, see Table 3.

The perceptions cannot be considered as definitions, as they are not based on research but on opinion, though in most cases the one of experts. Most participants in the studies above were qualified as experts as they were professional researchers. Anyway, they give an idea of the expectations, hurdles and impressions that are common within a research community. They may be treated as potential components of research culture eligible for filtering and classifying.

Components of Research Culture

Though we purposefully extracted all component-like pieces from the publications under review (Table 4), some of the definitions also enumerated components of research culture (Table 2): behaviours, values, expectations, attitudes, norms (The Royal Society of science, 2018), environment, collective actions encouraging the spread of knowledge (Adefuye et al. 2021), belief, assumptions (Nadeem, 2011), research integrity, push for more open science (UKRI, 2022), shared values and basic assumptions concerning research (Hill, 1999), policies of journals, institutions, accreditation agencies (Frias-Navarro et al., 2020), capacity to undertake research, including skills, attitudes, competencies, understanding, and willingness to do research (Lodhi, 2012), an investment, a process, and a norm; observable and meas-

Table 2

Definitions Extracted from the Reviewed Publications

	Definitions of research culture	Extracted from	Cited
1	Research culture encompasses the behaviors, values, expectations, attitudes, and norms of our research communities. It influences researchers' career paths and determines the way that research is conducted and communicated	Adefuye et al., 2021	The Royal Society of Science, 2018
2	A set of values, beliefs, assumptions, and behaviors related to the implementation of research that is collectively owned by an organization	Adefuye et al., 2021	Nadeem, 2011
3	A major factor influencing research productivity in an academic faculty	Adefuye et al., 2021	Bland & Ruffin, 1992
4	Research culture encompass[ing] the behaviours, values, expectations, attitudes and norms of our research communities	Callard, 2023	The Royal Society of Science, 2018
5	UK Research and Innovation (UKRI), the non-departmental public body of the UK government in charge of research and innovation funding, meanwhile, is using the term research culture to prioritise research integrity, prevent bullying and harassment, champion equality, diversity and inclusion, and push for more open research	Callard, 2023	UKRI, 2022
6	The term 'research culture' emerged from the concept of 'organisational culture', which developed out of research and publications by social scientists in the 1970s–1980s	Callard, 2023	
7	(a)"Do we mean an organisational culture in which research plays a significant role? Do we mean "the way we do research round here?" Or do we mean a culture of the type found in a petri dish [...] ?" (b) includes a system of shared values and basic assumptions concerning research	Canti et al., 2021	Hill, 1999
8	Research culture encompasses all behaviours, values, expectations, attitudes and norms of research communities	Canti et al., 2021	The Royal Society of Science, 2018
9	Research culture is the mere set of values and conducts observed in the context of the scientific and innovation process	Canti et al., 2021	
10	Academic scientific research has its own culture made up of distinct aspects that help identify it and distinguish it from other academic fields, such as history	Dewey et al., 2022	Taras et al., 2009
11	Research culture refers to a set of actions carried out by all the actors or agents that form part of scientific research and communication: policies of journals, institutions, accreditation agencies, and the entities that support or finance the studies (ministries, private entities), and researchers	Frias-Navarro et al., 2020	
12	A research culture is emerging but not yet clearly defined	Given et al., 2022	
13	An environment within an organisation that enables and supports research to generate new knowledge and opportunities to translate evidence into practice	Iweka & Hyde, 2023	Alison et al., 2017
14	An institution's research culture is the "shared values, assumptions, beliefs, rituals, and other forms of behaviors whose central focus is the acceptance and recognition of research practice and output as valued, worthwhile, and preeminent activity."	McCann & Schneiderman, 2019	Evans, 2007
15	Research culture encompasses the behaviours, values, expectations, attitudes, and norms of our research communities. It influences researchers' career paths and determines the way that research is conducted and communicated	McKenna, 2023	The Royal Society of Science, 2018
16	Research culture is defined as "a culture in which the application of evidence is valued, clinicians are encouraged to participate in research-related activities, opportunities are available for staff to acquire skills in research and evidence-based practice, research achievements are recognised and there is an investment of resources in research activity"	Migliorini et al., 2022	Harding et al., 2017
17	Scholars have defined university research culture (URC) in three main ways. Taking an agency position, some researchers define URC as "an individual's capacity to undertake research activities" (Lodhi 2012: 474). Capacity here comprises the individual's skills, attitudes, competencies, understanding, and willingness to do research.	Nguyen & Marjoribanks, 2021	Lodhi, 2012
18	From a structural lens, by contrast, some researchers consider URC as an environment in which research grows and multiplies (Ryan and Hurley 2007). Environment refers to a set of strategies a university develops and implements to foster research output.	Nguyen & Marjoribanks, 2021	Ryan & Hurley, 2007

	Definitions of research culture	Extracted from	Cited
19	From a third, cultural viewpoint, researchers define URC as "shared values, assumptions, beliefs, rituals and other forms of behavior whose central focus is the acceptance and recognition of research practices and output as a valued, worthwhile and preeminent activity" (Evans 2007: 2, as cited in Lodhi 2016)	Nguyen & Marjoribanks, 2021	Evans, 2007 as cited in Lodhi, 2016
20	Research culture defined as shared values, assumptions, beliefs, rituals, and other forms of behavior geared towards the acknowledgment of the value and significance of research practice and its outputs	Olvido, 2020	Evans, 2007
21	Research culture is defined through observable and measurable indicators, which forms part of what a phenomenon is	Olvido, 2020	
22	Research culture is evidence-based. Its existence can't be assumed, but it has to be proven. These pieces of evidence come in two major categories: inputs facilitated by research-driven policies, and outputs that reflect development-oriented outcomes	Olvido, 2020	
23	Shared values, assumptions, beliefs, rituals, and other forms of behavior geared towards the acknowledgment of the value and significance of research practice and its outputs	Olvido, 2021	Evans, 2007
24	The research culture and the organisational culture (of which it is a part) provide the milieu - values, behaviours, and practices - within which scholarly activity takes place	Puplampu, 2021	
25	Evans sees research culture as an institutional framework which places value on research activities and outputs	Puplampu, 2021	Evans, 2007
26	Research culture encompasses the behaviours, values, expectations, attitudes and norms of our research communities[1]	Silva, 2023	University of Aberdeen, 2023 → The Royal Society of Science, 2018
27	A research culture is a culture that looks towards new knowledge and new research for addressing problems identified by the research community, industry, social activists, the policy makers, and the public at large. Also, it incorporates a tradition of interrogating existing knowledge and exploring alternative ways of understanding issues from different perspectives	Silva, 2023	
28	Research culture has a status of conventional wisdom in academic accounting discourse, but the very term 'research culture' carries with it an implicit expectation of an 'ideal' way in which research outcomes within university accounting schools can be facilitated	Tucker & Tilt, 2019	
29	Productive researchers are likely to work within particular environments they consider are conducive to, and compatible with, generating 'good' research and research outcomes – something commonly referred to as a 'research culture'	Tucker & Tilt, 2019	Hopwood, 2002
30	Definitions of research culture tend to be broad so as to suggest a level homogeneity in understanding of the concept	Tucker & Tilt, 2019	
31	The set of values, beliefs and assumptions that a community of researchers has in common regarding the nature and conduct of research	Tucker & Tilt, 2019	Kuhn, 1977
32	Policies and practices affecting recruitment, workload, evaluation, collegial communication, leadership, and structure	Tucker & Tilt, 2019	Dill, 1986
33	The many, often subtle, 'point-sized' rules and customs of research activity picked up and repeated by organizational members until their actions 'blend' into a collective attitude	Tucker & Tilt, 2019	Hauter, 1993
34	A common perception about research held by the organization's members	Tucker & Tilt, 2019	Robbins et al., 1994
35	Shared attitudes and values in an academic unit as related to research performance	Tucker & Tilt, 2019	Dundar & Lewis, 1998
36	A pattern of basic assumptions about research – invented, discovered, or developed by a given group as it learns to cope with the external and internal problems of research – that has worked well enough to be considered valid and therefore, to be taught to new members as the correct way to perceive, think and feel in relation to research problems	Tucker & Tilt, 2019	Hill, 1999

[1] Though, the definition cited as made by University of Aberdeen, it originally belongs to The Royal Society of Science.

	Definitions of research culture	Extracted from	Cited
37	Disciplinary or interdisciplinary ideas and values, particular kinds of expert knowledge and knowledge production, cultural practices and narratives (for instance how research is done, and how peer review is exercised), departmental sociability, other internal and external intellectual networks and learned societies	Tucker & Tilt, 2019	Deem & Brehony, 2000
38	Shared values, assumptions, beliefs, rituals and other forms of behavior whose central focus is the acceptance and recognition of research practice and output as valued, worthwhile and pre-eminent activity	Tucker & Tilt, 2019	Evans, 2007
39	The degree of emphasis that an individual or organization puts on research as compared to other academic activities, like teaching, administrative work or an engagement with practice	Tucker & Tilt, 2019	Messner, 2015
40	Research Culture: thinking through "culture" and "practice" as twin notions that mediate the relation between individuals and the institutional contexts in which they act	Valkenburg et al., 2021	
41	Ellis (2015) identifies research culture as the realm where perverse publication incentives compromise integrity, notably through specific reward structures	Valkenburg et al., 2021	Ellis, 2015
42	In Anderson et al. (2007), the notion of culture emerges chiefly as a normative ideal of science, that is handed over to the individual through mentorship and education	Valkenburg et al., 2021	Anderson et al., 2007
43	Knorr Cetina (1999) has argued that cultures, at the level of research practices, engender specific styles of knowledge production, and therefore need to be attended to when explaining the production of scientific knowledge. She posits that three properties can be attributed to such research cultures	Valkenburg et al., 2021	Knorr Cetina, 1999

Table 3

Perceived Research Culture in the Reviewed Studies

	Perceived research culture	Extracted from
1	**Research culture is defined as perceived by the study's participants:** - *part of daily doing within an institution (i.e., actions);* - *an enabling and supportive environment that stimulates research and fosters mentoring;* - *collective actions that encourage the expansion of knowledge* *Some excerpt from participants' responses* - *Research culture, in my mind, refers to how research is 'part of daily doing' within an institution. It refers to how people talk about research, how they go about doing research, how they work toward promoting research, and how they are supported in research.* - *According to my understanding, research culture will be the manner "norm" in which individuals follow in the process of carrying out their research. More like unwritten guidelines that are there yet not formally communicated, but people have that sync relationship toward it.* - *An atmosphere of continuous research.* - *An enabling and supportive environment that stimulates research through critical thinking, questioning, curiosity, finding solutions to problems, trying something new, encourages research.* - *A love for doing research - motivating people to do it not because you are forced to, but because you enjoy it.* - *The continuing curiosity to ask questions answerable by the scientific method.* - *The ability to ask a question, investigate, research (sic). And get an answer.* - *Working together to achieve a team goal and within the team, framework attaining personal goals.* - *A positive environment where novice researchers are supported and developed by experienced researchers; continuous process until novice is experienced and process as a mentor begins.* - *Research culture refers to the environment in which academics attempt to advocate the active increase of scientific/academic knowledge.*	**Adefuye et al., 2021**

	Perceived research culture	Extracted from
	- *This environment or culture is dependent on factors, which may adversely affect or positively encourage the undertaking of research by individuals and entities within a broader context.* - *The collective actions of formal and informal social structures that directly or indirectly stimulate the expansion of knowledge through the intellectual exchange; and maintain the infrastructure and processes that underlie the development, refinement, and communication of new knowledge.* - *A research culture exists when persons willingly continue to engage with applicable research work with resultant outputs in the form of, e.g., publications in journals, book chapters, and even change in professional and educational practice.* - *Not easy to define -depends on what is meant. Broadly, research culture is required if research is to be a priority. For me, it would mean that research is considered essential and that the concept of research is nurtured, and researchers are considered as skilled scientists with ethical principles.* - *A way of conducting research that is determined by an ever-changing expanding set of values, attitudes, norms, and interpersonal factors. It is an abstract concept that is dynamic and is defined and determined by the research.* - *From opportunities to teach, develop your skills, and present your work, to networking and social events, alongside dedicated research student support facilities, you can find the resources to help you make a distinct and significant contribution to your field.*	
2	**Research culture is perceived to be:** - *an investment (evidence-based and consists of observable and measurable inputs and outputs);* - *a process (dynamic and built through internal and external interactions that are developmental and systemic);* - *a norm (distinct to the institution because standardization of practices is contextualized)*	**Olvido, 2020**
3	**Perceptions of institutional research culture:** - *Institutional policies for research agenda are in place* - *Forms policies for research benefits and incentives* - *Builds research culture through research committees* - *Builds research infrastructure* - *Employs adjunct professors* - *Research budget is provided* - *Initiates collaborations with other* - *Creates research chair positions* - *Departmental culture and working conditions for research* - *Faculty involvement in research* - *Programme director support for research* - *Allocation of more time for research* - *Professional support and guidance*	**Mtshali & Sooryamoorthy, 2019**
4	**Interviewees' definitions of research culture:** - *An open and supportive environment in which people are willing to share, challenge and critique ideas* - *A willingness of people to engage with research* - *An environment in which people do research – not because they have to, but because they want to* - *A setting in which people are genuinely passionate about research and are supported by the institution to pursue their interests which will ultimately be published* - *Where the ethos is that research is important, valued and rewarded* - *Values that promote intellectual challenges, cross-fertilization of ideas, and advancing thinking – and (most importantly), publishing* - *Obtaining the necessary support to publish in top journals*	**Tucker&Tilt, 2019**

Perceived research culture	Extracted from
- *Schools in which people get excited by the prospect of searching the unexplored – where intellectual curiosity is fostered, and encouraged for its own sake, and not just to satisfy short-term KPIs* - *Collegiality – being surrounded by colleagues who are ready, willing and able to help you do good research* - *A shared belief that doing good research is how you contribute to the fundamental aims of the Department* - *It is intangible but real. I think of it as a department/school giving primacy to the research mission. This is not to say that teaching/service are under-valued but research contribution becomes the currency of the realm in terms of reputation/influence/compensation* - *An environment that champions curiosity, intellectual stimulation and is appreciative of diversity* - *A space that enables inquisitive people are able to enquire, question, debate and discuss matters of importance to the discipline, the University, and society at large*	

Table 4

Components of Research Culture Extracted from the Reviewed Publications

	Components of research culture	Extracted from
1	Community, academic, managerial, and value-oriented functions of research	Adefuye et al., 2021
2	Data access and research transparency replication; openness and transparency across the following aspects of research design and reporting: Citation standards, Data transparency, Analytic Methods (Code) Transparency, Research Materials Transparency, Design and Analysis Transparency, Study Preregistration, Analysis Plan Preregistration, Replication; open data repositories	Basile et al., 2023
3	*Supportive personal traits* including determination, self-motivation, discipline, an internal drive; being an organized and detailed person; taking the initiative around research; natural curiosity; being willing to advocate for self-motivation;	Borders et al., 2019
4	*Career sustainability:* healthy competition, openness, mobility (in terms of diversified career paths), wellbeing	Canti et al., 2021
5	*Open research values*: accessibility reusability reproducibility collaboration transparency	Catt & Smith, 2023
6	*Many layers of research culture*: mainstream culture outside an institution overarching climate of different institutions departmental cultures microcultures created in research labs individual cultures	Dewey et al., 2021
7	*Three categories of research culture*: Practices, Norms/Expectations, Values/Beliefs	Dewey et al., 2022
8	*Three layers of collaborative research culture*: the roots of collaboration the fields of collaboration the fruits of collaboration trust and respect	Gasson & Bruce, 2019

	Components of research culture	Extracted from
9	Benefits and incentives research progress human resource management policy research policy research progress collaboration research funding	Ghozi et al., 2023
10	Networking, research collaborations, a research environment	Hartvigson & Heshmati, 2023
11	Research productivity	Heng et al., 2022
12	Indicators (key performance indicator; amount of research grant acquired, number of PhD students graduated, the number of intellectual properties registered); research capability; research productivity; research excellence; research assessment	Henry et al. (2020)
13	Domestic networks and various research associations research capacity individuals with a strong passion and dedication to research scientific collaboration (formal and informal)	Hoang & Dang, 2022
14	Research results (often measured by the quantity and quality of publications)	Johann, 2022
15	Research facilities a research-friendly climate institutional autonomy recognition academic staff competence time for research availability of financial resources	Kadikilo et al., 2023
16	A sense of belonging, shared purpose and mutual respect	Khuram, 2024
17	Responsible conduct of research	Laas et al., 2022
18	Research quality accountability to the research community and to society publishing in top journals obtaining research funding from prestigious institutions launching a groundbreaking book successfully funding launching a center of research excellence	Lindgreen et al., 2023
19	Nine areas for improving integrity: research environment, supervision and mentoring, research integrity training, research ethics structures, dealing with breaches of research integrity, data management, research collaboration, declaration of interests and publication and communication; characteristics of a responsible research climate: fair evaluation, openness, sufficient time, integrity, trust, and freedom are essential	Lõuk, 2023
20	Resources, rewards, sufficient work time, clear coordinating goals, size/experience/expertise, mentoring, communication, research emphasis, recruitment and selection of faculty, positive group climate, communication with a professional network, assertive-participative governance, development opportunities, and decentralized organization	McCann & Schneiderman, 2019
21	Autonomy and freedom; care and collegiality; collaboration; equality, diversity and inclusion; integrity and ethics; and openness and transparency (Science Europe) zero tolerances of inappropriate behaviour, a safe and supportive research environment, fair opportunities for career advancement, and common courtesy and kindness	McKenna, 2023
22	Three levels of research culture: organisation, team and individual	Migliorini et al., 2022

	Components of research culture	Extracted from
23	Institutional policies for research agenda policies for research benefits and incentives research committees research infrastructure employs adjunct professors research budget is provided initiates collaborations with others creates research chair positions departmental culture and working conditions for research faculty involvement in research programme director support for research Allocation of more time for research professional support and guidance	Mtshali & Sooryamoorthy, 2019
24	Skills, efficacy, values, institutional practices, and individual behaviours	Puplampu, 2021
25	Research productivity as part of research culture in higher education institutions	Rogayan & Corpuz, 2022
26	Research excellence	Salameh et al., 2022
27	Research integrity, research ethics, responsible conduct	Satalkar & Shaw, 2019
28	Responsible conduct of research methodological rigour, transparency, and fair peer review inquisitiveness and integrity	Valkenburg et al., 2020

urable indicators (Olvido, 2020), an institutional framework (Evans, 2007), rules and customs of research activity (Hauter, 1993), and basic assumptions about research (Hill, 1999).

The components of research culture offered by various researchers entail multilevel and heterogeneous items. It is explained by the complex nature of research culture. Neither a structure nor a classification of research culture components was detected in the publications under review. Attempts were made to offer a level-based structure, though simplified. As the extracted data proved, research culture may be composed of layers (Dewey et al., 2021) that included a combination of cultures of all research-related institutions and individuals. The other found approach included levels: organization, team, and individual (Migliorini et al., 2022).

DISCUSSION

Defining Research Culture

Though today many definitions of research culture exist, there are few more or less uniform wordings (The Royal Society of Science, 2018; Evans, 2007) with most offered before the period of the review (2019-2024) and cited in the reviewed documents (see Table 3). As we found out a majority of definitions are made up on the basis of some rationale or for an exact purpose. Focusing on part of research culture or concepts within or overlapping research culture tends to be linked to the aims of studies. On the whole, total universality of definitions is hardly approachable.

A uniform definition of the term provides for consistency in understanding and an interpretation of research culture in various academic and scientific environments. It facilitates compliance of research in the affiliated research field and increases the research comparability. When researchers and research institutions stick to uniform perceptions of the term, their communication and collaboration become more fruitful even when it comes to different disciplines and national cultures. This aspect grows in its importance in the context of international interdisciplinary research projects and teams. The clear and comprehensive definition supports educational institutions and policymakers in forging their strategies aimed at cultivating and fostering a healthy, non-toxic research culture. Innovations and progress in science can be attained only in such a culture.

Framework of Research Culture Components

Though only a few studies in the review aimed to build up a structure of research culture, all boiled down the structure to several components: three categories – Practices, Norms/Expectations, Values/Belief (Dewey et al., 2022); three layers of collaborative research culture – The roots, the fields, and the fruits of collaboration (Gasson & Bruce, 2019); and layers of research culture – mainstream culture outside an institution, overarching climate of different institutions, departmental cultures, microcultures created in research labs, and individual cultures. The findings are in close compliance with the previous research where a framework of the development of a research culture was constructed in the similar tune and entailed three domains: (1) The three missions of the university – "Trifocal function University"; (2) the individual researcher's knowledge, skills, values, and attributes

– "Individual attributes"; (3) all characteristics of the university – "Institutional Attributes and Policies" (Johnson & Louw, 2014).

An endless list of components put up above as our finding brought us to a challenge to build up a framework, covering all components in terms of both levels and concepts. The methodological problem of such a classification of components is linked to heterogeneity and diversity of components. All the enumerated components both as part of definitions and extracted from the publications as components may be boiled down to the following groups (see Table 4).Thus, the major groups of research culture components embrace stakeholders (agents), values, behaviours, capacities & personal traits, environment, policies, processes, assessment & indicators, and research performance. All the groups are applicable to institutions, teams and/or individuals. The central group "Stakeholders" is influenced by the three groups above – "Behaviours", "Values", and "Capacities & Personal Traits". The groups on the right and left – "Environment", "Processes", "Assessment & Indicators", and "Policies" – form the research conditions. The group below "Stakeholders" is "Research Performance". Its components describe all outcomes and contributions.

While selecting all the structure-related items, we classified all key components and more detailed elements that formed part of the bigger groups throughout the review findings. For instance, determination, self-motivation, discipline, and internal drive (Borders et al., 2019) were included as an integral part of personal traits.

Structure of Research Culture as Reflected in Its Conventions

Though definitions may be approached differently - from an agency position, through a structural lens, and from a cultural viewpoint (Nguyen & Marjoribanks, 2021), we came down to thinking that a comprehensive definition should be a complex description combining all of them. Based on the findings of this review and our extrapolated notion of the concept, we have come to the following definition of research culture. *Research culture* entails stakeholders (an agent perspective) related to research in their interactions with values, behaviours, capacities & personal traits, environment, policies, processes, and assessment & indicators, resulting in research performance (structural and cultural approaches).

Better understanding of research culture results in more efficient instruments of assessment and improvement of research practices in educational institutions and research organisations. It is vital for higher-quality research performance, more attractive and efficient instruction and training. Based on a clear-cut and deep comprehension of research culture components, universities and research institutions are able to carry out and implement measures that support building and fostering research culture. The latter provides for growing academic communities and their sustainability in the long term.

Limitations and Further Research

Possible omission of relevant studies might have occurred due to the exclusion of non-English language studies. Another limitation arises out of the 5-year period of the reviewed publications. The results show that many authors thoroughly analysed the studies on research culture published during the previous 30 or more years. Those publications are widely cited in today's research. A review of publications dated back to the 1990s and later may add to the general understanding of the field. Although the Scopus database is comparatively comprehensive, other bases may broaden today's views of the problem field.

CONCLUSION

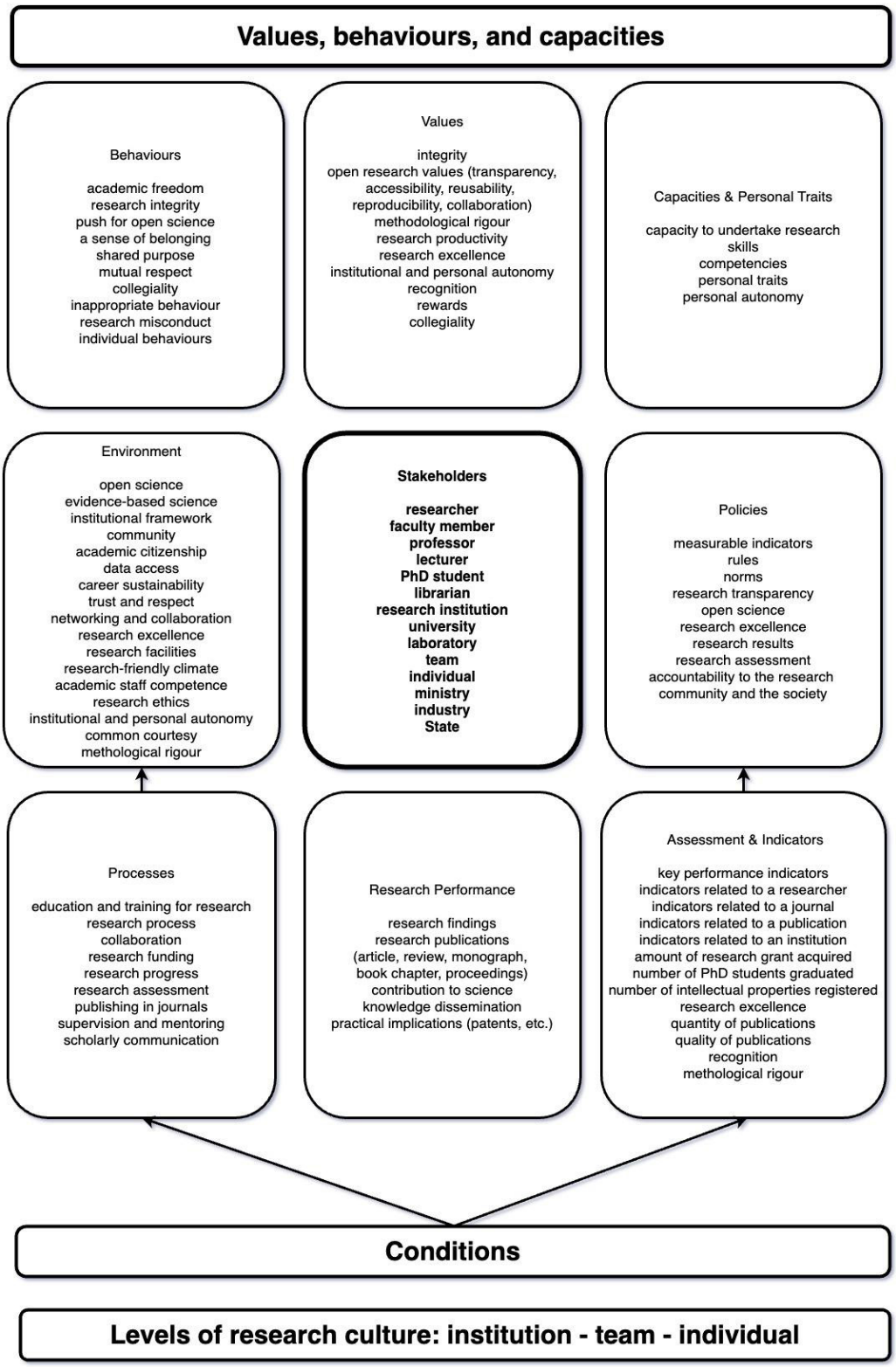
The exploration of the concept of research culture, an area of inquiry that has evolved over decades from the 1980s to the present, has recently intensified. This intensification is due to significant transformations within the research culture that impact all involved stakeholders. Our review successfully achieved its objectives and provided clear responses to the posed research questions, thereby enriching the academic discourse on this topic.

The study revealed that while the definitions and components of research culture identified were often fragmented and occasionally incomplete, they predominantly adhered to cultural, organizational, structural, and object-oriented approaches, aligning with the specific aims of the research from which they were drawn. Despite this fragmentation, our comprehensive analysis enabled the formulation of a more nuanced definition of research culture, capturing its multifaceted nature more effectively.

Furthermore, we developed a structured framework that categorizes the major components of research culture, which provides a clearer understanding of its complex dimensions. This framework and the insights gained from this nt academic and organizational needs.

Figure 4

Framework of Research Culture Components



AUTHORS' CONTRIBUTION

Elena Tikhonova: conceptualization, data curation, formal analysis, investigation, methodology, resources, software, validation, visualization, writing – original draft, writing – review & editing.

Lilia Raitskaya: conceptualization, data curation, formal analysis, investigation, methodology, resources, software, validation, visualization, writing – original draft, writing – review & editing.

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Investigating the Challenges and Strategies of Thai University Students in Mastering English Idioms

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ABSTRACT

Background: The acquisition of English idiomatic expressions is a critical aspect of language proficiency that unquestionably contributes to the improvement of effective communication skills. A number of studies have been conducted in the field of English idioms; however, there are still unanswered questions in this area. Since learning English idioms is a complex process, further investigation is needed, especially among students learning English as a Foreign Language (EFL) in the specific educational milieu of a university setting.

Purpose: This study investigated the attitudes of Thai university students towards the importance of learning English idioms. In addition, it examined the challenges faced by these students in learning and comprehending English idioms, along with the effective strategies employed to overcome the difficulties.

Method: This study adopted a descriptive research design involving 50 fourth-year English major students (12% male, 88% female) from a university in southern Thailand. A survey questionnaire on a five-point Likert scale adapted from Orfan (2020) was used to collect the data from the participants.

Results: The findings demonstrated that Thai university students had a positive attitude towards the importance of learning idioms and recognized the critical role they play in successful communication in English. Nevertheless, they faced various challenges when learning English idioms. They reported that idioms were challenging to grasp when taken out of context, and they faced difficulties due to their limited knowledge and cultural background. The participants in the study also reported utilizing different strategies to learn and comprehend idioms, such as guessing the meaning of idioms, using descriptive definitions in English, and memorization.

Conclusion: This study offers valuable insights for both educators and researchers, serving as a foundation for the development of more efficient language teaching methodologies and promoting cross-cultural understanding in language acquisition.

KEYWORDS

Communication skills, English idioms, learning difficulties, learning strategies, Thai students

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INTRODUCTION

The acquisition of idioms confers significant advantages upon language learners, contributing to the enhancement of language proficiency and communicative competence (Bortfeld, 2003; Erman & Warren, 2000; Nation & Meara, 2002). Extensive research has been dedicated to investigating English idioms across diverse contexts. However, the focal point of the majority of these studies has been the examination of native English speakers' abilities to comprehend idiomatic expressions, primarily among children and adolescents in Australia and South America (Nippold & Taylor, 2002; Qualls & Harris, 2003). A subset of studies has also explored age-related discrepancies in processing and interpreting idioms among adults in Southern California (Hung & Nippold, 2014) and Caucasian middle- and late-adulthood participants (Szepietowska & Filipiak, 2021). Regarding EFL/ESL students, Aljabri (2013) conducted a meticulous analysis of various factors that could potentially influence the comprehension of English idioms, including familiarity, transparency, and context involving male students in

Saudi Arabia. Additionally, a handful of studies have delved into the challenges faced by students in learning and comprehending English idioms, aiming to identify effective pedagogical approaches that enhance their comprehension and utilization of idiomatic expressions in the contexts of Indonesian, Afghan, and Vietnamese students (Arifuddin et al., 2020; Orfan, 2020; Phan et al., 2022; Saleh & Zakaria, 2013).

The field of English idioms has been the subject of a number of studies; however, there are still questions that have not been answered in this area. The vast majority of research has been carried out in settings other than Thailand, which is something that should be taken into consideration. According to Hu and Chen (2007), in order to acquire a comprehensive understanding of the subject matter, it is necessary to conduct research in a variety of cultural settings. As EFL learners, Thai students may also encounter numerous challenges, particularly in understanding and mastering idiomatic expressions. Asri and Rochmawati (2017) have emphasized that idioms pose significant difficulties for EFL students because they are figurative and culturally specific. Consequently, the learners often resort to avoiding idioms in conversation, despite their usage being indicative of advanced English proficiency (Liu, 2008). Thus, more research is required to gain a better understanding of this intriguing and intricate issue.

The present investigation seeks to bridge the gaps in the literature by scrutinizing the perspectives of Thai tertiary students towards the acquisition of English idioms. This study endeavors to delve into the complexities associated with comprehending and learning these phrases by Thai university students, as well as the difficulties they may encounter during the process. The research also aims to identify the most effective strategies that students may utilize to facilitate their understanding of English idioms. The findings of this study hold significant potential to benefit pedagogical practices in English language education. The insights and recommendations gleaned from this research could assist English language teachers in developing and implementing innovative and targeted teaching strategies that focus on English idioms. By doing so, students will have the opportunity to enhance their communication skills and fluency in English, both of which are essential for academic and professional success in today's interconnected world. The study is guided by the following research questions:

(1) How do Thai university students perceive the importance of learning English idioms?

(2) What are the sources of difficulties encountered by Thai university students in learning and understanding English idioms?

(3) What strategies do Thai university students commonly use to learn English idioms?

LITERATURE REVIEW

Definition of Idioms

The literature contains numerous definitions of idioms, illustrating their diverse nature. Larson (1984) astutely described idioms as strings of words whose meaning goes beyond that of their individual parts. This insightful observation underscores the idea that idioms cannot be understood through a strictly literal interpretation; instead, one must grasp their figurative or symbolic connotations (Grant & Bauer, 2004; Cieślicka, 2015; Littlemore & Low, 2006). According to Alexander (1987), idioms are multiword units that require comprehensive learning along with a deep comprehension of related sociolinguistic, cultural, and pragmatic usage patterns. This nuanced explanation suggests that idioms go beyond mere linguistic constructs and are significantly influenced by sociocultural and pragmatic factors (Türker, 2019). The contrast between these viewpoints highlights the complexity and depth of idiomatic expressions, underscoring their significance in language and human communication.

Similarly, Richards and Schmidt (2013) identified idioms as expressions that function as a single unit and whose meaning cannot be derived from their constituent parts. This underscores the idea that idioms cannot be deconstructed into individual words or phrases, and their meanings are not directly linked to their component elements. Furthermore, Al-Kadi (2015) proposed that idioms are expressions that cannot be literally translated, as their meanings cannot be predicted from the usual meanings of their constituent parts. This particularly applies to idioms with political, historical, or socio-cultural backgrounds, as their meanings are strongly influenced by the context in which they are used. In essence, idioms represent a complex linguistic phenomenon that demands a nuanced understanding of both their linguistic and sociocultural context to fully grasp their meaning.

Learning Idioms

The acquisition and proficient use of idioms play a significant role in the effective communication of EFL learners. The ability to use idioms in natural and conversational language is essential to facilitating fluency and authenticity in communication (Tadayyon & Ketabi, 2014). Learning idioms enhances foreign language learners' understanding of the culture of the target language, thereby broadening their knowledge of the target society's values, beliefs, and norms (Dobrovol'skij & Piirainen, 2021; Glucksberg, 2001). Additionally, Liu (2017) notes that the accurate use of idiomatic expressions by EFL learners indicates their level of communicative competence. Therefore, the acquisition and proper use of idiomatic expressions by EFL learners not only enhance their language proficiency (Al-Mohizea, 2017) but also enable them to interact effectively and appropriately in different social contexts.

EFL learners face a plethora of challenges when learning and comprehending idiomatic expressions. These difficulties may stem from the varying degrees of formality associated with different idioms, as well as the presence of literal equivalents for many idiomatic expressions. As noted by Al-Khawaldeh (2016), these factors may lead to uncertainty in determining whether to interpret idioms figuratively or literally in specific contexts. Additionally, EFL learners may struggle with the arbitrary nature of idioms, which are non-literal phrases whose meanings cannot be inferred from the literal meanings of their constituent words (Aljabri, 2013). As highlighted by Hussein et al. (2011), this can present significant obstacles for EFL students in their attempts to learn and comprehend idiomatic expressions. Cultural differences can also play a role in the difficulty EFL learners face in acquiring idiomatic expressions, as some idioms are heavily dependent on cultural knowledge for their interpretation (Türker, 2019; Orfan, 2020). In light of these challenges, it is crucial for EFL instructors to design pedagogical strategies that take into account the complexity of idiomatic expressions and the diverse factors that affect their acquisition and comprehension.

Several strategies have been suggested in the literature to aid EFL learners in acquiring idioms effectively. One such strategy is exposure to idiomatic expressions in context. Karlsson (2019) points out that the more often EFL learners are exposed to idioms, the better their chances of comprehending and using them fluently in their communication. It is not sufficient for learners to encounter idioms just once. Instead, they should experience them in diverse contexts to develop a deeper understanding of their usage (Nation, 2001). Another approach that may prove helpful is guessing the meaning of idioms from context (Zyzik, 2009). According to Liu (2008) and Webb (2007), contextual knowledge can facilitate the comprehension of idioms quickly. However, Boers and Lindstromberg (2008) suggest that this method can have its drawbacks, as learners may overestimate their comprehension of the idioms. Memorization is another strategy that EFL learners can employ to learn and comprehend idiomatic expressions. This technique is deemed effective, especially when learners have prior knowledge of the target language (Ding, 2007). Furthermore, SelvaRaj and Hua (2019) argue that students require more contemporary, effective, and efficient methods of idiom acquisition.

Previous Studies

Over the years, there have been several investigations into the comprehension and usage of English idioms. A notable example is the research conducted by Saleh and Zakaria (2013), which examined the difficulties experienced by Libyan students in learning English idioms, as well as the techniques they used to grasp their meanings. The researchers employed a questionnaire to collect data from a sample of forty Libyan students studying different fields. The study established that a lack of cultural familiarity with idioms and limited exposure to them were the major hindrances to EFL students' comprehension and usage of idioms. Furthermore, the results revealed that the most frequently adopted approach by students to comprehend idioms was to guess from context. Similarly, Smadi and Alrishan (2015) conducted a study to explore the methods utilized by graduate students of English language and literature in translating English idioms into Arabic. The study involved collecting data from 90 students enrolled in Yarmouk University's master's program in translation. The findings showed that the participants primarily translated English idioms into Arabic using direct translation and paraphrasing. These findings highlight the challenges that students face when learning idiomatic expressions, especially those that are culture specific. The use of direct translation and paraphrasing could result in inaccurate translations and poor comprehension, which could negatively impact communication in both academic and non-academic settings. Moreover, Arifuddin et al. (2019) examined the level of idiomatic expression mastery among hospitality and tourism students in Indonesia. It showed the low level of the students' abilities in mastering idiomatic expressions due to no idiomatic expressions teaching and a lack of familiarity with strategies for understanding idiomatic expressions. This study suggests improvements in the quality of English language teaching, especially in hospitality and tourism education. Furthermore, Orfan (2020) conducted an extensive investigation among Afghan EFL students to explore their attitudes towards learning idioms, the difficulties they encountered while acquiring idiomatic expressions, and the strategies they used to cope with these challenges. The research findings indicated that the students exhibited a positive outlook on the significance of mastering idiomatic expressions in English. However, they faced various challenges in comprehending and utilizing these expressions, primarily due to a lack of cultural knowledge that underlies idioms, a dearth of equivalents for English idioms in their native language, and an unfamiliarity with the vocabulary used in idioms. To overcome these obstacles, the students resorted to a range of strategies, such as integrating idioms in sentences, predicting their meanings, and using English idioms for effective communication outside the classroom setting. The study highlights the significance of providing ample opportunities to Afghan EFL students to practice using idioms both inside and outside the classroom.

A recent empirical investigation carried out by Anjarini and Hatmanto (2021) unveiled an array of challenges faced by Indonesian students in comprehending English idioms. Specifically, the findings demonstrated that the learners perceived the process of deciphering the meanings of English idioms and distinguishing them from ordinary English phrases as an arduous task. Among the factors identified as contributing to this difficulty was a lack of adequate classroom discussions on English idioms, which resulted in insufficient exposure and practice for the students. Nonetheless, the study revealed that the students devised several strategies to facilitate their comprehension of English idioms.

For example, some participants reported utilizing online resources to explore the meanings of English idioms, while others relied on understanding the idioms' context and relating the idioms' meanings to their first language. These strategies can be considered practical and effective, as they assist learners in bridging the gap between their native language and the target language. Another recent study was conducted in Vietnam by Phan et al. (2022). The findings of the study indicated that a significant proportion of students encounter challenges in the process of acquiring, recognizing, and interpreting idiomatic expressions. Furthermore, it is noteworthy that there were no substantial disparities observed in the difficulties encountered by students with varying levels of proficiency.

In Thailand, the exploration of the challenges faced by students and the strategies they employ while learning English idioms has been relatively limited. However, an important study conducted by Ranong (2014) shed light on this crucial aspect by investigating non-English major students with varying English proficiency levels. The findings revealed a diverse array of techniques utilized to comprehend idioms, ranging from interpreting literal meanings and leveraging contextual cues to identifying key elements within the idiom phrases. Moreover, the nature of the idiom itself emerged as a pivotal factor influencing comprehension levels.

Despite the existing recognition of the significance of mastering English idioms, there remains an undeniable need for a better understanding of this intriguing subject, especially in the context of Thai EFL learners. Consequently, this research endeavors to address this gap in knowledge by delving into the obstacles faced by Thai English major students when learning English idioms and examining the strategies they employ. Such an inquiry promises to enrich the current literature on second language acquisition and, significantly, will offer valuable insights to educators in devising highly effective instructional approaches. By bolstering the scholarly foundation in this area, the study seeks to establish a compelling case for the importance of nurturing idiomatic competence in English language learners.

METHOD

Research Design and Procedure

This study adopted a descriptive research design to thoroughly investigate the attitudes of Thai university students towards the significance of mastering English idioms. Furthermore, it provided an analysis of the challenges faced by these students in learning and comprehending English idioms, along with the effective strategies employed to overcome them. The research procedure was carried out in four distinct steps: the development of precise research instruments, participant recruitment, the implementation of the instruments and data collection process, and ultimately, the data analysis phase. By employing this approach, the study sheds light on the critical role of English idioms in the academic and social contexts of university students, making it a valuable contribution to the field of language education.

Context and Participants

The context of this study was an autonomous university located in the south of Thailand. A convenience sampling method was employed to select the participants. It is an ingenious non-probability technique specifically designed to identify research subjects that are readily within reach of the researcher (Given, 2008). This method, also referred to as accidental sampling, meticulously incorporates individuals from the target population who satisfy essential practical criteria, including effortless accessibility, proximity, availability during the designated timeframe, and a genuine enthusiasm to participate, thus ensuring the study's effectiveness (Dörnyei, 2007). The research objectives were explained to the participants prior to data collection. The participation was entirely voluntary, and it had no bearing on the participants' grades or academic results. 50 fourth-year English major students (12% male, 88% female) agreed to participate in this study by completing a consent form. They were aged between 21 and 23. According to the Common European Framework of Reference for Languages (CEFR), these students possessed English competence levels A2-B2. These students have taken some courses related to English communication skills, such as English listening and speaking, varieties of English, a seminar on cross-cultural issues, etc. They were also taught by Thai and foreign lecturers. It was agreed that the participants' real names would be kept confidential and that they would be identified using pseudonyms.

Research Instruments

This study used a questionnaire to collect the data. It was adapted from Orfan (2020), which explored the acquisition of English idioms among Afghan EFL students. Some items were modified to make them more relevant and understandable to Thai university students. It comprised 24 items on a five-point Likert scale: 1 (strongly disagree), 2 (disagree), 3 (neutral), 4 (agree), and 5 (strongly agree), asking Thai students' about the importance of learning English idioms, their difficulties, and strategies for learning and understanding English idioms. The questionnaire items were translated into Thai and checked by native Thai speakers for their validity.

Data Collection and Analysis

In this study, the questionnaire was administered online using Google Form. The data were analyzed using a statistical program. First, the reliability of the questionnaire items was checked using Cronbach's Alpha. The analysis showed acceptable and high Cronbach's Alpha coefficients for each sub-scale and overall questionnaire items, as shown in Table 1.

Afterwards, descriptive statistics were used to determine the mean and standard deviation of the data to answer the research questions. The criteria for interpreting the mean values of the students' responses to the questionnaire were identified by the ratings (Oxford, 1990), as explained in Table 2.

RESULTS

The Importance of Learning English Idioms

The primary focus of the initial inquiry was to delve into the perspectives of Thai university students concerning the significance attributed to the acquisition of English idioms. The analysis results, showcased in Table 3, illustrate that a substantial majority of students hold the conviction that mastering English idioms holds paramount importance (M = 4.39, SD = .46). These findings undeniably advocate for the incorporation of English idioms as integral teaching materials within English courses (M = 4.52, SD = .61). The respondents also overwhelmingly expressed their belief that the acquisition of English idioms stands as a catalyst for enhancing their communicative prowess (M = 4.44, SD = .70), fostering a more profound comprehension of the target culture (M = 4.40, SD = .60), and navigating the intricacies of everyday language (M = 4.36, SD = .61). Moreover, the students' discernment extends to recognizing that mastering English idioms has the potential to elevate their speaking (M = 4.32, SD = .68), listening (M = 4.44, SD = .64), reading (M = 4.44, SD = .64), and writing proficiencies (M = 4.22, SD = .76).

Table 1

Cronbach's Alpha Coefficients

Sub-scale	N of items	Cronbach's Alpha
Perceptions on the importance of learning English idioms	8	.844
Difficulties in learning and understanding English idioms	8	.867
Strategies in learning and understanding English idioms	8	.778
Overall	24	.897

Table 2

Interpretation of the Mean Values

Responses	Mean values	Interpretation
Strongly disagree	1.00 – 1.49	Low
Disagree	1.50 – 2.49	Moderate
Neutral	2.50 – 3.49	Moderate
Agree	3.50 – 4.49	High
Strongly Agree	4.50 – 5.00	High

Table 3

The Importance of Learning English Idioms

Items	Mean	Std. Deviation
Teaching English idioms in English classes is important.	4.52	.61
It is essential to encourage EFL students to learn idioms in order to communicate effectively.	4.44	.70
Knowing English idioms enables me to understand better everyday language.	4.36	.69
Knowing English idioms help me better comprehend the target culture.	4.40	.60
To improve my speaking abilities, I need to learn how to use English idioms in oral communication.	4.32	.68
It is important for me to understand English idioms in order to comprehend the listening materials better.	4.44	.64
Understanding English idioms enables me to comprehend reading texts more effectively.	4.44	.64
To improve my writing skills, I need to learn how to use English idioms in written communication.	4.22	.76
Overall	4.39	.46

Difficulties in Learning English Idioms

The subsequent inquiry sought to elicit candid reflections from students concerning the challenges they grapple with in the process of comprehending and assimilating English idioms. The discernments revealed that an overwhelming majority of participants encountered notable hurdles in understanding and internalizing English idioms (M = 4.04, SD = 0.63). As delineated in Table 4, the hurdles are intricately interwoven with three predominant factors. Primarily, the students underscored the formidable nature of mastering English idioms in the absence of contextual cues (M = 4.30, SD = 0.86). Additionally, they emphasized the formidable impediment posed by an insufficient acquaintance with the intricacies of these idiomatic expressions (M = 4.26, SD = 0.82). Equally salient was the revelation that the paucity of cultural context substantially contributed to the hindrances encountered in comprehending and embracing English idioms (M = 4.22, SD = 0.73).

Strategies to Learn English Idioms

The final research facet sought to illuminate the strategies adopted by Thai university students to navigate the terrain of learning and understanding English idioms. Evidently, a constellation of illuminating strategies surfaced, as conspicuously depicted in Table 5. Foremost among these was the commendable practice of intuitively inferring meanings from the context (M = 3.92; SD = 0.96). Simultaneously, the use of descriptive definitions in English was discerned as another indispensable tool in their arsenal (M = 3.88; SD = 0.84). Notably, a not-insignificant reliance on rote memorization as a means of assimilation was discernible (M = 3.82, SD = 0.91). It is worth accentuating that the least preferred method of engagement in this pursuit was participation in group dialogues (M = 3.26, SD = 1.0).

Table 4

Difficulties in Learning English Idioms

Items	Mean	Std. Deviation
Idioms are difficult to understand due to a lack of cultural context.	4.22	.73
Idioms are difficult to comprehend due to a lack of knowledge with them.	4.26	.82
Idioms are challenging to learn because they are not included in the course syllabuses.	4.18	.77
Idioms are challenging to learn because they are not well taught in English classes.	4.04	.72
Idioms are difficult to learn because the cultural courses I took were ineffective.	3.52	1.09
Idioms are difficult to learn because they contain unfamiliar words.	3.90	1.03
Idioms are difficult to understand because they do not exist in my first language.	3.94	.95
Idioms are difficult to understand when there is no context.	4.30	.86
Overall	4.04	.63

Table 5

Strategies to Learn English Idioms

Items	Mean	Std. Deviation
I learn idioms by constructing them into sentences.	3.76	.91
I make guesses about the meaning of idioms.	3.92	.96
I learn idioms by referring to key words.	3.76	1.0
To understand idioms, I translate the literal meaning into my first language.	3.76	1.0
I acquire idioms by having a conversation in English outside of the classroom.	3.72	.97
To learn idioms, I use descriptive definitions in English.	3.88	.84
I learn idioms by memorizing them.	3.82	.91
I learn idioms by participating in group discussions.	3.26	1.0
Overall	3.73	.60

DISCUSSION

The primary objective of the present investigation was to examine the perceptions of Thai university students concerning the relevance of acquiring English idiomatic expressions. Furthermore, this study aimed to identify the challenges that students face in comprehending and learning these complex linguistic structures, as well as the strategies employed to overcome these difficulties. To begin, the findings of this study demonstrated that Thai university students exhibit a highly positive attitude towards the importance of acquiring English idioms, which is in line with the results of previous research conducted by Orfan (2020) on Afghan EFL learners. Moreover, the current study revealed that Thai students recognize the essential role of mastering English idioms for effective communication. The finding aligns with the views provided by Liu (2017) and Tadayyon and Ketabi (2014), who carried out research with students from China and Iran.

The investigation provided further evidence that Thai undergraduate learners encountered various difficulties when attempting to comprehend and learn English idioms, consistent with the discoveries of previous studies among Indonesian and Vietnamese students (Anjarini & Hatmanto, 2021; Arifuddin et al., 2019; Asri and Rochmawati, 2017; Phan et al., 2022). Participants acknowledged that idioms were challenging to understand without context, and that their limited proficiency and cultural background posed significant obstacles. These findings align with previous research, including Saleh and Zakaria's (2013) and Smadi and Alrishan's (2015), which identified a lack of familiarity with idioms and minimal exposure as significant hindrances to Libyan and Jordanian students' ability to comprehend and use idioms. Mäntylä's (2004) study also supports these results, indicating that developing idiomatic knowledge is essential for mastering English idioms with accuracy and efficiency.

The outcomes of this study revealed that Thai university students utilized a range of techniques to comprehend and acquire English idioms, with the most commonly utilized techniques being conjecturing the meanings of idioms from the context. In addition, they employed descriptive definitions in English. This strategy involves breaking down idiomatic expressions into their constituent parts and providing detailed explanations in English. The last technique most frequently used was memorization. According to Ding (2007), memorization proves to be a highly successful approach for EFL learners in grasping and comprehending idiomatic expressions, particularly when they possess prior familiarity with the target language. Curiously, the method of participating in group discussions to learn idioms was the least frequently used strategy by Thai university students. These results partly corroborate Orfan's (2020) investigation, which observed that Afghan undergraduate students used memorization as the least effective approach for learning English idioms. The current findings lend credence to the significance of implementing various pedagogical approaches to cater to the varying needs and preferences of learners.

Pedagogical Implications

The results of this study have substantial implications both within the study's specific context and on a global level. The positive attitude Thai students displayed toward the value of learning English idioms within the context of this inquiry emphasizes the significance of idiomatic knowledge in the process of language acquisition. This is consistent with prior research and emphasizes the widespread belief that acquiring proficiency in idioms is essential for effective communication. It indicates that educators in Thailand can utilize this optimistic mindset to develop more captivating and efficient instructional approaches that integrate idiomatic expressions, thus improving the language acquisition experience for their students.

Additionally, the study's identification of the obstacles encountered by Thai students, such as the requirement for contextual understanding and the influence of limited language skills and cultural background, offers valuable perspectives for language teachers. The results emphasize the significance of teaching methods that consider specific circumstances, cultural awareness, and the gradual incorporation of idiomatic expressions in language curricula. These strategies can be applied not only in Thailand but also in other global settings where English is instructed as a second or foreign language, aiding educators in customizing their instruction to tackle the specific difficulties faced by students. This may involve providing context-rich examples, cultural explanations, and targeted exercises to enhance idiomatic comprehension and usage.

Furthermore, the study illuminates the diverse strategies utilized by Thai students to acquire English idioms. The prevalence of strategies such as inferring meanings from context and memorization highlights the significance of offering students adaptable learning approaches. Educators and curriculum designers can draw inspiration from these strategies and integrate a variety of approaches into their teaching methodologies to accommodate the diverse needs and preferences of learners. By doing so, students will be able to apply these strategies autonomously and effectively (Apridayani, 2022). This reveals the importance of flexibility and adaptability in language instruction, not only in Thailand but also in global English language learning contexts with diverse cultural and linguistic backgrounds.

In the broader international context, this study contributes to the growing body of research on the acquisition and understanding of idiomatic expressions in English as a second or foreign language. By drawing parallels with studies from various countries, it reinforces the notion that idiomatic language is a universal challenge for language learners. This insight can guide the development of more effective teach-

ing materials, curricula, and language assessments that consider the common difficulties faced by learners worldwide. Moreover, the study demonstrates the significance of cross-cultural awareness in language instruction, as cultural background plays a significant role in idiomatic comprehension. It also highlights the importance of cross-cultural communication and exchange programs in exposing students to a variety of linguistic contexts and idiomatic expressions.

CONCLUSION

The findings of the present study indicated that Thai university students perceived the importance of English idioms as crucial for effective communication in English. They recognized that idioms are an essential aspect of the English language and are aware of the challenges involved in learning and understanding them. The students attributed the difficulties to a lack of context and cultural knowledge, highlighting the importance of cultural familiarity in interpreting idiomatic expressions. Furthermore, the study revealed that the students employed various learning strategies to comprehend and acquire English idioms. These strategies included figuring out the meaning of idioms from the context, using descriptive definitions in English, and memorizing them. This indicates that students are actively engaged in their learning and are willing to employ multiple approaches to enhance their understanding of idiomatic expressions.

While this study has unveiled several notable discoveries, it is imperative to acknowledge its inherent limitations. Firstly, the scope of this study was confined to investigating the perceptions of EFL students at a specific Thai university with a small sample size. Therefore, it may not be possible to generalize the findings to EFL learners in different educational or cultural settings. In fact, a comparative analysis of the perceptions of EFL students across various universities and countries with a larger number of participants would provide a more comprehensive understanding of the issue. Future studies could explore a more extensive range of EFL students, including different proficiency levels, age groups, and cultural backgrounds. Secondly, while this study utilized a survey questionnaire to collect data, the addition of qualitative methods, such as individual or focus group interviews, could have provided deeper insights into the challenges and strategies of learning and comprehending English idioms. Thirdly, it is worth noting that this study primarily analyzed the collected data descriptively. Future investigations could greatly enhance the depth of understanding by adopting a mixed-methods approach that incorporates both quantitative and qualitative data collection methods, along with various forms of data analysis. Such a comprehensive approach has the potential to shed more light on EFL students' perceptions and experiences of learning English idioms.

DECLARATION OF COMPETITING INTEREST

None declared.

AUTHORS' CONTRIBUTION

Aisah Apridayani: conceptualization; data curation; formal analysis; resources; supervision; writing – original draft; writing – review & editing.

Natthayos Chatwichit: investigation; methodology; project administration; writing – original draft.

Tiparoon Supanpong: investigation; methodology; project administration; writing – original draft.

Sukanya Kanto: investigation; methodology; project administration; writing – original draft.

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The Effects of Asynchronous Cross-cultural Communication on EFL University Students' Writing Performance and Motivation

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ABSTRACT

Background: Researchers have integrated cross-cultural communication (CCC) with writing to examine students' writing performance, motivation, and perceptions in EFL classrooms. However, the exploration of how authentic CCC with students from different cultural backgrounds benefits lower-proficiency students' English writing competence and motivation remains underexplored.

Purpose: This mixed-methods study, employing pre-test and post-test designs, examined the effects of asynchronous CCC on EFL university lower-proficiency students' writing performance, motivation, and perceptions to determine whether asynchronous CCC facilitated EFL lower-proficiency students' writing competence and motivation and to elucidate its impact on their writing performance.

Method: Twenty-nine freshmen, who were non-English majors, were divided into lower-proficiency (N=15) and higher-proficiency (N=14) groups. Data were collected from the writing tests and Writing Motivation Questionnaires (WMQ) completed in the pre-test and post-test. The questions in the writing tests were identical in both tests, while the WMQ comprised 33 five-point Likert-scale questions and an open-ended question aimed at exploring the students' motivation and perceptions regarding writing in this study.

Results: The results indicate that the features of social interaction and cross-cultural engagement within asynchronous CCC significantly developed lower-proficiency students' writing performance and mitigated their negative writing motivation. Utilising asynchronous CCC, which facilitated feedback exchange and collaborative writing with higher-proficiency peers, notably bolstered lower-proficiency students' writing proficiency. Additionally, the integration of meaningful, intriguing, and authentic asynchronous CCC activities contributed to reducing negative writing motivations among lower-proficiency students. However, delayed responses from online peers and a sense of demotivation while collaborating with lower-proficiency peers may have contributed to the insignificant development observed among higher-proficiency students.

Conclusion: Engaging EFL university lower-proficiency students in asynchronous CCC to exchange cultural and linguistic knowledge could enhance their writing performance and reduce their negative writing motivation. This is because the features inherent in asynchronous CCC render English writing meaningful, intriguing, and authentic.

KEYWORDS

asynchronous cross-cultural communication, writing performance, writing motivation, writing perceptions

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INTRODUCTION

Cross-cultural communication (CCC), which refers to the interaction among individuals from diverse cultures through spoken or written language, as well as body language (Chen & Yang, 2014b), has found extensive application in en-

hancing English as a Foreign Language (EFL) students' writing proficiency (e.g., Alsamadani, 2021; Guerrero Moya et al., 2016; Wu, 2020; Xu, 2017). According to Vygotsky's sociocultural theory (SCT), learning "take[s] place through participation in cultural, linguistic, and historically formed settings" (Lantolf et al., 2015, p.207) in which language learning is a socially interactive process rather than an individual activity (Vygotsky, 1978). CCC facilitates the interactive and authentic exchange of cultures and languages among individuals from different cultural backgrounds (Shadiev et al., 2015), aligning closely with SCT principles. Students engage in negotiating meanings, sharing ideas, resolving misunderstandings, and refining communicative skills (Yanguas, 2010) to enhance their writing abilities within the zone of proximal development (ZPD). ZPD explains that individuals can reach higher levels of proficiency with guidance from more proficient peers or experts (Fani & Ghaemi, 2011; Lee, 2008; Vygotsky, 1978). In other words, CCC facilitates the development of students' writing skills t by enabling interactions with more competent individuals within a socially and culturally diverse context.

To examine the effectiveness of CCC on EFL students' writing performance, Chen and Yang (2014a) engaged Taiwanese students in interactions with native English speakers using diverse platforms such as online forums, emails, and blogs. Their findings revealed significant enhancements in the students' English vocabulary, grammatical proficiency, and writing skills. Furthermore, Rafieyan et al. (2015) utilized WhatsApp as a tool to bolster Iranian English learners' writing competence through communicating with native English speakers, yielding improvements in pragmatic writing abilities. Similarly, Özdemir (2017) facilitated Turkish university students' communication with individuals from various countries via Facebook to foster English writing proficiency, leading to positive attitudes towards English writing among students. These studies underscore the impacts of CCC in fostering EFL students' writing proficiency. However, scant attention has been devoted to scrutinizing the English writing performance of lower-proficiency students. Lower-proficiency students often require heightened support and guidance due to their inadequate writing skills, frequently stemming from diminished levels of writing motivation.

Motivation plays a pivotal role in determining one's ability to master writing in a foreign language (Ahmetovic et al., 2023; Dörnyei, 1994). In most cases, EFL students' unsatisfactory writing performance is due to their low levels of writing motivation (Guo & Bai, 2022; Wu et al., 2020). Motivation in language learning refers to students' attitudes and affections that influence their effort and desire to learn foreign languages (Ellis, 1997). Motivation dictates the duration of persistence in writing practice, the level of effort invested, the degree of proficiency attained, and the extent of achievement derived from writing endeavors (Hartnett, 2016). Given the importance of motivation in the field of writing, researchers have examined EFL students' writing motivation across diverse learning contexts. For example, Challob (2021) applied a flipped approach to investigate 15 Iraqi university students' writing performance, autonomy, and motivation, indicating that feedback from teachers and peers alongside online sources helped develop students' writing motivation. Similarly, Azis and Husnawadi (2020) employed a collaborative digital storytelling (DST) approach to enhance Indonesian university students' writing motivation, affirming that collaborative DST was an intriguing manner to motivate students' writing interests. These studies underscore the potential of technology in increasing EFL students' writing motivation, but authentic communication, like CCC, is less explored in the context of nurturing EFL writing motivation.

Apart from writing motivation, exploring the students' writing perceptions is also crucial because it helps instructors prepare for what students want in their writing classes (Leki & Carson, 1994). To understand students' needs, researchers have undertaken studies to explore EFL students' writing perceptions. For example, Azis and Husnawadi (2020) employed DST to investigate 28 Indonesian university students' English writing perceptions. The findings of this study showed that DST developed students' writing competence by refining their grammatical ability and stimulating their writing ideas. Additionally, students exhibited higher levels of engagement, motivation, and confidence while collaborating with their peers, thereby improving their social skills and interpersonal relationships. In a similar vein, Sun and Asmawi (2023) conducted a study to comprehend Chinese EFL students' perceptions of using WeChat, an instant messaging software, in developing their business English writing ability. The findings of this study revealed that students demonstrated better writing competence through discussing with peers and teachers on WeChat. This improvement was attributed to learning various business writing models, understanding diverse writing approaches, and acquiring a richer vocabulary along with enhanced grammatical knowledge. These studies present how EFL university students perceived the effects of technology on developing their writing performance. However, further research exploring students' perceptions of asynchronous CCC in developing EFL university students' writing performance is needed.

To the best of the researchers' knowledge, only a limited number of studies have examined the effects of CCC on the writing performance, motivation, and perceptions of lower-proficiency EFL university students. Therefore, the primary purpose of this study was to address this research gap. To fulfill this research aim, three research questions (RQ) were proposed:

(1) How did asynchronous CCC improve EFL university writing performance?

(2) How did asynchronous CCC develop EFL university students' writing motivation?

(3) What perceptions did the EFL university students show about the advantages and disadvantages of participating in this study?

METHOD

Research Design

This mixed-methods study was conducted in a compulsory course, Practical English, for all first-year students at a private university in northern Taiwan. The study employed the concurrent embedded strategy of mixed methods, as outlined by Creswell (2009), to collect both quantitative and qualitative data. Quantitative data were gathered from a writing test and the Writing Motivation Questionnaire (WMQ) completed in the pre-test and post-test respectively. Additionally, qualitative insights into participants' perceptions were obtained from the open-ended question in the WMQ administered during the post-test.

Then, Collabpad, a cloud-based notebook allowing multiple users to edit the same documents (a)synchronously was applied in this study. Collabpad is user-friendly, and users only need to click on unique URLs for online communication. Prior to participants engaging in their asynchronous CCC, the instructor demonstrated how to use Collabpad effectively.

In this study, the asynchronous communication mode was adopted due to the participants' limited English writing ability and their lack of experience in CCC. The application of asynchronous communication might be a better choice for the participants because it affords them ample time to organise their writing samples, peruse other's written work, think about how to provide feedback to their partners, and respond to their partners' feedback (Alsamadani, 2021; Angelova & Zhao, 2016; Shadiev et al., 2015; Vonderwell, 2003). Consequently, participants might feel more comfortable and be more willing to participate in this study.

Participants

In this study, the convenience sampling technique was applied to recruit participants from the Department of Nursing at a university in northern Taiwan. All participants received identical instruction provided by the same instructor within a singular class setting. However, for the purpose of data analysis, they were divided into three groups based on their writing scores obtained during the pre-test. The top and bottom 33% of participants were selected for further analysis and labeled as the higher-proficiency group (HP) (N=14) and the lower-proficiency group (LP) (N=15). Although the participants have been learning English for over ten years, their English proficiency was still very limited, as evidenced by their English test results in the college entrance examination. None of them had prior experience studying abroad in English-speaking countries or engaging in asynchronous CCC with either native or non-native English speakers. Their participation in this study was based on their willingness, and they were fully informed of their right to withdraw from participation at any time without incurring any adverse repercussions. Their privacy was also secured before the commencement of the research implementation.

Procedures

Regarding the research procedures, the researchers explained the purposes and procedures of this study to the participants and had students sign the consent form in Week 1. In Week 2, participants completed the writing test and the WMQ, constituting the pre-test phase. Then, participants were instructed to assemble into groups of three to four individuals to conduct asynchronous CCC with their Japanese counterparts. This group format was considered more helpful for effective communication compared to pairs or individual interactions (Fernández Dobao, 2012). Over a span of four weeks, participants engaged in asynchronous CCC with Japanese university students to complete a three-paragraph narrative essay. Consequently, participants spent eight weeks conducting asynchronous CCC for two narrative essays. They finished the first essay, My Life Schedule, between Week 3 and Week 6, and the second essay, My Travel Experience, from Week 7 to Week 10. In Week 11, participants underwent a re-administration of the writing test and the WMQ utilised in the pre-test in the post-test. Table 1 below outlines the weekly arrangement in this study.

Table 1

Weekly Arrangement in This Study

Week(s)	Tasks
1	Introducting this study
2	Conducting the pre-test
3-6	Conducting asynchronous CCC for the first essay
7-10	Conducting asynchronous CCC for the second essay
11	Conducting the post-test

The asynchronous CCC writing process for the two essays was structured into four stages over four separate weeks. In stage one, both Taiwanese and Japanese students wrote an introductory paragraph on Collabpad to introduce their cultures pertinent to the writing topic. Subsequently, instructors on both sides provided a peer review form and guided students on how to evaluate each other's writing samples, aligning with the rubric adopted from the ESL Composition Profile (ESLCP) developed by Hughey et al. (1983). Following this, both Taiwanese and Japanese students provided feedback on each other's introductory paragraphs and engaged in cultural inquiries related to the writing topic. In stage two, students revised their introductory paragraph based on the feedback received from their Japanese counterparts. Also, they wrote a body paragraph expressing their perspec-

tives on the writing topic. Again, Taiwanese and Japanese students exchanged feedback and responded to each other's questions posed in week one. In stage three, students incorporated feedback from their Japanese peers to revise their body paragraphs and proceeded to compose a conclusion paragraph to finish their writing samples. Again, students on both sides offered feedback on the conclusion paragraphs and summarised the similarities and differences between the two cultures. In stage four, students refined the conclusion paragraph and reviewed each other's complete essays on Collabpad. Figure 1 below summarises the instructional procedures implemented in this study.

Research Instruments and Data Collection

To examine whether there was any significant difference in the participants' writing performance to answer RQ 1, two writing tests were employed in the pre-test and post-test. Two experienced EFL teachers, each possessing a Master's degree in Teaching English to Speakers of Other Languages (TESOL), were invited to assess the participants' writing samples utilising the ESLCP (Hughey et al., 1983). The ESLCP offers a comprehensive set of criteria to evaluate EFL students' writing performance, including content (30%), organisation (20%), vocabulary (20%), language use (25%), and mechanics (5%), with a maximum attainable score of 100. To confirm the reliability of the assessment process, the Pearson correlation coefficient was computed to ascertain the inter-rater reliabilities, with coefficients of .72 observed in the pre-test and .74 in the post-test (Cohen et al., 2011).

Subsequently, to gauge differences in the participants' levels of writing motivation between the pre-test and post-test to address RQ 2, thirty-three five-point Likert-scale questions in the WMQ were utilised. Adapted from Yeşilyurt's (2008) Writing Motivation Scale, the WMQ underwent modifications to accommodate the research context of this study, replacing the term Wiki with Collabpad to reflect the platform employed. The response scale in the WMQ, ranging from 1, representing strongly disagree, to 5, representing strongly agree, consisted of three core dimensions of amotivation, intrinsic motivation, and extrinsic motivation. Considering the participants' limited English ability, the WMQ was translated into traditional Chinese, the participants' native language, by the first author. Subsequently, the other two authors confirmed the translation. To ensure the precision of the translation, the finalised translated WMQ was approved by an experienced English instructor who is proficient in both Chinese and English and has been teaching English at a Taiwanese university for more than a decade.

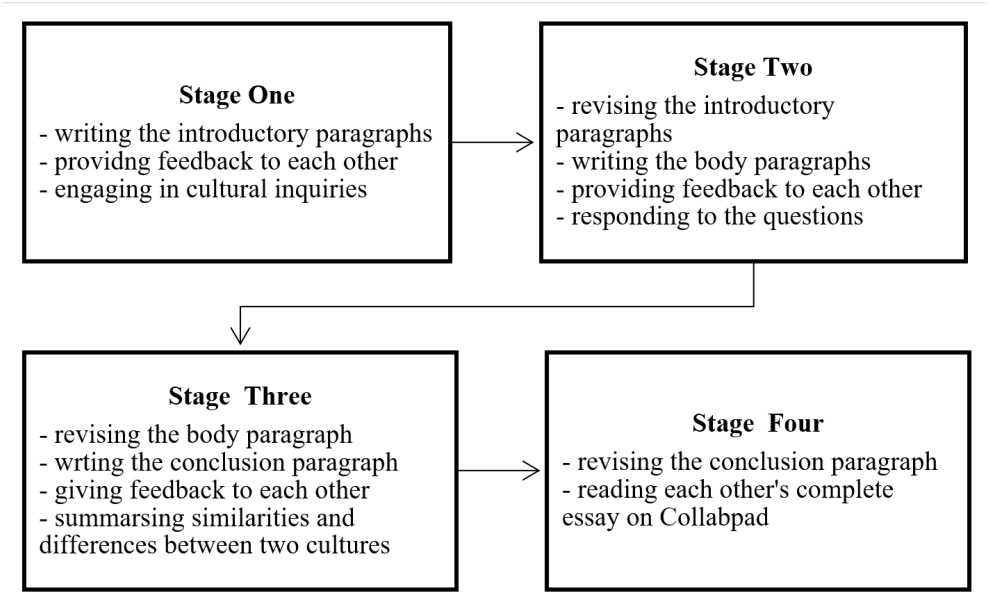
Finally, the concluding item in the WMQ was an open-ended question to solicit the participants' reflections and perceptions about the advantages and disadvantages of their engagement in this study to answer RQ 3.

Data Analysis

The data in this study was derived from the writing tests and the WMQ collected in the pre-test and post-test. The data obtained from the writing tests underwent analysis utilising the Wilcoxon signed-rank test to examine whether there were any significant differences in the participants' writing performance within groups between the pre-test and post-test. Furthermore, the Mann-Whitney *U*-test was then administered to examine statistical differences between groups in the pre-test and post-test respectively. In addition, S2 from the LP and S26 from the HP were selected as repre-

Figure 1

The Instructional Procedures in This Study



sentative cases to compare their changes in English writing because their scores were the closest to the mean scores in their groups.

To compute the quantitative data collected in the WMQ, the Wilcoxon signed-rank test was applied to examine statistical differences in each group between the pre-test and post-test. The responses collected in the open-ended question were analysed by utilising the thematic analysis, enabling the researchers to identify, analyse, and report patterns/themes in the data by identifying the categories (Braun & Clarke, 2006; Johnson & Christensen, 2014). Following the analytical procedures of familiarising, coding, generating themes, reviewing themes, defining themes, and writing up, two major themes emerged from the data, and two or three codes supported each theme. The quantitative and qualitative results are reported subsequently.

RESULTS

English Writing Performance

The results of the descriptive statistics, as presented in Table 2, reveal that the differences in the post-test in students' English writing performance in content, organisation, vocabulary, language use, mechanics, and total score were smaller than those in the pre-test between the LP and HP. In addition, the mean scores for each component in the post-test exhibited an upward trend in the LP in contrast to the pre-test scores. Conversely, there were slight declines evident in the areas of content, organisation, and total score in the HP in the post-test.

A Wilcoxon signed-rank test was applied to compare the participants' English writing scores gained in both the pre-test and post-test. The results, as presented in Table 3, demonstrate significant differences across all components (content: Z = -2.77, organisation: Z = -2.84, vocabulary: Z = -3.42, language use: Z = -3.31, mechanics: Z = -2.64, and total score: Z = -3.35) within the LP. However, no significant difference was observed in the HP. These results indicate that students in the LP exhibited significant improvement in English writing proficiency after participating in this study, whereas no discernible enhancement was noted among students in the HP.

In addition, a Mann-Whitney U-test was applied to examine whether significant differences existed among the writing components between the LP and HP. The results, as presented in Table 4, demonstrate significant differences in all dimensions, (content: Z = -4.51, organisation: Z = -4.22,

Table 2

Descriptive Statistics on English Writing Performance

	Pre-test				Post-test			
	LP		*HP*		*LP*		*HP*	
	M	**SD**	**M**	**SD**	**M**	**SD**	**M**	**SD**
Content	18.40	1.82	22.86	2.11	20.80	2.09	21.54	2.13
Organisation	13.67	1.18	16.00	1.11	15.13	1.23	15.68	1.28
Vocabulary	12.63	1.37	15.36	1.41	14.97	1.39	15.54	1.35
Language use	14.13	1.76	17.43	2.20	16.47	1.48	18.14	1.92
Mechanics	3.43	0.42	4.00	0.55	3.80	0.41	4.00	0.59
Total score	62.27	5.58	75.64	6.41	71.17	6.01	74.89	6.61

Note. LP: lower-proficiency group; HP: higher-proficiency group

Table 3

Wilcoxon Signed-Rank Test on English Writing Performance (Within Groups)

	Content	Organisation	Vocabulary	Language use	Mechanics	Total score
LP						
Z	-2.77	-2.84	-3.42	-3.31	-2.64	-3.35
Asymp. Sig. (2-tailed)	.006*	.004*	.001*	.001*	.008*	.001*
HP						
Z	-1.65	-.71	-.81	-1.43	.00	-.16
Asymp. Sig. (2-tailed)	.098	.478	.416	.154	1.000	.875

Note. LP: lower-proficiency group; HP: higher-proficiency group *p < .01

vocabulary: Z = -4.16, language use: Z = -3.90, mechanics: Z = -2.68, and total score: Z = -4.59) in the pre-test, indicating that students in the HP had better English writing proficiency than those in the LP. However, no significant differences were observed across all dimensions in the post-test, indicating that students from both groups exhibited comparable English writing proficiency after having social and cross-cultural communication in this study.

Two representative cases, selected respectively from the LP and HP, are presented in Tables 5 and 6 to explain students' evolution in English writing between the pre-test and post-test. The annotations provided by the two raters, denoted by strikethroughs and words in brackets, offer insights into areas of improvement and suggestions for refinement. In Table 5, S2 from the LP exhibited notable improvement in the post-test. The content of her writing was enriched by introducing the disadvantages and advantages, which were logically presented in separate paragraphs. The use of vocabulary contributed to clarity of expression. Grammatical mistakes were the major problems in the post-test, but the sentence structures demonstrated increased complexity and diversity compared to those observed in the pre-test. For example, she erroneously used the past tense of 'stopped' instead of 'stops' and omitted the plural marker 's' for countable nouns such as 'oyster' and 'squid.' In terms of mechanics, there was no spelling, punctuation, or capitalisation mistake in the post-test. In response to the open-ended question, S2 commented:

> The interaction and discussion with the Japanese partner gave us more writing ideas. Our Japanese partner asked a lot of questions about Taiwan, so we had to look for more information to respond to his questions. By searching for online information, we had a deeper understanding of Taiwan and had better writing ability because we needed to translate the information into English or search for English information to share with our Japanese partner.

According to S2, asynchronous CCC effectively improved EFL university students' English writing performance since students had to engage in discussions with their counterparts, translate relevant information into English, and search for related English information. Through these activities, students not only developed their writing skills by exchanging feedback but also gained a meaningful and interactive understanding of two cultures in the collaborative writing process.

In Table 6, S26 from the HP completed her essays in similar ways in both tests. For example, her supporting ideas were shopping, meals, and snacks in the pre-test and a historic site and Christmas event in the post-test. Although she provided various ideas in her writing samples, she failed to connect these supporting ideas logically. Although the vocabulary delivered her writing ideas effectively, she displayed several spelling errors in both tests (e.g., 'experient' for experience and 'attrect' for attract). Additionally, there were some grammatical inaccuracies in the pre-test (e.g., 'you can shopping' instead of you can go shopping) and in the post-test (e.g., 'I was living here since I was little.' instead of I have been living here since I was little.). Finally, she omitted or misused punctuation in both tests. In the open-ended question, she commented:

> Sometimes, I did not know how to cooperate with my peers because it seemed that their English writing ability was not good. I needed to guide them while we were working together. However, sometimes, I was not sure whether my guidance was correct or not. I prefer to work alone, which might make me feel more comfortable.

Based on S26's writing samples from both tests and her reflection on the open-ended question, collaborating with lower-proficiency peers to enhance higher-proficiency students' writing ability seemed limited. Higher-proficiency students might find it difficult to obtain support from lower-proficiency peers when seeking guidance. In addition, collaborating with lower-proficiency peers might impose an additional burden on higher-proficiency students, potentially decreasing their willingness to engage in collaborative writing activities.

English Writing Motivation

A Wilcoxon signed-rank test was conducted to examine if there were any significant differences in the participants' English writing motivation between the pre-test and post-

Table 4

Mann-Whitney U-Test on English Writing Performance (Between Groups)

	Content	Organisation	Vocabulary	Language use	Mechanics	Total score
Pre-test						
Z	-4.51	-4.22	-4.16	-3.90	-2.68	-4.59
Asymp. Sig. (2-tailed)	.000*	.000*	.000*	.000*	.007*	.000*
Post-test						
Z	-.73	-1.08	-1.28	-1.31	-1.41	-1.60
Asymp. Sig. (2-tailed)	.47	.28	.20	.12	.16	.11

Note. *p < .01

Table 5

S2's Writing Samples (LP Group)

Pre-test	Post-test	Analyses
My hometown, Keelung, is famous ~~of~~ (for its) seafood and night market. Because of the ocean, various of sea creatures ~~will~~ come to Keelung harbor.	My hometown "Keelung" is a place, where rains ~~a~~ whole year. ~~Everyday~~ (Every day) when I get up, dark clouds cover the entire sky. It rains like waterfall and never ~~stopped~~ (stops). Nevertheless, Keelung has its unique advantages. Because of the location, Keelung is ~~surrounding~~ (surrounded) by (the) sea. Marine resources are plentiful. ~~The most famous is seafood~~ (It is especially famous for its seafood), like oyster(s), clams, squid(s) and so on. No matter how you cook (them), all ~~these~~ seafood always ~~tasted~~ (tastes) great. (A concluding sentence is needed.)	Content The topic was well-developed in the post-test by describing its disadvantages (e.g., weather) in the first paragraph, followed by a transitional sentence segueing into the discussion of its advantages (e.g., food) in the second paragraph. Compared with the pre-test, a more comprehensive exploration of the topic was presented in the post-test. Organisation The writing sample in the post-test exhibited commendable organisation with logical sequencing, presenting a discussion of its advantages and disadvantages in separate paragraphs. However, the ideas in the pre-test lacked logical coherence and connectivity. Vocabulary The words employed in the post-test demonstrated a more comprehensive range, increasing the readability and comprehensibility of the writing samples. Nevertheless, the student seemed to have limited vocabulary to develop her writing sample in the pre-test. Language use Although there were some grammatical errors, the sentence structures in the post-test exhibited great complexity and variability compared to those observed in the pre-test. Mechanics No mistake in spelling, punctuation, or capitalisation was observed in the post-test.

test in the LP and HP. As presented in Table 7, the findings reveal that only the dimension of amotivation in the LP had a statistically significant difference (Z = -2.78), indicating a reduced level of negative motivation toward writing after participating in this study. Nevertheless, no significant difference was detected in the HP.

English Writing Perceptions

Upon analysing the students' responses to the open-ended question in the WMQ, both advantages and disadvantages were observed. The advantages include making English writing meaningful, enhancing writing skills through exchanging feedback, and promoting collaborative writing. Contrarily, the disadvantages entail delayed responses from online peers and a sense of demotivation to collaborate with lower-proficiency peers.

Regarding the benefits, more than 50% of students expressed that asynchronous CCC rendered English writing meaningful because it facilitated their understanding of cultural differences, advantages, and disadvantages via authentic communication. For example, students stated:

> I learned some Japanese culture from my Japanese partner .... I also found that there are many differences between Japan and Taiwan. Communicating with my Japanese partner made English writing meaningful and interesting. (S12)
>
> I learned cultural differences between Japan and Taiwan. I also thought about the advantages and disadvantages of these two countries. The interaction with my Japanese partner created many of my writing ideas. It was an interesting way to learn writing. (S13)
>
> Interacting with Japanese students was an interesting way to improve our writing ability because it broadened our horizons by gaining different thoughts and perspectives. This project made English writing meaningful. (S29)

Having authentic CCC encouraged students to compare cultural differences, contemplate the advantages and disadvantages of different cultures, and broaden their horizons, from which students found it meaningful to practise English writing.

Table 6

S26's Writing Samples (HP Group)

Pre-test	Post-test	Analyses
I was born in New Taipei City, ~~witch~~ which is a convenient city with MRT, train and bus system(s). In New Taipei city(,) you can (go) shopping in ~~the~~ department store(s), ~~having~~ (have) expensive meal(s) in ~~the restaurent~~ (restaurants), ~~also you can~~ and enjoy ~~the~~ local food or snakes in ~~the~~ market(s). In my hometown, you can have many different ~~living experient~~ (life experiences), and ~~feel the~~ (meet) warm and kind ~~in the~~ people ~~who living~~ here.	Banqiao is my hometown, (and) I ~~was~~ (have been) living here since I was little. (It) is the most convenient place in ~~whole~~ New Taipei City, ~~included~~ (including the) train, MRT, High-speed train and bus (systems). In addition, Banqiao has historic site(s) like Lin Family Mansion and Garden(.) ~~there~~ (There) are so many beautiful buildings~~, and~~ (with) very long history. The most special is that we ~~held~~ (hold) Christmasland every ~~single~~ year, and it always ~~attracted~~ (attracts) more than thousands (of) people to visit~~ed,~~(.) I am proud of my hometown.	Content The contents of the two tests exhibited a notable degree of similarity, primarily focusing on topics such as food, scenic spots, and transportation. Organisation The organisations in both tests were fairly good and similar by describing the topic from general ideas to specific details. Vocabulary The choices of vocabulary were mostly appropriate in both tests, although some minor problems were noted (e.g. living experient). However, the meanings in both tests were clear. Language use There were some grammatical mistakes on tenses, singular/plural forms, or articles in both tests. Mechanics Spelling and punctuation mistakes were observed in both tests.

Table 7

Results of Wilcoxon Signed-Rank Test on English Writing Motivation (Within Groups)

	Amotivation	Extrinsic motivation	Intrinsic motivation
LP			
Z	-2.78	-1.10	-.41
Asymp. Sig. (2-tailed)	.005*	.27	.68
HP			
Z	-.77	-.29	-.03
Asymp. Sig. (2-tailed)	.44	.78	.98

Note. LP: lower-proficiency group; HP: higher-proficiency group *p < .05

Secondly, approximately 36% of students reflected that exchanging feedback was beneficial to their writing development, as it made them observe and learn writing skills from their peers. For example, students stated:

> My Japanese partner figured out my writing problems. He was good at grammar, and he guided me a lot on tenses after I asked him questions about tenses. (S4)

> Exchanging feedback with my Japanese partner improved my English writing ability. My partner shared what I did not know with me, and finding out her mistakes also improved my writing skills. (S10)

> I never gave feedback to my peers before, but I found it very useful to improve my English writing ability. I had to understand what my Japanese partner wrote before I gave feedback. (S23)

Exchanging feedback enhanced students' English writing skills since they learned to ask for help, share knowledge with each other, and cultivate critical thinking ability. These skills contributed to the development of students' writing abilities.

Finally, nearly a third of participants indicated that collaborative writing improved their English writing proficiency. Students found that discussing and collaborating with peers was easier than writing individually. For example, students stated:

> There were three people in our group, so it was not difficult for us to complete our writing homework. We discussed our writing assignments and solved writing problems together. My teammates were very helpful because their English ability was better than mine. (S5)

> My English writing ability was not good, so having teammates was very important to me. They figured out my grammatical mistakes, corrected my mistakes, and stimulated my writing ideas. I felt more confident after having their guidance. Sometimes, I also found similar mistakes that I had in my Japanese partner's writing samples, so I was able to correct his mistakes. I have gained a sense of achievement in English writing from doing this project. (S11)

> We always finished our essays together. We spent a lot of time generating ideas, checking grammar, looking up vocabulary, and cross-checking essays. If I worked alone, it would be very difficult and I might give up learning writing. Having teammates also made me more responsible because I did not want to be a black sheep in my team. (S15)

Collaborative writing could effectively develop students' English writing ability, particularly benefiting lower-proficiency students who had more opportunities to learn from more proficient peers. By doing so, students found English writing easier, had more confidence in writing and developed their sense of responsibility.

However, this study also identified two disadvantages that might impede the effectiveness of students' learning. One is the delayed responses from online peers, and the other is a sense of demotivation to collaborate with lower-proficiency peers. First, approximately 20% of participants reported that they frequently waited for feedback from their Japanese peers. For example, students stated:

> Our Japanese partner seemed not to check Collabpad regularly. We found it very difficult to have his prompt feedback on our writing samples. We did not have his personal contact information, so we could not push him to give us immediate feedback. (S6)

> Asynchronous communication was not really efficient because we spent a lot of time waiting for our Japanese partner's responses and feedback. Our class time was different from theirs, so we usually waited for his feedback for a couple of days. (S19)

> The CCC was in an asynchronous mode, so it was impossible for us to exchange immediate feedback. After communicating with our Japanese partner, we came to realise that we waited for each other for days. It wasted a lot of time. (S22)

Owing to the affordance of asynchronous mode, students were unable to promptly receive feedback from their online peers, thereby making it difficult to engage in immediate discussion regarding their writing samples.

Furthermore, certain higher-proficiency students argued that their peers' limited English writing ability hindered their writing development. Therefore, more competent students felt demotivated to collaborate with lower-proficiency peers. For example, students stated:

> Honestly speaking, I felt like I was doing an individual project. My teammate's English writing ability was quite bad, so I had to finish most parts on my own. I think their contribution was little. (S17)

> My English ability was the best in our group, so my teammates relied on me to complete the writing assignments. … I did not like doing this project with them because I thought they were just lazy. (S25)

> Communicating with our Japanese partner in English was not easy for me, but it was more difficult for my teammates. I was the key person to communicate with our Japanese partner and finish our essays. Although my teammates tried to do something, their contribution was very limited. It might be easier for me to do it alone. (S28)

Collaborating with lower-proficiency peers might diminish higher-proficiency students' writing motivation because it would impose an additional burden on them.

DISCUSSION

The purpose of this study was to examine the effects of asynchronous CCC on EFL university lower-proficiency students' writing performance, motivation, and perceptions. The discussions are presented as follows.

English Writing Performance

The results revealed a significant improvement in the participants' writing performance, while no statistically significant difference was observed between the LP and HP in the post-test. These findings align with Rokhmah's (2020) research, which showcased that CCC enhanced EFL students' linguistic abilities, motivated their interest in writing, and encouraged peer-to-peer commentary.

In the present study, students in the LP had opportunities to seek assistance from their HP counterparts and to explore pertinent online resources for engaging in asynchronous CCC with their Japanese peers. These interactions contributed to enhancing their linguistic competence and overall writing performance. Furthermore, asynchronous CCC made English writing more meaningful, thereby increasing students' engagement and interest in the subject matter. The exchange of feedback among peers, particularly within the ZPD, greatly contributed to the advancement of lower-proficiency students' writing performance, as they could learn from more competent peers.

The results of this study also revealed that students predominantly concentrated on local-level aspects during the feedback process, thereby improving their abilities in grammar and mechanics. This finding resonates with the outcomes of research conducted by Shang (2019) and Tseng and Yeh (2019). Notably, guidance on the local dimension is especially crucial for students in the LP who possess limited grammatical knowledge (Shang, 2017; Yang, 2018). The collaborative writing process between LP and HP in the CCC contexts could potentially simplify English writing for lower-proficiency students since they could not only gain

writing knowledge from their HP peers, but they could also apply the writing knowledge in an authentic context. This socially and cross-culturally interactive learning process developed LP students' self-confidence and sense of responsibility in writing.

Grounded in Vygotsky's SCT (Lantolf et al., 2015; Vygotsky, 1978), collaborative writing furnished students with social support (Laal & Ghodsi, 2012), enabling them to better understand the process of clarifying, correcting, and elucidating within a social and cross-cultural setting (Lin et al., 2021; Moslehi & Kafipour, 2023). Consequently, this study concludes that asynchronous collaborative writing within the asynchronous CCC context could significantly develop students' writing performance in the LP by augmenting the breadth of content ideas, bolstering comprehension of writing organisation, expanding vocabulary, and enhancing grammatical and mechanical competencies. The finding also echoes Shen and Bai's (2024) argument regarding the effectiveness of collaborative learning environments in diminishing EFL students' cognitive load and developing their learning performance.

English Writing Motivation

The results demonstrated that only students' amotivation decreased in the LP. Namely, students in the LP exhibited a diminished level of negative motivation toward English writing. Asynchronous CCC that allows students to exchange cultural knowledge with people from other countries to compare two cultures (Hsu & Beasley, 2019; Wang, 2011) makes English writing meaningful because authentic interaction within a social and cross-cultural context could emotionally enrich students' learning metacognition, cognition, affection, and behaviours (Shadiev et al., 2021; Tran & Ngo, 2024). In this study, students found it intriguing to practise English writing in an asynchronous CCC context because they not only learned about other's cultures and deepened their understanding of their own culture but also learned to compare the similarities and differences between the two cultures through authentic communication. According to Vygotsky's SCT, learning "take[s] place through participation in cultural, linguistic, and historically formed settings" (Lantolf et al., 2015, p.207) in which language learning is a socially interactive process (Vygotsky, 1978). In this study, students shared cultures with their Japanese peers asynchronously, thereby making English writing authentic, meaningful, interactive, and intriguing, consequently reducing LP students' negative motivation in writing. However, the insignificant difference in writing motivation in the HP might be attributed to their reluctance to collaborate with lower-proficiency peers, which is discussed subsequently.

English Writing Perceptions

Researchers (e.g., Özdemir, 2017; Rafieyan et al., 2015; Chen & Yang, 2014a) have indicated positive effects of asynchronous CCC on students' writing development, but the advantages and disadvantages of asynchronous CCC on EFL university students' writing development are underexplored. The findings of this study indicate that the advantages include making English writing meaningful, enhancing writing skills through exchanging feedback, and promoting collaborative writing. Contrarily, the disadvantages entail delayed responses from online peers and a sense of demotivation to collaborate with lower-proficiency peers.

Regarding the advantages, first, students found that asynchronous CCC made English writing meaningful by exchanging their cultures with their Japanese peers, comparing similarities and differences between the two cultures, and broadening their horizons. This process not only developed their understanding of different cultures but also stimulated their writing ideas and enriched their writing contents. This finding echoes Guskova and Golubovskaya (2023) and Kavanagh's (2019) claims that CCC not only improved university student's understanding of both native and target cultures but also developed their English writing competence.

Second, exchanging feedback was conducive to EFL students' writing development because it bolstered students' autonomy in seeking assistance from more competent peers, facilitated knowledge sharing among peers, and developed their critical thinking ability. This finding corroborates the effectiveness of peer feedback in developing EFL university students' writing performance (e.g., Challob, 2021; Shang, 2019; Wigglesworth & Storch, 2012; Yang, 2018; Yu et al., 2020).

Finally, collaborative writing contributed to the improvement of lower-proficiency students' writing performance since it decreased writing difficulties and fostered students' self-confidence in the writing process, thereby increasing students' writing motivation. This finding is aligned with those found in Chang's (2020) and Shang's (2019) studies, suggesting that collaborative writing was beneficial to lower-proficiency students' writing performance.

However, the disadvantages of delayed responses from online peers and a sense of demotivation to collaborate with lower-proficiency peers were found in this study. First, owing to the asynchronous nature of communication, students could not get immediate feedback from their Japanese peers. They argued that they had to keep tracking on Collabpad to see if their partners responded to their writing samples, which they perceived as a time-consuming process. Therefore, some students did not enjoy doing asynchronous CCC, which was likely to decrease their interest in writing. This finding is also similar to Chang's (2020) study, suggesting that having online writing partners would diminish students' writing motivation because they could not get timely responses from others.

In addition, higher-proficiency students argued that collaborating with lower-proficiency peers imposed an additional burden since the lower-proficiency peers relied on them to complete their writing tasks. This situation made them feel as if they were doing an individual assignment, possibly reducing HP students' writing motivation. According to Hyland and Hyland (2006) and Shang (2019), higher-proficiency students exhibited lower levels of satisfaction when collaborating with lower-proficiency students, who often encountered difficulties in contributing to their collaborating writing process.

CONCLUSION

The major findings in this study indicate that asynchronous CCC could enhance EFL university lower-proficiency students' writing competence and alleviate their negative writing motivation. This is attributed to the perception of asynchronous CCC as a meaningful, intriguing, and authentic writing process in which lower-proficiency students could get additional assistance from their counterparts. All in all, engaging EFL university lower-proficiency students in asynchronous CCC could positively develop their writing competence and motivation.

For pedagogical implications, first, asynchronous CCC is a practical and potential approach to develop EFL university students' writing performance, which makes writing authentic, interactive, and interesting in a social and cross-cultural context. Second, collaborative writing develops students' writing ability within the ZPD in which lower-proficiency students have more opportunities to practise writing with higher-proficiency peers. Finally, the findings in this study help writing instructors prepare courses by leveraging advantages of asynchronous CCC and mitigating its disadvantages to improve teaching and learning quality.

Although this study provides encouraging findings for improving EFL lower-proficiency students' writing performance, there were still limitations. First, owing to the application of the convenience sampling technique, only a small number of participants took part in this study. Applying a larger sample size for more representative research results is recommended. Second, a control group can be included in future research to investigate whether with and without asynchronous CCC yields different results on students' writing performance and writing motivation. Third, results from a longitudinal study may differ from those found in this study, thus conducting further research with an extended intervention period is suggested. Finally, the interview technique can be applied in future studies to explore pedagogical approaches for higher-proficiency students.

The results of this study are practical to English writing teachers whose students are at a lower level of English writing proficiency. Most related studies have focused on examining English majors or students with higher levels of English proficiency. However, students with a lower level of English writing ability and writing motivation should be given more attention and instruction since their lower levels of writing proficiency and writing motivation might intricately intertwine to hinder their writing performance.

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DECLARATION OF COMPETITING INTEREST

None declared.

AUTHORS' CONTRIBUTION

Wei-Yu Chang: conceptualisation, data curation, formal analysis, funding acquisition, investigation, methodology, project administration, resources, supervision, writing – original draft, writing – review & editing.

Ming-Chang Wu: funding acquisition, software, validation, writing – review & editing.

Shu-Wen Lin: project administration, validation, visualisation

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Exploring University Students' Online Learning Readiness: A Mixed Methods Study of Forced Online Learning

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ABSTRACT

Background: Despite the advancement achieved in previous research into online learning, few studies have used both quantitative and qualitative data to examine how students' readiness to learn online is affected by three different external factors, comprising (i) the degrees to which technology is available to students, (ii) the support provided by the institutions of learning, and (iii) the social influence affecting the students engaged in forced online learning in a pandemic situation.

Purpose: To fill this research gap, this study explored university students' forced online learning readiness in relation to technological accessibility, institutional support and social influence during a pandemic, in an attempt to furnish insights into how educators can maximize the benefits of adopting online learning methods.

Method: A mixed methods research design was employed in this study. Quantitative data, elicited via self-administered questionnaires completed by 211 participants, was analyzed using the frequencies, means, standard deviations and Pearson correlation analysis involving the Statistical Package for the Social Sciences (SPSS) software version 27. Qualitative data, elicited via 11 open-ended questions posed to 41 students through in-depth interviews, was then studied using a thematic analysis of the participants' feedback concerning the three constructs in online learning.

Results: Our quantitative analysis showed that institutional support had the strongest positive correlation with online learning readiness, and this was followed by technology accessibility and social influence in relation to students' readiness to learn online. Qualitative findings further indicated that students were largely concerned about Internet accessibility and the setting where their roles were restricted to being mere listeners in online sessions. Apart from being apprehensive about excessive online assignments, students also acknowledged that their online interactions were influenced by their friends and family members, and they would prefer practical work that could inspire them to reflect and engage actively with the course material given during the pandemic.

Conclusion: While lecturers can make online classes more interactive and discussion-generative, university administrators need to aptly facilitate their institution's transition to the forced online learning mode, moderate social influence, improve the learning management system, and provide training to teachers and students on the use of emerging technology.

KEYWORDS

institutional support, online learning, social influence, students' readiness, technology accessibility

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INTRODUCTION

Online learning has become increasingly important in tertiary education in view of its efficiency to enable education to be carried out with lower costs and greater accessibility. This learning mode has been promoted as a strategy to solve traditional educational problems relating to the lack of classrooms, workforce, and faculty (Baber, 2021; Linjawi et al., 2012). Online learning assists in catering to var-

ious learning styles and can be a main success element in teaching and learning (e.g., Almaiah et al., 2020; Tabang & Caballes, 2022). When integrated with conventional classroom learning, online learning can have a greater impact on students' satisfaction, self-assessment, and motivation. It can be implemented via self-paced independent units, or conducted through the use of asynchronous and synchronous interactive sessions. The former enables students to view instructional materials that exclude a live lecture component, at any time convenient to them while the latter involves meetings of participants and their instructor in real time after logging in to the virtual meeting platform (Dhawan, 2020; Ryan, 2001).

In view of the aforementioned convenience of online learning, institutions of higher learning have implemented online education in their programmes by integrating online and traditional forms, known as blended learning, to meet students' learning objectives (Allen & Seaman, 2003; Graham & Dziuban, 2008). Singh and Thurman (2019) noted that blended learning, in addition to online learning, has been a part of teaching in higher institutions for almost two decades. In fact, more and more university courses and programmes have included the integration of online learning with physical face-to-face learning in order to meet the related instructional objectives (Fitzpatrick, 2012) in response to Education 4.0, which mandates higher institutions to switch their educational paradigm from technology acceptance to dynamic instruction and pedagogies. Such a transition requires us to first understand the Technology Acceptance Model (TAM), which posits that users' attitude towards the employment of a technology is connected with (i) the degree to which the technology is perceived as being easy to use, and (ii) the extent to which it is perceived as being useful in meeting a purpose (Davis, 1989). The emphasis on dynamic online instruction therefore implies that online learning strategies need to be seriously studied by considering how active learning is associated with students' attitudes towards the technology available in instructional sessions.

The move to online learning is particularly pertinent in view of the Movement Control Order (MCO) and lockdown resulting from the pandemic during which face-to-face classes were not possible, while online learning strategies became crucial and unavoidable (see Baber, 2021; Dhawan, 2020). According to Murphy (2020, p. 1), "following the logic of the exception - that extraordinary times call for extraordinary measures", education systems around the world had to respond to the pandemic with "emergency e-learning protocols" that included online instructions that might not have been planned appropriately. However, according to Al-Shehri (2010) and Reyes-Millan et al. (2023), difficulties and challenges will often come with any change, particularly technology accessibility, institutional support and social influence. As identified in past studies, students generally face some online learning challenges such as feeling frustrated, worried, confused (Hara & Kling, 2000; Piccoli et al., 2001) and isolated (Gherghel et al., 2023). Learners also feel that they need to be more disciplined and self-motivated to commit more time to online learning, and to improve on their writing skills (Golladay et al., 2000). While it is clear that students' frustration, anxiety and confusion may be attributed to the accessibility of the online technology available to them, such emotions may also be ascribable to the amount of support they normally receive from their institutions. More importantly, it is unclear whether students are frustrated, worried and confused because of the influence from their peers in the same institution. These three variables, referred to as technological accessibility, institutional support and social influence, constitute the focus of this inquiry, and are studied in relation to students' readiness to learn online in a pandemic situation. Under such difficult circumstances, it is understood that "the pandemic forced teachers and learners to abandon familiar teaching and learning routines" (Hoss et al., 2021, p. 5), or more precisely, universities "were forced to adjust their established routines and concepts of teaching and learning" while attempting to create remote study environments online (Hoss et al., 2021, p. 1).

The aforementioned studies indicate that there has always been a constant need to undertake research that aids in obtaining qualitative and quantitative findings which can maximise the benefits of adopting online learning methods in some important dimensions relating to the availability of technology, the support given by an institution, and the influence from the students' learning environment. The objective of the present study was to ascertain whether our university students' online learning readiness (OLR) was significantly correlated to technology accessibility, institutional support and social influence at a university during the pandemic. This means that we were unsure whether these three independent variables would be significant factors affecting OLR in the regional context of this study during the pandemic. To bridge the research gap, this study proposes the following hypotheses:

H1: Technology accessibility has a significant effect on university students' readiness to learn online during the pandemic.

H2: Institutional support has a significant effect on university students' readiness to learn online.

H3: Social influence has a significant effect on university students' readiness to learn online.

This study aimed to advance the extant body of knowledge on students' online learning experiences in a developing nation as it responded to Adnan and Anwar's (2020), Almaiah et al.'s (2020) and Baber's (2021) calls to examine students' views on online learning during the pandemic, given that students' voices constitute a vital dimension that merits attention in this issue (see Mailizar et al., 2020). It is likely to enrich the current literature by first quantitatively assessing the association between the dependent variable (i.e., students' readiness to learn online) and each of the three in-

dependent variables, comprising technology accessibility, institutional support and social influence, before moving on to qualitatively investigate students' behavioural patterns in online learning while they were encountering challenges during the MCO period. The findings from the present study could provide faculties and academic institutions with insights into students' learning experience, thus enabling institutions and academicians to adapt their teaching methodology and make informed decisions on how to fully exploit the potential of online technology in the teaching and learning process. This inquiry constitutes an extension from the technology acceptance model (TAM) and extended technology acceptance model (ETAM), and our main focus is largely on the degrees to which the three aforementioned factors are correlated to online learning readiness. Given the focus, it is necessary to review some previous studies concerning (i) the TAM and ETAM, and (ii) each of the three major independent variables which may have a bearing on online readiness that constitutes the dependent variable in this study.

Literature Review

Technology Acceptance Model

The technology acceptance model, established by Davis (1989), describes the factors that determine the acceptance on the use of computers and suitable technologies in different user groups. The model (i) presents the relationships between two personal beliefs, namely 'perceived ease of use' and 'perceived usefulness', and (ii) explains how they are influenced by external and system-specific factors. It was found that these two beliefs could be used to predict users' attitude towards using a technology. The attitude towards the use of technology then affects the behavioural intention to use a technology, which eventually predicts the actual system use (see Figure 1). TAM has been employed in various past studies relating to online learning, and literature relating to technology acceptance (Alkis *et al.*, 2014; Holden & Rada, 2011).

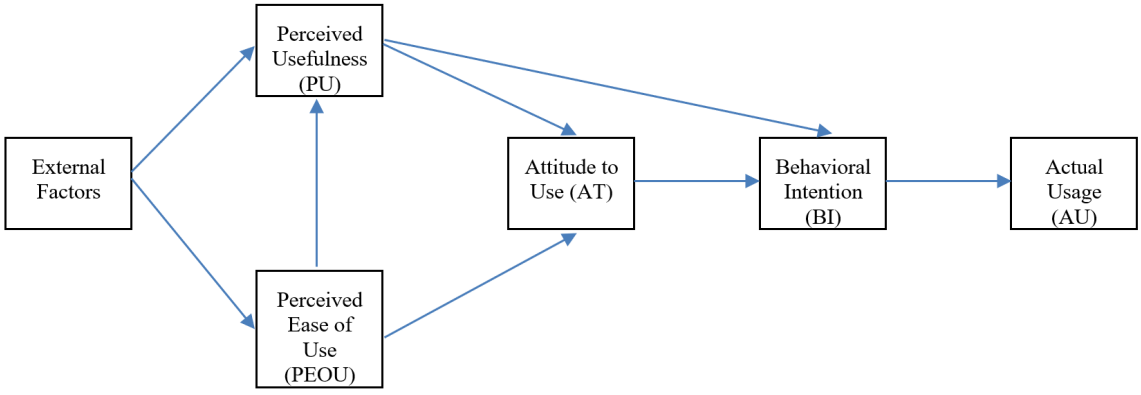
One such study using the technology model as the term of reference was conducted by Linjawi and Alfadda (2018) in which they examined the perception, attitudes, and readiness of a cohort group in dental education on the challenges of online learning in Saudi Arabia. A detailed questionnaire was used to examine the six primary domains, with each consisting of multiple subdomains. The six primary domains were the (i) individual characteristic domain, (ii) system competency needs domain, (iii) social influence domain, (iv) institutional support domain, (v) overall readiness domain, and (vi) needed technical support domain. The questionnaire comprised 34 questions on a 5-point Likert scale, five multiple-choice questions, and two open-ended questions. Among the noteworthy findings were that (i) social influence on online learning was acceptable but not too high for all participants at all levels, (ii) the institutional support was considered important by all participants at all levels, and (iii) the top-down implementation by the administrators to the users was important and a more sustainable strategy. The study showed that the participants perceived that the use of technology in dental education was important; however, as students matured, they perceived the impact of and readiness for e-learning to be less accepted and they reported that they needed more support in some skills.

Extended Technology Acceptance Model

The extended technology acceptance model (ETAM) proposed by Salloum (2018, p. 17), being a subsequently posited model with more detailed features, was applied as the guiding principle in this research. The model was made up of 13 constructs, comprising "computer self-efficacy, subjective/social norm, enjoyment, system quality, information quality, content quality, accessibility, computer playfulness, perceived usefulness, perceived ease of use, attitude toward using, behavioral intention to use, and actual system use". Of these factors, the first eight factors were posited as the external factors that could affect students' readiness to learn online. It was also claimed that six of these eight factors (namely system quality, information quality, computer self-efficacy, enjoyment, accessibility, and computer

Figure 1

Technology Acceptance Model (TAM) by Davis (1989)



playfulness) all led to an increase in the students' perceived ease of use and/or perceived usefulness of online learning. Among these six factors, self-efficacy understandably had a greater impact on online learning readiness, but in the context of this study, technology accessibility constitutes a basic external factor that deserves greater attention, given that the university where this study was conducted had formally started online learning only six years before the research commenced. This explains why it was necessary to seek more information on a possible interrelationship between online learning and technology accessibility, particularly in the context of the pandemic when access to technology was of major concern. Studying the interrelationship appears pertinent given that technology accessibility, according to Salloum (2018), could be related to online learning readiness, which in turn could depend on students' 'perceived ease of use'. The perceived ease of use was reported to have an effect on 'perceived usefulness' (Sallom, 2018), which in turn could have an effect on 'attitudes' and 'behavioural intention' in online learning. From this perspective, these results are largely consistent with the original theoretical foundation of TAM (Davis, 1989).

In the context of this study, other TAM constructs such as 'attitude', 'behavioral intention' and 'actual use' were grouped under a single factor renamed as 'learners' readiness' because they were exactly part of the learners' own characteristics, unlike technology accessibility which constituted a major external factor affecting learners' online learning readiness. Furthermore, two other external factors, namely 'institutional support' and 'social influence', originally also proposed in Davis' (1989) TAM model, are given attention in our proposed model because their possible inter-relationships with online learning have been reported in prior studies, and they are likely to have a bearing on online learning readiness. In particular, Linjawi and Alfadda's (2018) reported that 'institutional support' and 'social influence' were independent variables that could influence online learning readiness. To further consider the interrelationships between online readiness and each of these three independent variables, a detailed review is provided in the following subsections.

Technology Accessibility

Technology accessibility was described as having "access to the necessary technologies to take advantage of online education" (Ferri et al., 2020. p. 6). This study considers technological accessibility as an easy access to the Internet/Wi-Fi in addition to the technological tools used for learning online, such as mobile phones, laptops and computers. Technology accessibility has been found to be an important factor that affects student online learning (Ahmad *et al.*, 2020, Salloum, 2018). In addition, according to Dogruera et al. (2011), access to the Internet in the educational setting has facilitated information sharing via online resources. In addition, an inter-relationship between technology accessibility and online learning readiness also showed that insufficient access to the Internet, availability of the Internet service, and the lack of the latest technology could have an impact on online learning readiness.[1] Likewise, Mukhtar et al. (2020) held that the Internet connectivity issues, being part of technology accessibility, could be negatively correlated to learning through online modalities.

Another prior study that revealed a noticeable interrelationship between technology accessibility and online learning readiness was Tuntirojanawong's (2013) work, which demonstrated that technology accessibility might contribute the most to the online learning readiness among the graduate students majoring in education administration as it had the highest mean compared to other variables. More specifically, Jaffar et al. (2022) showed that students were more ready for online learning when they could easily access their electronic devices such as laptops and smartphone for the learning process, especially while they were attempting to adapt to the new educational norms during the pandemic.

Institutional Support

Institutional support refers to the provision of various types of support for stakeholders (e.g., faculty, students) and processes (e.g., course development) for facilitating the transition to online education (Pedro & Kumar, 2020). Institutional support is essential to provide effective and efficient student online learning delivery (Dhawan, 2020). Managers of learning management systems in higher institutions play a vital role in enhancing the implementation process of an e-learning system for both lecturers and students (Salloum, 2018). As stressed by Hodges[2], students had to learn online not because they decided to venture into online learning, but because the institutions concerned had mandated that faculty move their course online to prevent the spread of the virus concerned. They noted that effective online learning materials that promoted learning experiences had to be given to students. They further elaborated that institutions had to take steps to reduce the digital divide as the unavailability of digital tools and the lack of Internet or Wi-Fi access would cause many students to lose the opportunity to learn online. On the same note, institutions were expected to support

[1] Zhong, R. (2020). The coronavirus exposes education's digital divide. https://www.nytimes.com/2020/03/17/technology/china-schools-coronavirus.html.

[2] Hodges, C., Moore, S., Lockee, B., Trust, T., & Bond, A. (2020). *The difference between emergency remote teaching and online learning.* https://er.educause.edu/articles/2020/3/the-difference-between-emergency-remote-teaching-and-online-learning

students' online learning by (i) providing relevant training and student orientation in using online learning tools, and (ii) furnishing them with the necessary equipment for using the learning management system, e-learning, and academic-type competencies (Dhawan, 2020; Mukhtar et al., 2020).

On the one hand, the pandemic sped up the embedded digitalisation and digital ways of working in organisations or institutions, but on the other hand, it required an urgent need for institutions and policy makers to develop initiatives to reach users from disadvantaged backgrounds, such as those with low skills and those of older age (Webb et al., 2021). The important role of institutional support has pointed to the need to examine a possible interrelationship between institutional support and online learning readiness. Institutional support was also found to be a common factor that had a great impact on students' readiness to learn online (e.g., Lee et al., 2011; Linjawi & Alfadda, 2018; Yukselturk & Yildirim, 2008). A more recent study on forced online learning readiness in a pandemic situation also showed that institutional support, particularly in the form of technology infrastructure and Internet speed provided by institutions, could vastly affect students' perceived enjoyment in online learning (Maheshwari, 2021). However, it was found that although institutional support does have a relationship with online learning intention or readiness, "the relationship was found to be negative" (i.e., -0.24, $p<0.05$). This explains why we were unsure whether institutional support will have a positive or negative impact on students' online learning readiness during the pandemic in the context of this study.

Social Influence

Social influence is defined as the degree to which an individual perceives that "others believe he or she should use the new system" (Venkatesh et al., 2003, p. 451). Social influence has been found to be an external factor that could have a relationship with student online learning (Al-Ammary et al., 2014; Elkaseh et al., 2015; Farahat, 2012; Salloum, 2018). The interaction between the teacher and student material, alongside emotional and social support, has been found to be essential for effective learning, as acknowledged by Mukhtar et al. (2020). Students tended to contact their course instructor via email, and this method needed response time. In addition, full real-time sharing of ideas and information was not possible for online classes and this situation could be of interest to tactile learners (Britt, 2006). Restriction of social interaction, in general, can cause distress to those affected as social interaction is widely interconnected with psychological wellbeing (de Luca et al., 2021).

A possible interrelationship between social influence and online learning readiness can also be understood from the perspective of mental health, given that students may be less inclined to learn online if their social life is affected to a great degree, especially during the pandemic (Cao *et al.*, 2020; Odriozola-Gonz´alez *et al.*, 2020). The lack of social interaction may result in some critical situations that require educators to closely monitor students' online learning readiness, especially by showing sufficient empathy towards students (Azlan *et al.*, 2020; Cao *et al.*, 2020; Odriozola-Gonz´alez *et al.*, 2020). In this regard, past research showed that the use of social networking technologies, such as web 2.0 and social media tools in learning, could create "a sense of presence, community building, and learner participation in interactive discussions" (Veletsianos & Navarrete, 2012, p. 146). In general, online learning functions as an educational platform that promotes social connection among users by allowing them to discuss and get immediate feedback (Greenhow, 2011). However, we are unsure whether in the context of the current study, social influence has a significant impact on students' learning readiness, since instructors had started online learning only several years before the onset of the pandemic.

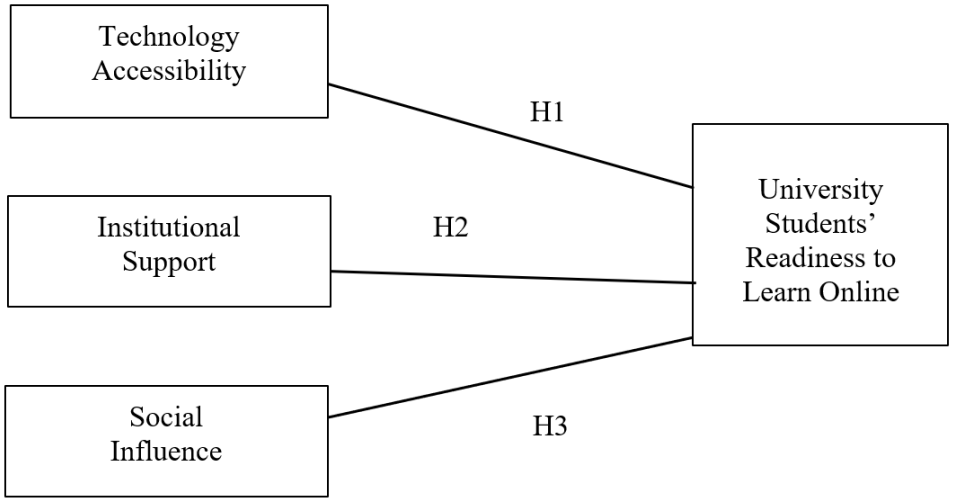
Overall, based on the review of studies relating to the three independent variables in relation to online readiness (as the only dependent variable), the proposed research framework is illustrated in Figure 2.

Previous research has highlighted TAM's inadequacies in addressing the link between technology and actual adoption and use of technology (Hai & Kazmi, 2015; Lim *et al.*, 2016). Among these limitations, Laugasson et al. (2016) held that when using open-source software, especially in schools in developing countries, TAM is not particularly relevant as a research framework to predict and explain the acceptance and use of technology. One argument is that the TAM model's "ease of use" and "usefulness" may not have been the most influential factors (Laugasson et al., 2016). This is because the technology adopted at a particular time can easily and conveniently be replaced by another free and open-source technology. The ETAM model (Salloum, 2018, p. 17) is therefore also referred to in this study that focuses largely on the interrelationships between online learning readiness and the three major independent variables, comprising technology accessibility, institutional support, and social influence.

This study focused exclusively on the aforementioned interrelationships because our literature review has shown that not all factors, as explained above, could be major external factors affecting online learning readiness (see Salloum, 2018). As such, in order to elicit detailed information on some major interrelationships reported in literature, it would be important to focus on three major factors that were more likely to affect online learning readiness in a pandemic situation. Firstly, technology accessibility was given the focus because accessibility to online facilities constituted a major issue as students had to resort to online platforms when physical face-to-face classes were not possible during the pandemic, and it was not clear to what extent

Figure 2

Proposed Research Framework Relating the Three Independent Variables with Online Learning Readiness Functioning as the Dependent Variable



their readiness could be affected by the degree of accessibility. Secondly, institutional support had to be examined in that students' readiness to learn online could be affected by the degrees to which they were encouraged by the universities where they were studying during the pandemic. Such support could vary across different areas or regions, thus explaining why more data on institutional support is needed. Thirdly, social influence became part of the focus of this inquiry in view of the physical distancing needed during the pandemic, which made it necessary to examine how influence from other individuals could still have a bearing on their online learning readiness. Given the motivation, the following section provides details pertaining to the methodology used to examine the interrelationships between the aforementioned variables and the behavioural patterns of the students during the pandemic.

METHOD

Research Design

A mixed methods research design was employed in this research, in which the quantitative component was executed using self-administered questionnaires, while the qualitative component was conducted through in-depth interviews. This "explanatory sequential (QUAN - qual) design" was used given that quantitative data was collected first and was "more heavily weighted" than were qualitative data (Mills & Gay, 2019, p. 431). In the first phase, we formulated hypotheses, collected quantitative data, and conducted data analysis. The findings of the quantitative phase were then used to determine the type of data collected in the second phase, which focused on collecting, analysing and interpreting the qualitative data. This means that we used a qualitative analysis and an interpretation to help us explain and elaborate on our quantitative results (Mills & Gay, 2019).

Quantitative Research Procedures

Participants in the Quantitative Component

A total of 300 university students were initially approached at the higher learning institutions in Sabah, Malaysia, and 211 of them provided complete answers to a self-administered questionnaire, yielding a 70% response rate. The participants were provided with the link to access the questionnaire in Google Form.

Instrument and Measures

The online self-administered questionnaire consisted of two sections. Section 1 required students to provide information on their demographic profiles, while Section 2 consisted of 24 items that elicited information on students' perceptions of technology accessibility, social influence, institutional support, and learner readiness (Table 1).

The measures of technology accessibility (5 items), social influence (5 items), institutional support (5 items), and learner readiness (9 items) were factors developed from previous TAM studies (Linjawi & Alfadda, 2018; Salloum, 2018) to meet the current study environment. These measurement items were measured on a 5-point Likert scale ranging from 1 (strongly disagree) to 5 (strongly agree).

Table 1

Measurement of Items on Online Learning Experience

Dimension	Label	Item
Technology accessibility	TA1	A fairly new computer/laptop (e.g. with a high speed, large memory, speaker and Webcam.
	TA2	A computer/laptop installed with adequate software (e.g., the latest versions of Microsoft Office, Adobe Acrobat and Real Player Internet Explorer).
	TA3	A fast Internet/Wi-Fi connection at home.
	TA4	A mobile technology (e.g., iPhone, iPad and Smartphone).
	TA5	Finding information on the Internet (e.g., using search engines and web surfing).
Social influence	SI1	My instructors/lecturers think that I should participate in online learning.
	SI2	Other students/group members think that I should engage in online learning.
	SI3	My parents feel that I should have lessons via online learning.
	SI4	People whose opinions I value feel that I should engage in online learning by using online platforms like Zoom, Google Meet, and Webex.
	SI5	My university would support/encourage the use of online learning.
Institutional support	IS1	I have no difficulty accessing the online learning system (learning management system) of my university.
	IS2	There is strong Wi-Fi and Internet connection at the campus/student hostels.
	IS3	Lecturers consider students' accessibility to the Internet/Wi-Fi when deciding on the deadline/extension given for assignment submission.
	IS4	The chain of communication is suitable for me to get access to the learning management system of my university.
	IS5	I can easily use the chain of communication that gives me access to online learning tools.
Learner readiness	LR1	I am ready to commit my time in online learning.
	LR2	I am ready to be disciplined in my online learning.
	LR3	I have shown more interest and motivation in online learning.
	LR4	I have gained helpful online learning experience during the COVID-19 period (using online platforms such as Zoom, Google Meet, Webex, etc.).
	LR5	Now that I have gone through full online learning during the COVID-19 period, I feel more confident in using online learning even if no one is around to help.
	LR6	I am more convinced that online learning is useful and important for me.
	LR7	In fact, I find online learning enjoyable and pleasant now.
	LR8	I have improved my online skills by having to do assignments and learning online.
	LR9	I feel that engaging in online learning during the COVID-19 period has simulated/enhanced my creativity and imagination.

Note: Questions in this questionnaire refer to your online learning experience in general that is, for all courses that you have taken in Semester 1, 2020/2021 (when Movement Control Order was implemented by the government). Please rate the following statements on the following scale: 1= Strongly disagree; 2 = Disagree; 3 = Neutral; 4 =Agree; 5 = Strongly agree

Quantitative Data Collection

The participants were asked to indicate to what extent they agreed or disagreed with the given statements by ticking the right option (1=strongly disagree; 2= disagree; 3=neutral; 4=agree; 5=strongly agree). Table 1 presents the items for each of the four dimensions. The answers provided by each student participant was then collected and recorded as raw data in the Statistical Package for the Social Sciences (SPSS) program.

Quantitative Data Analysis

Using the SPPS software version 27, the researchers' analysis initially focused on processing the frequencies, means, and standard deviations of the data provided by the participants. A correlational analysis was subsequently conducted on the interrelationships between the three independent variables of interest (i.e., technology accessibility, institutional support and social influence) and the dependent variable. Pearson correlation analysis was chosen to measure

the association between the variables of interest while the effects of covariance were taken into account. This data analysis procedure was employed not only to identify the presence or absence of correlation between two variables, but also to establish the precise degrees to which the variables were associated with each other. The coefficients could also provide the directions of the correlations, and determine whether the relationship between each pair of variables was positive or negative.

Qualitative Research Procedures

With respect to the qualitative component of this investigation, in-depth interviews were conducted to obtain further insight into the university students' experience in online learning during the MCO period. Similar to Khan and Khan's (2019) study, this inquiry built on the social constructivist epistemology; for example, students attending the online classes might have different experiences due to differing prior experiences, levels of understanding and socio-economic positions (Khan & Khan, 2019). It was believed that students' backgrounds and experiences could influence their motivation to study and expectations of desired outputs (Albrecht & Karabenick, 2018).

Participants in Interview Sessions

Regarding the qualitative component of this study, separate in-depth interview sessions were conducted with 41 students, who were selected using a purposive sampling technique. The inclusion criteria used to purposively select the interview participants are given as follows:

(1) Current undergraduate students at a local public university in Malaysia (as they had engaged in fully online learning for one semester or 14 weeks before this study commenced;

(2) Aged 21 - 22 years and not in their first year of study (so that they had at least some online learning experience on the campus using the university management system prior to the unprecedented pandemic);

(3) Earned at least an upper Band 3 in their Malaysian University English Test (MUET) results given that English was used in the questionnaire and interview.

Instrument for Eliciting Qualitative Data

Eleven open-ended questions were used in the interview session to explore the participants' feedback regarding their online learning experience during the MCO period, concerns and suggestions (see Aguilera-Hermida, 2020). These questions were formulated based on the core constructs included in the proposed framework of the present study, namely technology accessibility, institutional support, social influence, perceived ease of use, perceived usefulness, and learner's readiness. In order to elicit in-depth perspectives on online learning, they were followed up with probing questions prompted by the content of the dialogues.

Qualitative Data Collection

Prior to the interview session, the interviewees chose a time slot for the interview via Google Meet. On the interview day, a Google Meet link was sent by the primary researcher to the participants via a WhatsApp group to invite them to attend the online interviews. The interviews were carried out during the second semester of the 2019-2020 academic session in mid-August, 2020. Each student interviewee was interviewed in English for about 20-30 minutes. The first interview was considered a pilot session due to the structured nature of the interview, and the data obtained from the pilot session was eventually included in the analysis in view of the completeness of the answers elicited. The interviews were recorded via Google Meet with the participants' consent, and verbatim transcriptions were subsequently carried out by the principal researcher. While the study was not of a sensitive nature, efforts were made to maintain the privacy and confidentiality of the participants. To address ethical concerns, the respondents' names were not used during the process of collecting and reporting all the data in this study.

Qualitative Data Analysis

At the end of every interview, data was analyzed using a thematic analysis. This means that the data was closely examined to identify common themes - topics and ideas that emerged repeatedly. The common themes were coded and referred to as (i) technology accessibility, (ii) institutional support, and (iii) social influence. Views relating to perceived ease of use and perceived usefulness, whenever relevant, were included in the discussion. In other words, the present study focused on exploring the learners' interview responses in the light of the three factors. The 11 questions included in the interview are presented in the Appendix of this paper.

RESULTS

The quantitative results of this study are first reported before the qualitative findings are presented in the subsections.

Factors Influencing University Students' Readiness in Learning Online: Findings from Quantitative Data

Our quantitative research using the Pearson correlation analysis was executed to examine the effect of technology accessibility, institutional support, and social influence on university students' readiness to learn online. Prior to

that, the internal reliability of these constructs was measured through Cronbach's alpha. Nunnally (1978) noted that Cronbach's alpha was satisfactory when its coefficients were larger than 0.700. Table 2 shows the Cronbach's alpha values for these factors are between 0.723 and 0.933.

Accordingly, all measurement items are confirmed to have high internal consistency. In Pearson correlation analysis, a correlation coefficient (r) value of −1 is a negative correlation and +1 is a positive correlation (Lind *et al.*, 2010). The correlation coefficients between the factors in this study are below 0.700 (ranging between 0.287 and 0.508), thus signifying a reasonable discriminant validity.

Given the validity, attention can now be directed to the three hypotheses formulated in this inquiry. With respect to each of these hypotheses, quantitative results relating to each hypothesis will first be reported before qualitative findings are presented to "triangulate different data sources" while "examining evidence from the sources and using it to build a coherent justification for themes" (Creswell & Creswell, 2018, p. 274). The first hypothesis, H1, postulates that technology accessibility has a significant effect on university students' readiness to learn online. Pearson correlation coefficients show that the relationship is significant and positive as r=0.413 at p<0.01, thus supporting H1. In the ensuing hypothesis, H2, it is posited that institutional support has a significant association with university students' online learning readiness. The correlation coefficient of these linkage is 0.468 with p<0.01, thereby indicating the support for H2. Furthermore, H3 postulates that social influence has a significant effect on university students' readiness to learn online. The coefficient of this correlation is 0.409 with p<0.01, thus supporting H3. Overall, of the three correlations, university students' readiness to learn online is heavily influenced by institutional support, followed by technology accessibility and social influence.

Factors Influencing University Students' Readiness in Learning Online: Findings from Qualitative Data

Qualitative research was conducted using an in-depth interview session among 41 university students who were selected using a purposive sampling method with the aim of exploring their experience in online learning. The results of the in-depth interview session are elaborated below.

Technology Accessibility

Students' views on technology accessibility are reflected in their statements as shown in Table 3. In relation to technology accessibility, university students expressed that one of the challenges they faced in forced online learning in the pandemic situation mainly stemmed from (i) low level of technology accessibility, and (ii) poor Internet access.

Such situations have caused students to feel anxious and stressed especially when they had to take their assessments online. Further, students perceived that having a good Internet connection was vital given that not all students had adequate access to the Internet, Wi-Fi, or proper digital devices, and as such, those who were less fortunate might lose out on learning opportunities.

Institutional Support

The university students reported that they needed support from both the university and their lecturers. They pointed out that they needed the university to (i) provide better internet connectivity, (ii) fund free mobile data for online learning, (iii) build good IT infrastructure, and (iv) train lecturers in digital literacy (see Table 4).

Students also reported that they needed lecturers who could explain online lessons with greater effort, provide solutions to students who had to do practical work in their courses (e.g., crop cultivation, on-site research and lab work), give out less online assignments, and conduct online platforms competently. Students further elaborated that they needed the university to provide a better internet connectivity and to fund free mobile data to facilitate their online learning.

Social Influence

The qualitative findings on the views and perceptions given by the student interviewees, as illustrated in Table 5, further substantiate our result on the positive correlation between social influence and online learning readiness.

Table 2

Descriptive Statistics, Reliability Analysis and Correlation Analysis

Variable	Technology accessibility	Social influence	Institutional support	Learner readiness	Mean	Standard deviation	Cronbach' alpha
Technology accessibility	1.000				3.649	0.642	0.723
Social influence	0.287**	1.000			3.852	0.696	0.890
Institutional support	0.508**	0.301**	1.000		3.589	0.669	0.762
Learner readiness	0.413**	0.409**	0.468**	1.000	3.795	0.721	0.933

Note. ** Correlation is significant at the 0.01 level

Table 3

Students' Views on Technology Accessibility in Forced Online Learning

Student No.	Student Views	Labels
S26	"One of the major challenges that I encountered was technical difficulties which include poor internet connection..."	Bad internet access/low level of technology accessibility
S8	"...sometimes when lecturer make(s) an online class, I cannot get the knowledge clearly because of slow data connection."	Bad internet access
S17	"... I find it hard to focus during lectures and on some days I don't have Internet connection at all. That made it hard for me to complete some assignments that requires extra reading materials."	Bad internet access/low level of technology accessibility
S5	"One of the challenges that I face during the online classes was...the instability of Internet services ...The Internet unstable issues have resulted in students...not (being) able to listen to the lecturer properly..."	Bad internet access
S35	"...the condition of (the) Internet line is slow. I lived in a small town in Sabah that (is) having an issue of connection of data, and this makes me (it) hard (for me) to attend any online classes, and (I) missed out a lot of information from the teacher through online class, and I have to ask my friends about the information in order to complete all the tasks in a correct way."	Bad internet access/low level of technology accessibility
S22	"The main things (thing) is the unstable (instability) of the Internet connection. This is because the Internet connection of my house is sometime(s) unstable during raining. Therefore, I feel a bit worry (worried) when conducting the online tests since some online tests need good Internet connection."	Bad internet access

The social influence between lecturers and students through online platforms such as Zoom, Google Meet, and Webex enabled online teaching and learning activities to be carried out smoothly and in real-time. Besides, students were ready to continue using online learning during the post-pandemic period upon their return to the campus as long as it was conducted alongside a physical face-to-face learning environment, which mainly stemmed from their desire to be able to have an effective discussion while physically meeting and interacting with fellow students and lecturers. The interview data on students' social influence in online learning shows that their views tended to be affected by (i) interactions with people around them, namely family members, friends and lecturers, (ii) home environment, and (iii) learning environment. Table 5 indicates that some participants see the need and benefits of having face-to-face classes which they were accustomed to because face-to-face learning enhances (i) discussions with group members, (ii) interactions with lecturers, and (iii) communication with both friends and lecturers. In addition, others felt that the online learning mode was more helpful as it (i) provided comfort and flexibility of learning from home, and (ii) improved virtual communication skills to interact with friends**.** At the same time, some participants did not prefer online learning due to (i) the problem of managing both studies and household responsibilities simultaneously, and (ii) their inability to stay focused on the screen as a result of an unconducive learning environment at home. In sum, students missed their prior face-to-face classes for three reasons, which were (i) lecturers' immediate help and clarification could be obtained after the physical classes, and (ii) face-to-face classes were not interrupted by poor or no internet connection, thus indicating why the physical classroom was more conducive for learning under specific circumstances. Due to the aforementioned advantages and disadvantages of the two modes of learning, it can be noted that after the pandemic, students were likely to prefer hybrid classes, which consisted of face-to-face classes alongside online classes.

DISCUSSION

The degrees to which the three hypotheses are discussed here before the students' online behaviors need to be given due attention. Each hypothesis is discussed before summative comments are given.

Technology Accessibility and OLR

The first hypothesis is supported given that the relationship between technology accessibility and online learning readiness was positive and significant, while the perspectives and impressions expressed by the student interviewees also gave additional support for H1. Through the in-depth interviews, aside from noticing that university students generally considered it a challenge to use online learning during the MCO period, this study has ascertained that poor Internet connection remains a major hindrance experienced by students in their hometowns. The digital divide is therefore evident in the form of good and poor access to the Internet. Having a poor Internet connection during forced online classes thus seems to be one of the main contributing factors causing increased stress and anxiety among students. Consequently, students tended to miss online lessons and find the lecturers' explanations insufficiently comprehensible due to the unclear audio and/or visual transmission.

Table 4

Students' Views on Institutional Support in Forced Online Learning

Student No.	Students' Views	Labels
S32	"...Also, many of the lecturers do not know how to operate an online class properly and (this has) caused a lot time being wasted on technical issues."	Support from the university in training teachers
S40	"I was not able to follow the online learning effectively during some time, especially when my mobile data was weak because I would be out from the system automatically and I needed to enter the class again. Therefore, I would miss some important lessons brought (taught) by lecturers."	Support from the university in providing better internet connectivity
S9	"...my lecturers usually will use whiteboard to explain a theory that is complicated. So with only online classes...usually will be present(ed) through slides, I found out that it is a bit hard to understand certain theory...only through slides."	Support from the lecturers
S26	"...it is quite hard to understand what our lecturers are teaching since some of the study materials are hard to explain during online class. For example, setting environment to connecting database and PHP code, and debugging errors in the code, lecturer need to be there to check the student's code in order to help them."	Support from the lecturers
S18	"There have (used to be) exams in many subjects... have been replaced by assignment(s), so assignments will be doubled. This leads to insufficient time. The stress of students will also increase..."	Support from the lecturers
S13	"I would like the university to upgrade the Internet connection at all hostels. Having a fast Internet connection is vital for our learning since we depend on it to study, submit assignments, do online tasks, and many more."	Support from the university in providing better internet connectivity
S4	"The first thing that I would like the university to do in relation to my learning at campus is to upgrade the Wi-Fi connection. Students often use Wi-Fi to do research for assignments. It is important for students to have a strong Wi-Fi to do the assignments."	Support from the university in providing good IT infrastructure
S5	"I think the university should improve their learning website to help students easily access to it without any interruption."	Support from the university in providing good IT infrastructure
S38	"I think the university should improve our SmartV3 because there is one issue in Smartv3 where it shows "not submitted" even though we have submitted our work. This situation happened twice for our online exam and this has made students worry..."	Support from the university in providing good IT infrastructure
S26	"... I hope the university would provide students (with) financial assistance for those who (are in) need..."	Support from the university in providing financial assistance for online learning
S15	"...I also wish that the university will upgrade the SmartV3 site so for better learning experience; this is also a backup or preparation in case we will be undergoing lockdown again."	Support from the university in providing good IT infrastructure

This finding is consistent with Linjawi and Alfadda's (2018) finding that the success of the e-learning mode hinges on technological accessibility, especially in relation to the Internet speed. It also corroborates Loyd and Gressard's (1984) statement that hitches in the use of technology normally cause anxiety to users, thus resulting in barriers to e-learning. Our finding has thus highlighted the need to resolve technical issues such as unreliable Wi-Fi or poor audio quality which, according to Favale et al. (2020), can severely amplify the challenges due to obstructions and delays of OTL. In addition, students felt stressed when they were unable to submit their test answers within the stipulated time limit due to online system errors. This finding appears to be akin to those prior studies which showed that the emergence of technological issues, such as the unexpected automatic changes of their answers and difficulty in focusing on the subject matter while typing using the technology that was accessible to them (Betlej, 2013; Kuriakose & Luwes, 2016).

Institutional Support and OLR

The second hypothesis is also supported given that the relationship between institutional support and online readiness was positive and significant. More precisely, our finding that institutional support constitutes the most prominent factor affecting university students' readiness to learn online supports Linjawi and Alfadda's (2018) finding that the institutional support was important by all participants at all levels in their study. This is also consistent with Lim's (2022) finding that institutional support constitutes an important factor influencing online learning readiness, especially during an emergency remote learning situation, such as the pandem-

Table 5

Students' Views on Social Influence in Forced Online Learning

Student No	Students' Views	Labels
S41	"...during this COVID-19 period, the challenges that I have faced is on managing my time in between the online learning classes and spending time with my family. This is because I had to manage my time for the study purpose and for the house chores that I am doing which could help my mother when I am at home."	Online classes make it harder to manage both studies and household responsibilities simultaneously (home environment)
S21	"The major limitation I faced is the increased household obligations...It gives me the advantage of having extra more time to do my own works (work) while learning in the university."	Online classes make it harder to manage both studies and household responsibilities simultaneously (home environment)
S15	"As classes conducted via online, the major challenge is to manage my time. This is due to my responsibility at home. Since my mom is working, I have to do all the housework..."	Online classes make it harder to manage both studies and household responsibilities simultaneously (home environment)
S6	"I find myself not giving my full concentration during online learning. I always (get) distracted when listening to online lectures because no one sees me playing with my phone or going out from my room, so I find myself not being able to fully understand what my lecturers are teaching from the screen."	Online classes make it difficult to stay focused on screens when learning from an unconducive learning environment
S30	"...I seldom have negative emotions like I used to have back in campus, as I am surrounded by (my) family. Good emotions lead to better stress tolerance as well. Online learning allowed me to work or complete my online assessments on (at) my own pace, which I'm always keen on..."	Online learning provides comfort and flexibility of learning from home with supportive family members around
S19	"I learned how to hold meetings more effectively online...there is no exam, and all the time is spent on assignments, so the (my) use of computer programs has also improved."	Online learning improves virtual communication skills to interact with group members (friends)
S3	"I think the COVID-19 period has actually benefited me by helping me to realize the goodness of face-to-face learning in (a) certain way, and I will be much appreciated (will appreciate) the opportunity to have face-to-face discussion with my group mates after this..."	Face-to-face learning enhances classroom discussions with group members (friends)
S4	"Yes, I do miss face-to-face classroom learning because if I don't understand, can ask (pose questions) directly to (the) lecturer, and the lecture is going (can go) smoothly without being stuck, like (having) no Internet connection when (there is an) online class."	Face-to-face learning facilitates interactions with lecturers
S10	"I definitely miss physical class in (on) campus because it is more interactive and I am more focused there."	Face-to-face learning facilitates interactions with lecturers and helps stayed focus in class
S34	...Furthermore, I find (found) it harder to focus (in an online class) because I felt like I was not in the 'zone'. I am in my room and my brain just says "this is a resting place, and not (a) working place", so it is hard to set my mind gear (get my mind into gear)."	Online classes make it difficult to stay focused on screens due to an unconducive learning environment at home
S24	"I would like to do completely face-to-face classes. It is easier to talk, easier to discuss, (and there is) no connection problem. Being at (on) campus is very comfortable and there will be no distraction and other responsibilities."	Face-to-face learning enhances classroom discussions with others (friends and lecturers)
S11	"I would prefer completely face-to-face (sessions) because I can hear lecture(s) clearly, and directly ask the (my) question, and answer the question from (the) lecturer."	Face-to-face learning facilitates interactions with lecturers
S38	"Of course, if COVID-19 wasn't a limiting factor, completely the face-to-face learning method is definitely better for me as I am a more sociable person. I would prefer an environment where I can chat with my friends and lecturers directly and not in front of a screen...I definitely not preferring (don't prefer) fully online learning as it was a pain (in) the ass for me as I sometimes do not actually have (a) stable Internet connection to deal with my learning. It is also really hard for me to get in touch with the (my) friends when encountering problems in studies."	Face-to-face learning enhances communication with both friends and lecturers

ic situation in this inquiry. Notably, our qualitative findings suggest that students generally prefer online learning to face-to-face learning if their roles are not restricted to being mere listeners during Internet-based lessons. By and large, they expect the institution to minimise static e-learning content that can generate very little discussion. Our finding is therefore in line with Bowen's (2012) observation that discussion constitutes an ideal way to challenge open minds although technology contributes to much content. Such a fundamental principle for conducting online sessions is particularly needed in cases where practical lab work and hands-on activities are not possible. Our findings therefore suggests that teachers' support constitutes a form of institutional backing that enhances forced online learning during the MCO period. This is consistent with Scherer *et al.*'s assertion (2021) that "online teacher presence emphasises teachers' responsibilities for their design, organization, facilitation and instruction in the online learning space so that educational purposes can be fulfilled while learners and teachers are not co-located or working at the same time" (p. 2).

Social Influence and OLR

The third hypothesis is also supported in that social influence has been found to have a significantly positive effect on university students' readiness to learn online. The result concurs with prior studies which showed that students' learning hinges on human interaction in all aspects of their lives (Allen & Seaman, 2003; Saafin, 2008). More precisely, our finding is consistent with previous research findings which showed that social influence could be a primary external factor impacting students in forced online learning (Al-Ammary et al., 2014; Elkaseh et al., 2015; Farahat, 2012; Salloum, 2018). In addition, our qualitative results showed that although students appreciated some social connections which had been made available to them via the real-time online platforms, they generally exhibited a stronger preference for physical face-to-face interactions with their instructors and fellow course-mates. It means that despite the possibility of establishing some social relationships via online learning, instructors cannot afford to be complacent with the mere availability of online platforms at their disposal. To be exact, one of the roles that instructors can effectively play is to ascertain whether their students have encountered problems in managing their studies and household responsibilities at the same time. This is particularly needed in cases where a sizeable portion of the students being guided online are unable to stay focused on the screen due to family distractions and household responsibilities. Our result therefore corroborates Buzzetto-More's (2003) finding that online learning should suit students' learning styles and existing abilities under the circumstances concerned (Buzzetto-More, 2013), and condition-dependent learning is especially needed when students encounter problems in an unconducive learning environment at home setting. It also concurs with previous researchers' (Azlan et al., 2020; Cao et al., 2020; Odriozola-Gonz´alez et al., 2020) view that instructors need to closely monitor students' online learning readiness, particularly by showing sufficient empathy towards their students.

Overview of Factors Influencing OLR

Overall, the aforementioned findings have revealed that students' readiness to engage in forced online learning in the pandemic situation is influenced by institutional support, technology accessibility, and social influence; however, among these three factors, institutional support stands out as the factor demonstrating the most significant association with online learning readiness. Viewing these factors at a deeper level, we need to acknowledge here that institutional support has a relatively high correlation with technology accessibility, thus providing additional support for Lee and Jung's (2021) finding that technology accessibility is greatly related to the fidelity of institutional support. A possible explanation is that when institutions provide students with relevant support in a pandemic situation, students generally receive an impetus to adopt a new technology, thus showing a greater propensity to use the technology concerned. In addition, although it has been found that social influence is correlated to online learning readiness, the interrelationship was still not as strong as the correlation between online learning readiness and institutional support or technology accessibility. Our finding is consistent with Linjawi and Alfadda's (2018) finding that the influence of social influence on online learning was acceptable but not too high for all participants in their investigation. In sum, by understanding online learning readiness among university students and the ways in which these three external factors affect online learning readiness, lecturers and institutions will be in a better position to come up with the right online learning teaching approach to help students enhance their online experience and elevate their learning satisfaction.

In brief, students need to receive sufficient institutional support in the form of cost reduction and system upgrading, given that good IT infrastructure in the university learning management system could enable students to engage in an effective learning process which, in turn, could provide greater external motivation in forced online learning. Additionally, institutions should provide training to lecturers in order to help them adapt online teaching in a pandemic situation. The pandemic caused a shift to OTL that required lecturers to adapt their OTL within a short period, whether or not they were prepared for the OTL. While lecturers' unreadiness to conduct online classes could cause students to experience more stress in forced online learning, their adaptation to conduct lessons online using the available technology played an important role in enhancing the effectiveness of OTL. By and large, our findings suggest that the online learning experience during the MCO period has helped students to appreciate their face-to-face learning on campus as they missed interacting with their course-mates in a phys-

ical classroom. It has to be acknowledged that only some students tended to experience intense stress while engaging in fully online learning due to the need to demonstrate a higher degree of self-reliance and the need to reduce distraction from their family members. Nevertheless, by and large, most students live with their family members while learning online from home during the pandemic, thus making the forced online learning circumstances less stressful. Due to the aforementioned advantages and disadvantages of the two modes of learning, after the pandemic, students were likely to prefer hybrid classes, which were face-to-face classes alongside online classes.

Theoretical and Managerial Perspectives

The findings need to be discussed from some important theoretical and managerial perspectives. Theoretically, based on the guiding principles in Salloum's (2018) model, a new model has been developed through the adaptation of TAM (Davis, 1989), taking into account three major external factors, which are institutional support, technology accessibility and social influence. This new model and the empirical results obtained in this mixed methods study have contributed to advancing the extant body of knowledge about forced online learning readiness in a pandemic situation affecting a developing nation. Additionally, the managerial implications of the current research are two-fold. Firstly, university administration should facilitate the transition to an online learning mode by providing strong internet connectivity and internet/Wi-Fi package subsidies to students. This means that the university can have a 24-hour computer lab (computer resource room) with Wi-Fi access, given that providing computer lab facilities can make technology more accessible to students, thus enhancing student motivation to learn online. Secondly, as the pandemic had made it inevitable for institutions worldwide to shift to forced online learning and teaching within a short period irrespective of whether lecturers were prepared or not, the authorities had to place greater emphasis on training in the use of technology for both students and lecturers. This was done to convert more conventional academic assignments and examinations to online ones, and to prepare for a possible re-emergence of a forced online learning situation in the future. Nevertheless, the workload involving online assignments should be optimized to an appropriate level in order to (i) avoid a cognitive overload, and (ii) ensure that students do not get bogged down by excessive online assignments, thus mitigating excessive online stress and demotivation. To boost social influence in learning, students' online lessons need to be made more interactive and discussion-generative by having synchronous online classes instead of only asynchronous lessons, as the former gives more opportunities for teachers to interact with students alongside providing emotional and social support. During a synchronous online class, both the instructor's and learners' videos need to be turned on as the video can potentially be a powerful tool that provides a multi-sensory learning environment aimed at focusing learners' attention on the information delivered (Ahmad *et al.*, 2020), and this is consistent with Azlan *et al*.'s (2020) finding that the effectiveness of this mode mainly hinges on the quality of the Internet connection and WiFi accessibility.

CONCLUSION

Using the mixed methods research design, this study has explored university students' experience and readiness to engage themselves in forced online learning that resulted from a pandemic situation. Students' responses based on the questionnaire and interview data have shown that three factors, namely technology accessibility, institutional support and social influence, have affected their online learning to various degrees. Both our quantitative and qualitative data has shown that the challenges of forced online learning were mainly attributable to poor Internet access and a low level of technology accessibility. Our quantitative data has also shown that institutional support strongly affected university students' OLR, followed by technology accessibility and social influence. Our qualitative data has further indicated that the major challenges encountered by the students in a forced online learning situation were the lack of physical interaction with the lecturer, delayed response time, absence of traditional classroom communication and conducive learning environment as well as conflicting demands of studies and household responsibilities. The respondents' views were closely connected with their home setting, learning environment and interactions with individuals around them. In addition, they needed support from the university, particularly in the (i) provision of better internet connectivity, (ii) funding of free mobile data for online learning, (iii) establishment of decent IT infrastructure, and (iv) training of lecturers in digital literacy. Overall, as the pandemic clearly sped up the adoption of online learning resources, it is understandable that forced online learning in the post-pandemic stage will continue to be needed, and as such, it is important to have a paradigm shift towards viewing online learning as a key national priority while designing and implementing new courses.

Despite the findings reported above, it needs to be acknowledged that this study has three limitations. Firstly, the sample of the present study was limited to participants from one university. The participants, however, have provided a wealth of information on the correlations between the OLR and the three factors, thus enlightening us on the major aspects deserving attention if the size of the sample is enlarged in future research to increase the generalizability of our findings. Secondly, the sample used in this inquiry was limited in scope as it focused exclusively on students instead of both students and instructors. To obtain more comprehensive findings, future research can involve a longitudinal survey aimed at discovering possible changes of participants' perceptions over a longer period of forced on-

line learning. Thirdly, this study was limited to a local setting, thus providing no information on how these factors can influence OLR in diverse national or geo-political settings. Nevertheless, the related results on the varying degrees of the factors affecting online learning readiness have provided authentic information on the basic computing facilities, institutional backing and peer interactions that merit attention if a comparative study is conducted in future to include participants from higher institutions across different developing countries in Asia. To sum up, the aforementioned limitations do not compromise the obtained results because the students' responses can be used to help us grasp the degrees to which OLR is affected by the three major factors. This study can be further extended by adopting a broader range of analytical procedures, which may move beyond a correlational analysis and a thematic analysis based on a questionnaire. Overall, this study has managed to elicit genuine learners' responses via a standardized questionnaire, even though future researchers can extend this study by including a wider range of analytical procedures. Attention can also be specifically devoted to how students use social media to express their views and/or perceptions about how their online learning experience is affected by technology accessibility, institutional support, and broader influence from their instructors, peers and the society at large.

DECLARATION OF COMPETITING INTEREST

None declared.

AUTHORS' CONTRIBUTION

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APPENDIX 1

Interview questions

Please type out your answers.

Please provide detailed answers to the following questions:

Technology accessibility

1. During the COVID 19 period, classes were conducted online. Can you share some of the major challenges/limitations/advantages that you faced in relation to your online learning during this period?

2. Were you given online assessments/assignments/projects/tests during the MCO period? Can you give some examples of the online tasks given to you? How well have you performed in the online tasks, based on your best judgment? Why do you say so?

3. During the COVID-19 pandemic, do you think that the MCO period has actually helped you to improve your ICT skills to access online information and virtual meeting platforms? Can you elaborate your answer?

4. During the COVID-19 pandemic, do you think that the MCO period has actually made you feel helpless at times due to some problems relating to online learning? If yes, what were the problems you encountered?

Social Influence

1. During the COVID-19 period when you were required to have a new normal of learning from home (online learning), did you miss your prior face-to-face classroom learning? Why?

2. Would you prefer to stick to the fully online learning when you are back to the campus or when you are in a position to do so (for example, when the COVID-19 situation improves/ends)? Why? How do you feel about going back to the campus again? What are your needs and concerns?

3. During the COVID-19 situation, you might have missed your friends in the campus. However, do you think that engaging in fully online learning during the COVID 19-period has actually helped you to learn better/more effectively from a home environment? Why?

Institutional support

1. During the COVID-19 pandemic, do you think that the MCO period has actually benefited you to a certain extent in relation to your learning and assessment experience? Why?

2. Do you need any support from your institution in relation to online learning (during the MCO period)? If yes, what kind of support do you need?

3. When you return to the campus for the new semester or when you are in a position to do so (for example, when the COVID-19 situation improves/ends), what would be the first thing that you would like the university to do in relation to your learning at campus? Why?

4. What is your most preferred type of learning environment (fully online, blended learning/hybrid or face-to-face)? Why?

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A Corpus-based Analysis of Rhetorical Moves and P-frames in an Omani Learner Corpus of Research Project Abstracts

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ABSTRACT

Background: Rhetorical moves have long been studied in several disciplinary texts, including research articles and their part-genres. A solid base of literature has emerged in this respect, informing current writing pedagogy for novice writers. However, one part-genre which has been rarely studied is student project abstracts.

Purpose: To explore the extent rhetorical moves are realised through the linguistic unit of phrase frames (p-frames) in final year Capstone project abstracts.

Method: Using two faculty-informed analytical frameworks, the paper explores the use of rhetorical moves and p-frames in corpora of Social and Physical Science student abstracts. The moves and the p-frames (if any) used to realise them were identified in order to understand how students organised this part-genre and to gauge their formulaicity.

Results: Amongst the key findings was that Omani students did not perform all the rhetorical moves recommended by the faculty. Moreover, they added spontaneous moves of their own to the abstracts. When performing rhetorical moves, they used very few p-frames, indicating that their approach did not rely on formulaic language of this nature.

Conclusion: Pedagogical implications for the Omani context and for broader EAP contexts are discussed.

KEYWORDS

Abstract writing, learner corpus research, rhetorical moves, P-frames

INTRODUCTION

The prevalence of multi-word sequences (MWS) in natural language and, more recently, mapping of these continuous and discontinuous word strings to specific rhetorical functions within academic genres has gained increased research attention (e.g., see Golparvar & Barabadi, 2020; Lu et al. 2018, 2021a, 2021b). The pedagogical implications of these findings are that students can be made aware of these sequences and, consequently, increase the fluency and quality of their writing in disciplinary genres (Coxhead & Byrd, 2007). These implications are particularly relevant in EFL contexts such as the Middle East and specifically countries such as Oman, where some Higher Education Institutions (HEIs) are affiliated with universities in the West, and the medium of instruction and assessment is English[1]. Consequently, students' written coursework needs to meet disciplinary requirements, departmental and institutional expectations, and the standards of external examiners representing these universities. In Oman, most students

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who enter tertiary education from Arabic medium schools require a one-year preparatory programme to improve their language proficiency to reach the minimum standard of an IELTS Band 5 prescribed by the Ministry of Higher Education, Innovation and Research (Al Jardhani, 2017). Given that there is no strict entrance threshold, students still struggle with their writing skills after completing their preparatory programme.

Research into student genres in other contexts has revealed disciplinary variation in the organization and the linguistic resources used to realize a range of specific communicative functions of genres. The findings of such research will benefit thousands of students, such as those in the Omani tertiary education system. Yet there is scarcely any attempt to uncover the disciplinary writing needs of students in this context.

This study attempts to address this gap by studying a part-genre, the abstract, in the Capstone project reports submitted by students in the final year of their undergraduate study. The organization of the abstract, as well as the phraseology of student writing will be examined in this study. For this purpose, two sub-corpora of student abstracts from the broad disciplinary groups of Social and Physical Sciences were created. These were taken from a one-million-word corpus of proficient student writing from five disciplines (Business, Computing and Civil, Mechanical and Electronics Engineering) from one HEI in Oman. The rhetorical moves (Swales, 2004) within these abstracts were marked up, and any multi-word sequences in the form of phrase frames (p-frames) used to realise the identified rhetorical moves were recorded and analysed. This study will be a valuable starting point for understanding how Omani students organise this genre in terms of rhetorical structure and language used.

LITERATURE REVIEW

Relationships between Genre Analysis, Rhetorical Moves and Multi-Word Sequences

Genre remains a contested term in academic writing research and is elusive and hard to define. This elusive nature has opened up different schools of thought on what genres are and how they should be analysed (Nesi & Gardner, 2012). However, at the heart of understanding genre lie two central underpinnings.

The first of these underpinnings is the idea that genres are abstractions, focusing not only on the texts themselves but on the conventional ways of creating them (Nesi & Gardner, 2012). This first underpinning is credited to Swales (1990, p. 45-46), who defined a genre as "a class of communicative events". These events consist of the discourse of the texts, the participants (writers/readers), and the environment under which the text is produced by writers and received by readers. There is an appreciation for the text's underlying historical and cultural associations. This first key underpinning allows us to appreciate that written texts are complex communicative events influenced by social, historical and cultural factors.

The second underpinning originates from Martin (1997, p.13), who views genre as "a system of staged goal-oriented social processes through which social subjects in a given culture live their lives". Nesi and Gardner (2012, p. 24) help contextualise and firm-up our appreciation for these social, cultural and epistemological lenses by highlighting how the same genre (e.g., Essay, Case Study) can serve different purposes and how they can manifest variation across disciplines and levels of study.

Many scholars have attempted to obtain an initial understanding of genres by operationalising the underpinnings above and examining how genres differ in terms of meaning-making through (i) their use of rhetorical moves and (ii) the way these rhetorical moves are realised through patterns of formulaic sequences of language known as multi-word sequences (MWSs). The following sections outline this line of genre analysis by synthesising the body of genre knowledge built up when studying expert professional and student writing.

Connecting Rhetorical Moves with their Multi-Word Sequences

Swales (2004, pp. 228-229) defines a rhetorical move as a "discoursal or rhetorical unit that performs a coherent communicative function in a written or spoken discourse". Moves are analysed in terms of their purpose (e.g., introducing a topic; stating research gaps in the literature) but are also increasingly analysed linguistically to establish the role that stretches of formulaic language or multi-word sequences (MWSs) play in helping the writer communicate particular moves to readers (Swales, 1990).

It has long been established that natural language comprises high levels of multi-word sequences (Pawley & Syder, 1983). Different terms have referred to these multi-word sequences, but one of the most popular terms is 'lexical bundle' (Biber et al. 1999). Lexical bundles are multi-word sequences of varying length, structure and function which occur with more than the expected frequency in a corpus of texts and meet specified dispersion thresholds. They have been the focus of much attention in the study of genres, particularly research articles (e.g., Kanoksilapatham, 2013) and their part-genres (e.g. introductions (Cortes, 2013); literature reviews (Soler-Monreal, 2015); methods sections (Cotos et al., 2017), results and discussions sections (Le & Harrington, 2015), and research article abstracts (Omidian et al., 2018)). A similar but less frequent focus on lexical bun-

dles has also appeared in studies of student research genres (e.g., see Durrant & Mathews-Aydinli, 2011; Durrant, 2017).

Broadly, this work has helped highlight how particular part-genres are characterized by particular rhetorical moves which are realised by particular lexical bundles. For example, in research article introductions, the rhetorical move of 'Presenting the present work' and 'outlining the structure of the paper', can be partly realised by the underlined lexical bundle in the following sentence: "*The remainder of the paper is organized as follows*: Section 2 contains a brief description …" (Cortes, 2013, p. 38). Similarly, Durrant and Mathews-Aydinli (2011) compared essays written by MA Social Science students from the British Academic Written English (BAWE) corpus with journal articles written in Social Science disciplines to reveal that student writing contains less formulaicity when performing rhetorical moves but higher frequencies of 'Text + verb' constructions (e.g. 'Text + will' for more explicit signposting as in *The next section will focus on…*).

While this bundle-focused work has paid dividends in revealing patterns of moves and formulas in research articles, another strand of work has emerged as equally important. Over the last five years, studies have started to focus on a different type of multi-word sequence, that of the phrase-frame (p-frame henceforth). P-frames are a type of semi-fixed multi-word sequence comprising of fixed words which contain fixed words and usually one open variable slot (e.g., 'the * of the) where the * indicates the variable slot (Stubbs, 2007). Various studies have focused on these p-frames for several reasons: their prevalence in academic discourse allowing writers to manifest variability in expression (Gray & Biber, 2013), and their importance in helping learners identify larger patterns and constructions (Lu et al., 2021). Moreover, scholars have studied how research articles and their part-genres have used these p-frames to realise rhetorical moves.

Focus on P-Frames

Some studies (e.g., Golparvar & Barabadi, 2020; Lu et al., 2021a, 2021b) have focused on p-frames in research articles part-genres such as introductions and discussion sections. For example, Lu et al (2021a, 2021b) adopted this focus with a corpus of Social Science RA introductions. Collectively, their studies have found that a number of five and six-word p-frames were used to realise rhetorical moves in introductions from Social Science disciplines (e.g. the p-frame "little is known * the" where the slot, denoted by the asterisk (*) is filled by 'of' or 'about' and was used to realise the 'indicating a research gap' move).

However, a striking omission in this p-frame focused work is the absence of studies focusing on abstracts as a part-genre, both in expert and student domains. The sections that follow outline how the study of abstracts, both written by researchers and students, has been largely carried out in a more manual and less systematic manner which has not always paid due attention to multi-word sequences. We believe that addressing this oversight can yield insights into the language and structure of abstracts, and particularly student produced abstracts which remain a much-occluded part-genre.

Approaches to Studying Abstracts as a Part Genre

Although abstracts have been less studied than other part-genres, it is important to study this part-genre because they represent a succinct and efficient way of communicating the main details of a study. They enable readers to grasp these key details efficiently and/or help them decide to read the study in its entirety, effectively 'selling' the study to readers (Pho, 2008; Swales & Feak, 2009). Student abstracts in Capstone projects are critical for academic and workplace success since they provide examiners and employers with a first impression of the quality of the candidate's work. Job-seeking fresh-graduates might not have substantial work experience; and this lack is usually partially compensated by the quality of the capstone project. The abstracts are particularly important because busy employers usually only have time to read the abstracts to evaluate the quality of the candidate's work.

In early abstract studies, researchers focused on determining a rhetorical move framework which typifies the abstract as a specific part-genre. The frameworks used or adapted include those presented in Table 1, which are based on mixed profiles of disciplines, including applied linguistics.

Table 1

Move Inventories

Move Framework	Hyland (2000)	Dos Santos (1996)
1	Introduction	Situating research
2	Purpose	Presenting research
3	Method	Describing methodology
4	Product	Summarizing findings
5	Conclusion	Discussing the research

Key findings from studies using these frameworks have pointed to different disciplines using variations of the move frameworks highlighted in Table 1 (e.g., see Amnuai, 2019; Can et al., 2016; Darabad, 2016; Doro, 2013; Dos Santos, 1996; Pho, 2008; Saeew & Tangkiengsirisin, 2014; Saboori & Hashemi, 2013; Tseng, 2011). For example, Pho (2008) analyzed the rhetorical organization, the linguistic realization of moves and authorial stance in 30 abstracts from three journals in two disciplines: applied linguistics and educational technology. Pho (2008) found three moves were dominant: presenting the study, describing the methodology and summarising findings. In a study of 60 civil engineering abstracts from the highest-ranking journals, Kanoksilapatham (2013) found that the abstracts generally contained a set of up to five moves, forming a common structural organisation. These moves were: Background, Purpose, Methodology, Results and Discussion. Move variations were also found in terms of move frequency and move sequences.

In the same year, Saboori and Hashemi (2013) analysed 63 abstracts against Hyland's (2000) framework: 21 abstracts from applied linguistics (AL), applied economics (AE), and mechanical engineering (ME). Across the three disciplines, Saboori and Hashemi (2013) found some commonalities in the moves employed, but there were different move patterns within the same discipline, and differences in the number of moves employed in different disciplines (ME abstracts mostly consisted of 3 moves while AL and AE abstracts contained 4). The findings of this study suggest that disciplinary variation is likely in abstracts written by experts. It also seems likely that there will be disciplinary variation in abstracts written by students.

Studies have also made judgements about a move's status as obligatory/conventional or optional. Studies which have taken this approach include Pho (2008) who considered that 60% of abstracts had to contain the move in order for it to be considered obligatory or conventional. Most studies which have adopted this threshold have found that the status of moves varies across disciplines, with little consensus on whether they are conventional or optional moves.

In addition to focusing on rhetorical moves, some of the studies above have also carried out follow-up qualitative analyses of lexico-grammatical features, such as voice and tense. In this respect, *some* concrete patterns emerge. For example, Kanoksilapatham (2013) found that the background move was realised through the use of present tense verbs, while the methodology move was realised through past tense verbs and the passive voice. Similar findings have also been reported in other studies (e.g., Pho, 2008; Tseng, 2011). It is striking to note here that the linguistic analyses summarised above have tended to be manual, with no input from the kinds of corpus linguistics techniques we have seen used in the analysis of other part-genres. However, there has been one study, Yoon and Casal (2020), examining the relationship between rhetorical moves and p-frames in applied linguistics conference abstracts. Yoon and Casal used a predetermined abstract framework which was a modified version of the framework used for the study of research article introductions, as opposed to the frameworks presented in Table 1. They examined abstracts from the American Association of Applied Linguistics (AAAL) conference. In their analysis, they found that there was varying strength of relationship between moves and p-frames, with many p-frames occurring across different rhetorical moves. However, they did find that p-frames frequently occurred in Move 3: Occupying a niche, Step 1: Announcing the aim). For example, when announcing their aim, writers often used the p-frame '"the present study * to" with the * filled by aims, attempts or aimed.

The Current Study

The literature base has thus far focused on studying abstracts written either by expert researchers or by doctoral candidates. There is a dearth of literature focusing exclusively on understanding abstracts as part-genres in student writing at undergraduate level. We believe that addressing this oversight can yield insights into the language and structure of abstracts, and particularly student produced abstracts which remain a much-occluded genre. Many of the above studies have focused on comparing 'advanced' student writing with that of expert writing in the form of research articles, and have then made a number of pedagogical suggestions. However, we believe there is a need to first study student writing on its own merits, to determine students' current use of rhetorical moves and formulaic language. This approach will help us understand more about student genres, which are notably different to expert written research articles (Hüttner, 2010).

With these gaps in mind, the current study analyses the written abstracts from a corpus of Omani Undergraduate students who are writing final year Capstone projects. The study analyses the abstracts in terms of their rhetorical moves and related p-frames and explores the extent that these student patterns follow faculty guidance and expected abstract writing guidance. We believe such a study of Omani writing is important because research into rhetorical moves and formulaic language is especially scarce in this genre. Written assessments are high stakes because the academic and social success of these students depend on their ability to turn in high-quality written assignments.

To this end, the study is guided by three research questions:

(1) What types of rhetorical moves do Social Science and Physical Science students perform when writing final year Capstone research project abstracts?

(2) To what extent are these moves realised by using p-frames?

(3) To what extent do the different disciplines follow the explicit rhetorical moves encouraged by their faculties?

METHOD

This study is based on a wider project which compiled the Omani Corpus of Academic Writing (OCAW), a corpus of entire Capstone student projects across five disciplines: Business; Computing; and Civil, Mechanical and Electronics Engineering. In the sections below, we report the compilation of this corpus and the two subcorpora of student abstracts in Physical Science and Social Science disciplines.

The corpus comprised successful student texts scoring grades A (87-90), B (86-74) and C (66-73). The final composition of OCAW is shown in Table 2.

Establishing the OCAW Abstract Corpora and Move Framework

Two sub-corpora of abstracts belonging to Physical Sciences (Computing; Civil, Mechanical, and Electronics Engineering (CCME; 46 texts) and Social Science disciplines (Business; 24 texts) were created (see Table 3). These disciplinary groupings were informed by the procedures followed in the BAWE corpus (Alsop & Nesi, 2009). The abstracts in these two disciplinary groupings varied in terms of word count, as shown in Table 3.

Meetings were held with two senior academics representing each of the five departments to check the degree of alignment with the existing inventories, eliminate inter-rater discrepancies and avoid misinterpretation of moves. During these sessions, the moves that the senior academics expected in the abstracts were identified and documented. The senior academics also selected examples representing each move from samples of student work.

Although most studies examining moves in abstracts use a common framework across disciplinary groupings, we chose to adopt different ones for the Social Science and Physical Science corpora based on our discussions with these senior academics and our own reading of the texts. We annotated the abstracts for moves using these pre-determined inventories (see Tables 4 and 5) and also annotated any spontaneous moves which were not present in these faculty-informed inventories. We chose to follow the moves and their sequencing identified by the faculty rather than other inventories based on research article abstracts across disciplines (e.g. Dos Santos, 1996; Hyland, 2000) for two main reasons: 1) frameworks based on expert writing might not capture the social and communicative purposes of student genres, which are informed by institutional, departmental, faculty, and industry expectations of student writing (Nesi & Gardner, 2012); 2) disciplinary variation is a well-established notion in the literature, so we did not want to use a single, multidisciplinary framework for both Physical and Social Science student abstracts.

Retrieval of P-Frames

Frequency and range thresholds for retrieving multiword units were applied in order to exclude items which may reflect the idiosyncratic choices of individual writers. Previous studies have set frequency cut offs for p-frames at various

Table 2

Composition of the Omani Corpus of Academic Writing

Department	No. of texts	Sample titles
Department of Management Studies	26	Effect of corporate governance on the financial performance of <org name>
Department of Computing	22	Developing Android Mobile Application for the Fisherman of Oman (AMAFO)
Department of Civil Engineering	25	An Experimental Study on Soil by using Geotextiles in Al-saharqia Region
Department of Electronics Engineering	26	IOT Based Heartbeat Monitoring System Using ECG
Department of Mechanical Engineering	13	Design and Fabrication of 3D Printer
Total	112	

Table 3

Composition of the OCAW Abstracts Corpus

Discipline	No. of texts (total word count)	Mean Length	Minimum Length	Maximum Length
Business	24 (4543)	189.08	79	325
Engineering and Computing	46 (11,849)	225.29	85	588

levels and number of occurrences in the corpus, for example 16 pmw (per million words) for 5 grams and 12 pmw for 6 grams (Lu et al., 2018), and ranging from one occurrence (Walcott, 2021) to five (Casal & Kessler, 2020). Dispersion thresholds have also been based on various types of measurements such as the number of texts (e.g., five texts in Casal & Kessler, 2020; three or more texts in Lu et al., 2018), and distribution across sub-corpora (two disciplines in Walcott, 2021; two or more disciplines in Lu et al., 2018).

In the current study, the frequency and range were set at two occurrences in two texts because of the relatively small size of the abstract corpora. These thresholds may seem low; however, they match the pedagogical objectives of the study which were to identify any repeated p-frames used to realise specific moves. This is especially pertinent in this context where many students struggle to master an overwhelming number of linguistic devices, many of which they may not need very much in their disciplinary written discourse.

Another condition for retrieval related to the number of slots to focus on. Römer (2010) only included p-frames with the variable slots in the median position, while others (e.g., Nekrasova-Beker, 2019) examined p-frames with the variable slot in any position of the frame. The present study also considered p-frames in any position, for example, in the beginning *(* of this study is to*), end (*aim of this study is **) and in median (*aim of * study is to*) positions so that potentially useful frames were not excluded from the study, although we did not allow for more than one inner slot. The final list did not include p-frames which occurred between line/sentence boundaries, contained proper nouns, or related to a cited source.

P-frames were retrieved for the Social Science and Physical Science abstracts using AntGram (version 1.3.0, Anthony, 2021). Those shorter than six words were not chosen because they might not be perceptually salient for pedagogical purposes (Lu et al. 2021a). Another reason for focusing on only six-word frames was that investigating frames of various lengths would have made it challenging for quantitative analysis and categorization due to substantial overlap, as Cunningham (2017) highlights.

The list of six-word p-frames was manually filtered to eliminate a few remaining phrasal overlaps (e.g., *purpose of * project is to* and *purpose of this * is to*). The p-frames were then tagged with a label containing the move which it realised. This allowed us to map the moves to the p-frames and highlight which p-frame sequence realized the communicative purpose of a specific move (see Tables 4 and 5).

RESULTS AND DISCUSSION

In what follows we present and discuss the key relationships between rhetorical moves and p-frames across the OCAW social and physical science abstracts.

Research Question 1: Exploring Student Produced Rhetorical Moves

Rhetorical Moves in the Social Science Abstracts

Table 6 shows that in Social Science abstracts, a total of 99 rhetorical moves were identified while the Physical Science

Table 4

Moves and Tags in Social Science Abstracts

Move	Corpus Tag	Example Move	P-frame realising Move
Move 1: Introducing the topic	<AbstractM1idtopic>	The renewed training and science in business administration has become one of the most important elements to be considered by firms and organizations in the contemporary time.	None
Move 2: Identifying the gap/ Problem statement	<AbstractM2idgap/problem>	The researcher conducted this research for important considerations as many companies suffer from renewed capital expenditures	None
Move 3: Stating Aim/purpose	<AbstractM-3purpose/aim>	The main objective of this project is to study all aspects related to the subject of measuring the impact of capital expenditures and revenues…	main objective of this * is
Move 4: Stating the Method	<Abstract-M4intromethods>	Primary and secondary data were used to collect and analyze data, as the study was designed as a descriptive study.	None
Move 5: Stating results and findings	<AbstractM-5statingresults>	The results obtained by the study are that the MEC uses a Performance Management System (PMS) which focuses mainly on…	the results obtained * the study
Move 6: Conclusion	<AbstractM-6projectcontribution>	At the end of this project, many recommendations and conclusions were presented	At the end of * project

Table 5

Moves and Tags for Physical Science Abstracts

Move	Corpus Tag	Example Move	P-frame realising Move
Move 1: Introducing the topic	<AbstractM1id-topic>	The evolution of data transmission methods has advanced drastically with the internet development.	None
Move 2: Stating Aim/ purpose	<AbstractM2purpose/aim>	The aim of this study was to identify soil characteristics and to highlight all that relates to soil stability	Main * of this project is
Move 3: Stating the Solution/Approach/ Concept	<AbstractM3solution/approach/concept>	In this project, power is generated through people walking or running and the kinetic energy generated through their movement is converted into electrical energy.	None
Move 4: Summarising results/findings	<AbstractM5statingresults>	The practical results showed that the copper radiator has a higher thermal discharge capacity, with the value of air temperature outside (68.4 C) and aluminum radiator (60.5 C).	None
Move 5: Contribution of the project	<AbstractM6projectcontribution>	Thus, such a technique will have a significant role in saving time spent by farmers in the work and the exploitation of vast land to be farmed easily.	this project such as * the

Table 6

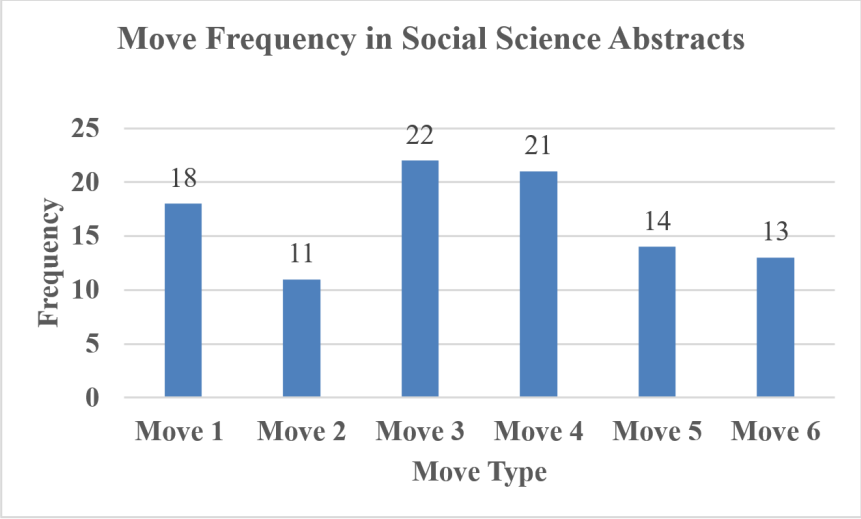
Social Science and Physical Science Abstract Move Frequencies

Discipline Grouping	Total Moves	# texts	# P-frame (tokens)	# P-frames performing moves (types)	# P-frames performing moves (tokens)
Social Science	99	24	42	8	16
Physical Science	171	46	63	2	4

Note. # = number.

Figure 1

Social Science Abstract Move Frequencies



abstracts contained 171 moves. When accounting for the difference in corpus size, move frequencies represented as relative frequencies equaled 2.18 moves per 100 words for Social Science abstracts and 1.54 moves per 100 words for Physical Science abstracts. A breakdown of the move types and their frequencies for each disciplinary grouping is presented in Figure 1.

Move analysis of the Social Science abstracts revealed that each move only occurred once per abstract. The frequencies in Figure 1 indicate that Move 3 (Stating project aim) was the most frequent, appearing in 92% of the abstracts, followed by Move 4 (Stating methods), which appeared in 88%. Move 2 (Identifying gap/problem statement) was the least frequent, appearing in less than half the number of abstracts.

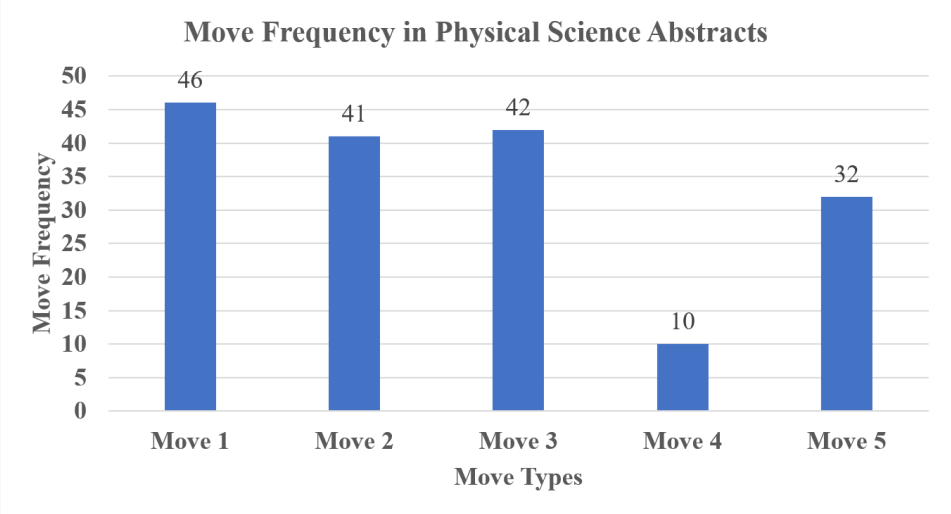
Table 7

Moves Performed in Social Science Abstracts

Move	Examples	Project Focus
1 (Introducing the topic)	This research is about equality of the promotion strategy of <org. name>	Human Resources
2 (Identifying the gap/problem)	Therefore, in this project I have addressed a problem to what extent the training contributes to raising the performance of employee in <org.name>.	Human Resources
3 (Stating the aim/purpose)	This research aims to study the effect of performance appraisal on employee development in the <org.name>	Human Resources
4 (Stating the method)	In this study, quantitative methods will be used	Critical appraisal of employee performance
5 (Stating results and findings)	The results of this study revealed that the training has a positive relationship with the performance of the employees in the institution, because the training works to improve the performance of the staff and develop their skills and abilities and helps to provide staff with the necessary skills in the field of work, and enhance knowledge and increase productivity and effectiveness.	The impact of training on employee performance
6 (Contribution of the project)	This study contributes to the literature exploring the relationship between satisfaction, trust and commitment in the <org.name>, including allowing employees of a company to raise their performance and develop their skills.	Employee performance

Figure 2

Physical Science Abstract Move Frequencies



These findings partly align with Ren and Li's (2011) analysis of expert applied linguistics abstracts where they found that student abstracts contained less concluding moves, compared to expert abstracts.

Table 7 presents examples of each move being performed across different project topics. Figure 2 shows the distribution of Physical Science moves.

Move analysis of the Physical Science abstracts revealed that each move only occurred once per abstract. Frequencies in Figure 2 indicate that Move 1 (Introducing the topic) was the most frequent, appearing in all abstracts, followed by Move 3 (Stating solution/approach/concept), appearing in 91% of the abstracts. However, Move 4 (Stating results and findings) appeared only in 10 out of 46 abstracts (22%). Table 8 shows examples of these moves in action across different Physical Science projects.

These findings only align to some extent with findings reported in the past literature. Moves 1, 3 and 4 clearly pass the threshold of 60% set by Pho (2008) and are therefore

'conventional', however, three moves (2,5 and 6) fall below this threshold and may be considered 'optional'. The findings clearly diverge from established abstract move frameworks (e.g., Dos Santos, 1996; Hyland, 2000; see Table 1) and the expectations of the faculty regarding the moves that students should include in their capstone project abstracts. These frameworks all make reference to the identification of a problem/gap (Move 2), stating results and findings (Move 5) and stating the contribution of the project/study (Move 6). However, low uptake of these moves by Omani writers may signal that they perceive the purpose of an abstract to be descriptive, summarising the topic and methods only, with empirical details of the findings to be uncovered whilst reading the whole project report. We therefore observe disparity between student and faculty expectations around producing this part-genre. Such disparity is perhaps not surprising because, as the excerpt from the module guide for the Computing capstone project in Figure 3 shows, students have not received explicit guidance on including these missing moves while writing their abstracts.

The frequency of Move 4 in the Physical Science abstracts written by Omani students indicates that they do not consider this move to be mandatory whilst the literature reports that 'Stating results and findings' is a key rhetorical move in RA Abstracts (e.g., see Dos Santos, 1996; Hyland, 2000). The low presence of this move in Omani student abstracts is further evidence that students did not follow the framework recommended by their faculties. In a similar vein to Social Science students, they might also see the genre of an abstract as functioning at a descriptive introductory level only and they may expect readers to read the full project report to discover the findings.

In summary, the abstract analysis shows that abstract frameworks differ across the disciplines. This finding challenges strands of past literature which have used a single pre-determined abstract framework to analyse rhetorical moves (e.g., Omidian et al, 2018; Saboori & Hashemi, 2013; Saeeaw & Tangkiengsirisin, 2014). However, it does align with the findings from some prior research work of other strands (e.g., Darabad, 2016) which have found variations in moves across disciplines such as applied linguistics, applied mathematics and applied chemistry.

Research Question 2: Realising Moves through P-Frames

Figure 4 shows that Omani student writers did not use many 6-word p-frames to perform rhetorical moves. In Social Science abstracts, we noted that p-frames were used to perform Moves 3,5 and 6. Move examples are shown below in examples (1) to (6) in Figure 4.

In Physical Science abstracts, there was a clear disparity between the number of moves and the number of p-frames being used to realize these moves. While Figure 2 shows that there were 171 rhetorical moves, p-frames actually realized *very* few of these moves, as shown in Table 7, namely Move 2 ('stating the project aim') and Move 5 ('stating the project's contribution'). Examples (7) to (9) in Figure 5 show how Move 2 (stating the project aim) was performed using the p-frame: 'main * of this project is', with a variable filler (e.g., 'idea', 'purpose', and 'objective':

We found two instances of a p-frame being used to perform Move 5 (Stating the project's contribution), as shown in examples (10) and (11) in Figure 6.

Studies that have attempted to link moves and frames have concluded that many moves in various part genres of RAs (Abstracts, Introductions) were conventional since they

Table 8

Physical Science Abstract Moves

Move	Examples	Project Focus/Topic
1 (Introducing the topic)	At this time, electronic technologies have developed and are widely known in all countries of the world, especially developed countries.	Electronic technologies
2 (Stating project aim)	The aim of this study was to identify soil characteristics and to highlight all that relates to soil stability and stability to maintain it through the use of available techniques and procedures such as Geo-Textile.	Soil stability
3 (Stating solution/approach/concept)	This project will be accomplished through a specific methodology, which is by a case study of three buildings and testing their strength after exposure to environmental factors and conducting an interview with an engineer to understand the problems and to know the methods used for reducing this problem.	Building corrosion
4 (Stating results and findings)	The study found that the best reservoir for irrigation and sewage uses is the carbon steel tank.	Irrigation and water storage
5 (Stating contribution of project/application)	My project will assist in reducing vehicle accidents in Oman.	Reducing speeding vehicles

Figure 3

Abstract Guidance from Students' Module Guide for Computing Projects

> Abstract - A half page short description of the project has to be written. Use present tense while writing the abstract, e.g., "This project focuses on development of a website for ABC Company". The aim is that any reader should gain a very brief but complete overview of your entire report from aims to conclusions. A short summary (100-200 words) distilled from the introduction, conclusion and recommendation of your Project after the report is written. See Appendix 6 for sample format.
>
> The purpose of this abstract is to give the reader key point of the report, usually no more than A4 page long. It should start with general statement of the aims of the report, a summary of the main finding and/or conclusions and/ or recommendation.

Figure 4

P-frames Realising Moves 3,5 and 6 in Social Science Abstracts.

Move 3: Stating Aims/Purpose

(1) **The main objective of this project** is to study all aspects related to the subject of measuring the impact of capital expenditures and revenues on them Performance Company: studying the pharmaceutical industry in Oman (Text BUS0010).

(2) **The main aim of the research** is to know the effects of Human resource planning as a function towards the performance and productivity of the organization (Text BUS0013).

Move 5: Stating results and findings

(3) The **results obtained by the study are** that the MEC uses a Performance Management System (PMS) which focuses mainly on achieving SMART Goals (KPIs) to evaluate employee performance. SMART stands for Specific, Measurable, Achievable, Relevant, Time-bound (Text BUS0001).

(4) The **results obtained during the study are** of extraordinary commonsense incentive for the executives and vital organization advancement (Text BUS0009).

Move 6: Stating the contribution of the project/application

(5) **At the end of this project,** many recommendations and conclusions were presented (Text BUS0019).

(6) **At the end of the project,** the main conclusions and recommendations were presented (Text BUS0002).

were realised using p-frames. Our findings in the Omani abstract corpus do not align with these earlier findings. Instead, our findings align more with those of Durrant and Mathews-Aydinli (2011) who found that essays written by MA Social Science students contained less formulaicity than expert writing from Social Science journal articles. The lack of formulaicity in our corpora also indicate that student writers adopt more idiosyncratic practices and rely less on formulaic p-frames to achieve rhetorical moves.

Research Question 3: Learner Variations of Faculty Recommended Moves and Phrasing

Based on our observations of the relationship between rhetorical moves and p-frames, we were interested in further understanding learner practices when writing their project abstracts. We therefore analysed the OCAW abstracts to determine the extent that they adhered to faculty recommended moves and phrasing.

Figure 5

P-Frames Realizing Move 2 in Physical Science Abstracts

Move 2: Stating the project aim

(7) However the **main idea of this project is** to build a system which can provide the ultimate protection and monitoring to the facility.

(8) Over the years there has been a need for manufacturers and researchers to develop a smart wheelchair that can help the user to and-up and sleep **the main purpose of this report is** to provide detailed information on how to design and build a Smart Stand-up &sleeping wheelchair using Raspberry Pi and RF Controller.

(9) **The main objective of this project is** to study the possibility of reducing traffic congestion by distributing a questionnaire and conducting interviews with experts.

Figure 6

P-Frames Realizing Move 5 in Physical Science Abstracts

(10) There are so many benefits of **this project such as reduce the** bill of the electricity, given clean energy to run the pump, reduce the pollution on the earth and help to give knowledge about the solar panels benefit.

(11) There are many achievements from **this project such as knowing the** codes and IOT components.

Spontaneous Moves

In addition to the types of moves recognised by the faculty inventories, Omani student writers performed a number of spontaneous moves which were not accounted for in the original faculty inventories. In Social Science abstracts, we identified several spontaneous moves as shown in examples (12) to (14):

- Giving an overview of the number of chapters in the project:

(12) This research had five chapters.

- Explicit signposting of where to locate results:

(13) There is results in chapter 4 in details.

- Specifying particular aims in addition to the global project aim:

(14) **Hence, the specific objectives are** that determine how to measure the employee's performance in <org. name>, determine the critical factors for the employee's performance in <org.name> and determine the nature and degree of interrelationships between the main success factors.

In Physical Science abstracts, spontaneous moves were also identified, as shown in examples (15) to (17):

- The impact of not taking action:

(15) **If** used by the same rate, these forms of energy are **going to become extinct** in a few hundred years.

- Specific reference to past studies:

(16) Various solar trackers have already been proposed previously.

(17) The paper also **discusses other existing systems** and their merits and demerits.

The presence of these moves may highlight that students do not always follow pedagogic advice from their faculties. However, it is also possible that like the writers in studies such as Doro (2013), Darabad (2016) and Wei et al (2022), the Omani student writers actively include their own rhetorical moves to try and shape their construction of the abstract as a specific genre.

Absence of P-Frames to Perform Moves

In Social Science abstracts, we found an absence of p-frames being associated with earlier moves 1 (introducing the topic) and 2 (identifying the gap/problem) and later in the abstract, Move 4 (Stating the method). This finding has implications for the assumed premise that p-frames are useful pedagogic units that students should learn. Our analyses in-

Figure 7

Performing Moves without P-Frames

Move 1: introducing the Topic (and its importance)

(18) **This research is about** equality of the promotion strategy of <org name> (Text: BUS0013)

Move 2: 'Identifying the gap/problem statement'

(19) Therefore, **in this project I have addressed a problem** to what extent the training contributes to raising the performance of employee in <org.name>. (BUS008).

Move 4: Stating the Methods

(20) In addition, in this study **I used many methods of gathering information** such as an interview with the director of human resources, so as to highlight the impact of training on IT staff (Text: BUS0008).

dicated that Omani Social Science students whose abstracts did include Move 1: 'introducing the topic', and/or Move 2: 'identifying the gap/problem statement', and/or Move 4: 'stating the method', chose to perform these moves with idiosyncratic statements, rather than relying on a variable or more fixed p-frame. Examples (18) to (20) in Figure 7 show how these moves were performed *by not* using six-word p-frames.

These examples show that Omani student writers employ diverse language structures to communicate the rhetorical moves they use.

The Unsuccessful Use of P-Frames to Perform Moves

There were also instances where students attempted to perform recommended moves but were unsuccessful. We considered an unsuccessful move attempt to be when a move contained unclear or repetitive phrasing or when the sequencing of a move (or a series of moves) deviated from the order in the abstract inventories used for annotation.

For example, we found unsuccessful move attempts in the Social Science abstracts, particularly with Move 3 ('Stating the aim/purpose), as shown in examples (21) and (22).

(21) In this research study, reveals **the main purpose of the research** study, and that the importance of accounting information for managerial decision making (Text: BUS0014).

(22) **The purpose of this project is to this project is to** identify the relationship between working capital management and performance Cement Industry in Oman (Text: BUS0009).

Examples (21) and (22) indicate that students may struggle to perform the expected rhetorical moves that are associated with abstracts as a specific genre. Our qualitative analyses also revealed several unique student practices which violated the sequencing of moves expected both from their instructors and also wider expected sequencing that is recommended in abstract-as-a-genre literature (Hyland, 2000; Dos Santos, 1996). For example, we found evidence of students performing Move 5: 'Stating results and findings' before Move 4: 'Introducing method'. This deviation is shown in example (23):

(23) **This project has highlighted** the techniques and methods used in the payment systems adopted by the NTS (Move 5). **The research methodology used** in this project was based on the primary data and secondary data, where the questionnaire was conducted for 70 employees in the company (Move 4). (Text: BUS0002).

Alongside the language struggles which are illuminated in examples (21) and (22), example (23) indicates that students struggle with the sequencing of moves to produce a coherent and logical abstract which tells the 'story' of their research projects. Subject lecturers pointed out that they expected the moves in the student abstracts to be sequenced in accordance with the move framework that they had drafted in collaboration with the authors of this paper. It may be argued that move inventories should not be prescriptive. The lecturers' point of view is that novices on the fringe of their academic discourse communities should adhere to the expectations of examiners and their supervisors. In this context, we understood that the subject lecturers think that it is the students' lack of understanding of the genre rather than creativity that is disrupting the sequencing order as in Example 23. We did, however, find instances where students appropriately employed a single sentence to realise multiple moves such as "Concrete buildings are exposed to many en-

vironments that cause natural corrosion in the concrete that makes up these buildings because of the transfer of corroded materials from these environments to concrete continuously and for a long time". The sentence performs the dual communicative functions of introducing the topic and stating the problem.A similar dual function was also observed in the sentence: "This project will illustrate the general failure of the marine environment buildings due to chloride and sulphate attack and some treatment methods for this problem" which partly introduced the topic and aim of the study.

These instances, along with the spontaneous moves identified in examples (12) to (14), indicate that future move inventories possibly need to be expanded to account for fluid student use of moves, but they also point to a need to raise awareness of steps within moves as is the case in some of the literature (e.g., Yoon & Casal, 2020) . The inclusion of steps would also help show students different variations when writing their abstracts.

Tense and Filler Variation as a Marker of Learner Practices

Our qualitative analysis also revealed filler and tense variation in p-frames across disciplines. In Social Science abstracts, there were a number of different learner practices relating to the words used to fill the slots in the p-frames. For example, with move 3 (stating the aim), the following p-frame: 'The main * of the research', contained variations on the use of 'aim' as the filler. There were also uses of 'objective' and 'purpose' to fill this slot. Tense use also varied when performing move 3. Examples (24) and (25) show different uses of 'is' and 'was' when setting out the aims of the projects:

(24) **The aim of this study is to** explore relationships, trust and commitment (Text BUS0023).

(25) The **aim of this study was to** investigate into the effective strategies to improve the services of different operations in the Human Resource by using the lean management at <org name> (Text BUS0016).

Examples (24) and (25) offer an important insight into how learner writers might perceive the purpose of an abstract. The use of the different tenses highlights an interesting perception: in example (24), the writer might perceive the abstract as an introduction to the project while in example (25), the use of the past tense suggests an understanding of an abstract as a summary of a completed project. These findings show some convergence with past literature. In a similar manner to Darabad (2016) we found that writers vary their tense use across moves but unlike Darabad (2016) we did not find a strong preference for the present tense.

CONCLUSION

This study uncovered a number of findings relating to students' use of rhetorical moves and the extent that they use p-frames to achieve these moves. Answering research question one, the most frequent moves in Social Science abstracts were Move 3 (stating project aim), Move 4 (stating methods), and Move 1 (introducing topic), while the most frequent moves in Physical Science abstracts were Move 1 (introducing topic), Move 3 (stating solution/approach/concept), and Move 2 (stating project aim). The study's findings that different disciplines are using different rhetorical moves also challenges the use of a single pre-determined abstract framework to analyze rhetorical moves. Our findings further highlight a possible disparity between student and faculty expectations around producing abstracts because we noted that there were many instances where students diverged from advice provided by faculty. These findings have implications for the teaching and assessment of abstracts in the Omani context.

Most studies analysing the moves in RA part-genres assume that these are requirements for student genres as well. However, there is an ongoing need to further understand nuanced practices of students as they write their abstracts and a closer realization and attempt to set out student guidance which makes it clear which moves are conventional and which are optional.

Of course, any guidance on teaching must be contextualized and appreciative of how and where students receive advice. There is continuous debate on whether or not students should be taught generic academic English or discipline-specific English. This avenue is still open to debate in the Omani context. The fact that our findings suggest Omani students do not make extensive use of p-frames to perform rhetorical moves leads us to question the value of teaching p-frames to these students. It is also worth recognizing that the abstracts in our corpora are from successful, high-scoring projects and thus, the lack of formulaicity in these abstracts may not be a problematic aspect of the project for evaluators. Ultimately, a follow-up study which aims to understand faculty and academic writing specialists' views on the use of formulaic language in student abstracts would add weight to the initial exploratory study we have carried out here.

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DECLARATION OF COMPETITING INTEREST

None declared.

AUTHORS' CONTRIBUTION

Priya Mathew: corpus conceptualization, corpus methodology including ethical approval, funding acquisition, writing, editing and revising manuscript.

Lee McCallum: literature review, data preparation and analysis, writing, editing and revising manuscript.

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The Correlation between the Use of Online Learning Platforms and Undergraduate Students' Self-Efficacy

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ABSTRACT

Background: Self-efficacy and the use of learning activities in online learning platforms have been extensively researched recently and are considered factors of online learning success. However, little research empirically seeks the correlation between those variables, including in English as a foreign language (EFL) online classes.

Purpose: To investigate whether there is a significant correlation between the use of online learning platforms and EFL students' self-efficacy in online learning in English classes.

Method: This quantitative research used two questionnaires, i.e., the Online Learning Platform Questionnaire (OLPQ) and the Self-Efficacy Questionnaire for Online Learning (SeQoL). The use of online learning platforms measured in this study includes independent learning, virtual meetings, forum discussion, collaborative learning, and assessment; meanwhile, self-efficacy includes course completion, social interaction, academic interaction, interaction with lecturers, and the use of LMS. The sample of this research was 133 EFL students from three universities in Indonesia. The data was analyzed using Spearman's correlation at the significance level of 0.05.

Results: The results show that independent learning, collaborative learning, and forum discussion correlate with most constructs of self-efficacy. Meanwhile, the results indicate no correlation between two constructs of online learning platforms, namely virtual meetings and assessments, and three constructs of self-efficacy, i.e., students' social interaction, academic interaction, and students' interaction with lecturers.

Conclusion: This research shows that more frequent use of online learning platforms, especially those covering independent learning, collaborative learning, and forum discussion, results in higher confidence among EFL students to succeed in online learning.

Suggestion: Therefore, this research suggests that lecturers consider using significant features of online learning platforms to enhance students' self-efficacy in online EFL classes.

KEYWORDS

English as a foreign language student, learning activities, learning interaction, online learning, online learning platform, self-efficacy

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INTRODUCTION

Technology integration during learning activities became a common practice during the Covid-19 pandemic. This new learning mode has been widely implemented at all educational levels, including higher education (Ningias & Indriani, 2021; Toader et al., 2021). As a consequence of the phenomenon, both students and teachers were required to adapt to various media and online learning platforms (Ulfatun et al., 2021). According to Zhafira and Irmalis (2021), using online learning platforms is beneficial among university students to assist their online learning process. However, its practice has some challenges (Ramsin & Mayall, 2019). For instance, teachers might not feel confident that their students can use the online learning platforms as expected and follow the instructions (Adedoyin & Soykan, 2020). Therefore, teachers must understand their students' perceptions of using online learning platforms. One factor influencing the students' perception of online learning platforms is their self-efficacy,

"students' perceptions of their abilities to achieve a certain goal" (Pumptow & Brahm, 2021, p. 558).

Various studies have investigated the role of self-efficacy in online learning for several years (Alqurashi, 2016; Ulfatun et al., 2021; Yang, 2020). Self-efficacy has become fundamental because it influences students' full engagement in completing tasks instructed by their teachers (Geng, 2022). Therefore, students with high self-efficacy are consequently perceived to perform well in online learning settings compared to those with low self-efficacy (Li, 2020; Yokoyama, 2019). Furthermore, Ithriah et al. (2020) added that there is a reciprocal relationship between students' self-efficacy and the use of online learning platforms during online learning. When students are self-efficacious, they will feel courageous and confident to utilize online learning platforms and deal with difficulties that may arise from using those platforms due to virtual learning practice. Likewise, using online learning platforms and mobile applications can positively improve students' self-efficacy during online learning (Peechapol et al., 2018). In English as a foreign language (EFL) instruction, using online learning platforms is necessary to improve EFL learners' language competency and self-efficacy (Nugroho & Atmojo, 2022). Online learning platforms are used in online language learning because they can help teachers deliver the language teaching material to their students and provide authentic language learning material. Furthermore, it has become the tool most preferred by students because it can increase their autonomy in learning English (Li, 2021).

Due to the significance of self-efficacy in EFL classes, efforts must be made to maintain and increase the students' self-efficacy. Aside from students' efforts, a teacher is also a crucial factor that determines students' self-efficacy (Yang, 2020). Furthermore, a teacher is responsible for determining online learning platforms used in EFL classrooms that can improve students' self-efficacy. Many online learning platforms are commonly used in EFL online classrooms, such as Zoom, Google Meet, Edmodo, Google Classroom, and Moodle. Those platforms offer different features that support the learning process and help teachers deliver the teaching material to their students. For instance, Zoom and Google Meet provide virtual discussion forums that help teachers and students communicate using video. Furthermore, Edmodo and Google Classroom also help students easily submit their assignments (Bagata et al., 2020; Moonma, 2021). In addition, Moodle allows students to assess each other's assignments using the Workshop Activity module (Elfiondri et al., 2022). Although many researchers have examined the role of online learning platforms and self-efficacy in distance learning, little research empirically seeks the correlation between the use of online learning platforms and students' self-efficacy in EFL online classes. Investigating the correlation between these variables is significant in discovering what types of learning activities used in online learning platforms affect students' self-efficacy so that teachers can adjust their online learning instructions. Therefore, further correlational research must be conducted to have adequate knowledge on promoting language learning success in an online classroom. To fill this gap, this study aims to determine the correlations between the use of online learning platforms and students' self-efficacy by answering this primary research question: 'Are there any significant correlations between the use of online learning platforms and students' self-efficacy in online learning?' The use of online learning platforms in our study refers to learning activities facilitated with any platforms teachers use, ranging from simple generic messaging platforms such as WhatsApp to sophisticated online learning management systems such as Moodle.

LITERATURE REVIEW

This research focuses on the use of online learning platforms, i.e., how online learning platforms are used (for independent learning, virtual meetings, assessment, etc.), and how these uses relate to student's self-efficacy. Therefore, this section reviews the literature related to online learning platforms, their uses, and students' self-efficacy in the context of online learning to show the research gap addressed in this study. First, this section introduces online learning platforms and how they can be used for teaching. Furthermore, the section describes self-efficacy in general before reviewing students' self-efficacy in language learning and how it might be affected by the use of online learning platforms. Finally, the section concludes with a summary to explicitly show the research gap in the context of this study.

Online Learning Platforms

Online learning is not new since educational practitioners such as teachers have implemented technology integration in their classrooms for decades. Implementing online learning cannot be separated from using an online learning platform, namely an internet-based learning media used in an online class with synchronous and asynchronous features that allow teachers and students to communicate virtually (Li, 2021). Online learning platforms thus become crucial tools during online learning (Liu et al., 2020), and the effective use of online learning platforms also influences students' engagement in online learning (Tseng, 2020).

Furthermore, one of the most widely used types of platforms in online learning is Learning Management System (LMS). LMS is an online software that helps teachers and students regulate learning activities and monitor students' learning progress and it has been integrated into the learning system at the university level (Amin & Sundari, 2020). Therefore, higher education institutions must determine the appropriate Learning Management System used within the university learning setting (Aldiab et al., 2019). In addition, Saidi et al. (2021) elucidate that choosing an appropriate

LMS is beneficial in establishing a conducive online learning environment for students.

The Use of Online Learning Platforms

Online learning platforms have been widely used in language learning because they provide a substantial opportunity for teachers and students to access authentic language learning (Ramsin & Mayall, 2019). Besides, online learning platforms also enable students to adjust the language learning material based on their needs to achieve their learning objectives (Ho, 2018). According to Yang (2020), language teachers need to organize the learning material and maximize the use of virtual networks during the learning process. With the help of online learning platforms, language teachers can display the learning material in a way that attracts students' attention (Zhang, 2020).

In addition, Nugroho and Atmojo (2022) also describe that digital platforms help language learners access learning resources, submit assignments, or even communicate with their teachers and classmates. Based on Haron et al. (2015), a network platform is also helpful in language learning because it enables students to practice skills required in learning a language and improve their language ability. For instance, online learning platforms can help students practice reading and writing skills (Zhang, 2020). Besides, it can be used to teach listening and speaking skills to the students as well.

Furthermore, Nurohmat (2021) describes that English learners can achieve a higher score in online learning than in a traditional classroom. Similarly, Vien et al. (2019) mention that language teachers perceive their students to better comprehend the language learning material delivered through online learning platforms than when taught traditionally. Nevertheless, many factors can contribute to students' achievement in online learning besides online learning platforms, one of which is self-efficacy.

Self-Efficacy

The concept of self-efficacy was initially presented by Albert Bandura, an American psychologist, in his social cognitive theory. Bandura (1997) describes self-efficacy as an individual's confidence in his capability to do a particular task. Afterward, the theory of self-efficacy continued to be developed to be more specific by various experts on their studies according to several aspects, including educational aspects, where students' self-efficacy has popularly been explored by educational psychologists (Genç et al., 2016; Ithriah et al., 2020; Yavuzalp & Bahçivan, 2020). According to Golparvar and Khafi (2021), students' self-efficacy is students' confidence in their ability to master competencies needed to achieve learning goals. Wei et al. (2022) emphasize that educational practitioners such as teachers need to know the factors that can influence the level of students' self-efficacy in advance before designing the learning activities used in the classroom.

Researchers needed to develop a measurement tool such as a self-efficacy scale to measure self-efficacy. Joyce and Kirakowski (2014, p. 252) state that self-efficacy can be assessed using psychometric scales that represent one's belief in his ability to perform a specific action. For instance, researchers can start the statement used in the scale item by using «I can», «I am able to», or «I am capable of» phrases. Besides, the statement should describe a specific performance instead of a general one, as demonstrated by Yasin et al. (2022).

Referring to the construction of self-efficacy measurement, the self-efficacy scale has been developed and continues to be validated. For example, Zhou (2016) validated a ten-item self-efficacy scale to assess an individual's general perception of self-efficacy. The internal consistency of this questionnaire range between .76 and .83. Furthermore, numerous studies have begun to develop self-efficacy scale in more specific studies. For instance, a Self-Efficacy Questionnaire for Online Learning (SeQoL) designed by Tsai et al. (2020) has been used to observe the influence of self-efficacy in an online learning environment. This scale has five constructs: 1) self-efficacy to complete an online course, 2) self-efficacy to handle tools in a learning environment, 3) self-efficacy to interact socially with classmates, 4) self-efficacy to interact with instructors in an online course, and 5) self-efficacy to interact with classmates for academic purposes (Cadapan et al., 2022). Tsai et al. (2020) calculated the internal consistency of the SeQoL and indicated a high reliability of this scale (0.95). Furthermore, this questionnaire has also been tested for its validity, and it was also used in this research to collect the data. Because this scale was specifically designed to measure students' self-efficacy, it can assess self-efficacy in learning, including language learning.

Self-Efficacy in Language Learning

Several studies have examined the relationship between self-efficacy and language learning in recent decades (Genç et al., 2016; Graham, 2022; Karbakhsh & Safa, 2020). Self-efficacy correlates positively with language learning success (Torres & Alieto, 2019). According to Apridayani and Teo (2021), enhancing students' self-efficacy will also influence students' achievement in language learning. This link exists because self-efficacy influences the amount of effort that learners put in when learning a particular language (Chou, 2017).

In addition, self-efficacy also influences students' self-regulated learning in learning a language (Bai & Wang, 2020; Su et al., 2018). Consequently, more efficacious students are more likely to have more substantial language mastery than other students (Chou, 2017). The impact of self-efficacy in language learning is also reflected in the student's goals,

which are relatively higher among self-efficacious students (Zahidi & Ong, 2023). Furthermore, Chen (2020) asserts that their self-efficacy level will increase when self-efficacious students are given more language exposure than expected. Therefore, instead of being depressed or stressed when faced with advanced tasks, students with a high level of self-efficacy will feel more challenged (Alqurashi, 2016). As the focus of the current study, online learning is challenging for most students in non-urban areas (Samane-Cutipa et al., 2022); therefore, teachers' use of online learning platforms needs to consider the dimensions of students' self-efficacy in order that students are more encouraged to success in online learning.

Self-Efficacy and Online Learning Platforms

In an online learning classroom, self-efficacy may influence students' behavior and willingness to use an online learning platform (Yang, 2020). As the students firmly believe in their abilities, they can persist and cope with some technical problems in a virtual classroom (Altunçekiç, 2022). On the contrary, students who do not believe in their competencies in using LMS perceive that using the platform is complicated and not useful (Alshammari, 2020). Therefore, students should first be familiar with the learning management system used in the online learning classroom (Yang, 2020). Furthermore, self-efficacy positively impacts students' self-regulation (Wang & Sun, 2020). As a result, self-efficacious students can regulate their learning activities in online learning with the help of online learning platforms.

To enhance students' self-efficacy, educational practitioners such as teachers can provide adequate support by providing clear guidance, relevant resources, and constructive feedback on students' assignments and performance to stimulate students' competence in different contexts and activities (Wei et al., 2022). In addition, the activities should encourage students' participation, and they should be student-centered (Zhang, 2020). For instance, a teacher can ask the students to participate in a discussion and share their ideas with the group members (Alsubhi et al., 2020). Besides, a teacher can display pictures or even videos that are interesting but still relevant to the learning material, and then they can ask the students to answer the questions provided according to the pictures or the videos (Zhang, 2020).

The use of online learning platforms can also influence students' autonomy in online learning (Nugroho & Atmojo, 2022) and increase students' competence in discovering and using online learning material beyond what is given by their teacher in the classroom (Li, 2021). Additionally, this helps students become more independent in an online learning environment and less reliant on their teacher (Al-Mubireek, 2019), since they can access the additional learning materials by themselves from the internet freely.

METHOD

Research Design

In this study, the researchers applied a quantitative approach, a standard research design investigating the correlation between the research variables (Lock et al., 2021). Moreover, the researchers used a survey method, which was based on a set of questionnaires to collect the data. This data collection is relevant to this study because it can quantitatively describe respondents' beliefs and behavior (Creswell & Creswell, 2017).

Respondents

This research was based on data obtained from undergraduate students at three state universities in Indonesia. The respondents were in the third, fifth, and seventh semesters when the data were collected. Those students were selected because they had experienced learning English online during the Covid-19 pandemic. All students gave their consent to use their responses for the purpose of this research. The number of students who participated in this research was 133, which is an adequate sample size for a correlational study (de Winter et al., 2016).

During the Covid-19 pandemic, the students in these universities had full online classes around ten to 24 credits, depending on their semesters. During the class sessions, students had virtual meetings using Zoom or Google Meets. Other lecturers provided no video conference, but they used social media applications such as WhatsApp and Telegram. To deliver materials and classroom activities, the lecturers in these universities use simple LMS such as Google Classroom and Edmodo or sophisticated LMS such as Moodle. These online learning platforms were used for independent learning, quizzes, discussion, and assessment. According to Amin and Sundari (2020), most lectures in these universities used WhatsApp instead of LMS during the Covid-19 pandemic.

Instruments

This study was based on two questionnaires using a Likert scale. The first instrument was used to measure the use of online learning platforms consisting of five constructs found in the literature, i.e. independent learning (Balderas et al., 2018; Miller et al., 2018; Wong et al., 2019), virtual meeting (Arifianto & Izzudin, 2021; Balderas et al., 2018; Huang, 2022), forum discussion (Alsubhi et al., 2020; Balderas et al., 2018), collaborative learning (Chiu & Hew, 2018; Kumi-Yeboah et al., 2017), and assessment (Alsubhi et al., 2020; Balderas et al., 2018). In this study, we did not specify what types of online learning platforms the lecturers used to teach their classes. However, we focused on the learn-

ing activities facilitated by these online learning platforms. In this questionnaire, we measured the frequency of these learning activities, and thus, the students were asked to rate the platform use from 5 (always) to 1 (never). The number of items in this questionnaire was originally 36, consisting of between three and 12 items for each construct. Table 1 shows the items used for each construct in the online learning platform questionnaire,

The questionnaire was validated using confirmatory factor analysis, where the items with a factor loading lower than 0.30 were removed, resulting in the removal of seven items. Thus, the number of items for the construct of independent learning was eight items, virtual meeting five items, forum discussion three items, collaborative learning seven items, and assessment six items. In addition, the internal consistency of the overall online learning platforms scale based on Cronbach alpha was .90, which shows a high consistency coefficient of the scale.

The second instrument was used to measure students' self-efficacy using a questionnaire proposed by Tsai et al. (2020), consisting of 30 items and five constructs. The first construct relates to EFL students' self-efficacy in completing an online course (8 items), and the second is about self-efficacy in interacting socially with their classmates during online learning (5 items). The third construct measures self-efficacy in handling tools in an LMS (6 items). Another construct covers self-efficacy in interacting with their lecturer in an online course (5 items), and the last construct determines self-efficacy in interacting with classmates for academic purposes (6 items). Moreover, the internal consistency of the entire SeQoL by Tsai et al. (2020) was .95. Meanwhile, based on the data in the present study, the internal consistency was 0.93, which is very close to that of the original version.

Data Collection

Using the scales above, the researchers collected the data by following the general steps of data collection in this research. Firstly, the researchers asked permission from the target universities to distribute the questionnaire in class. Distributing the questionnaire in person has been proven to guarantee a higher participation rate than sending the questionnaire online (Hodder & Wolfenden, 2017). Then, the researchers recorded all course schedules for each grade and asked permission from the lecturers who taught the classes on the listed schedule. We obtained the target participants' class schedules and classrooms from the lecturers teaching third, fifth, and seventh semester students. Afterward, the researchers distributed the questionnaires to the students in each class. They were informed that they did not have to complete the questionnaire if they did not want to, and they could return the blank questionnaire to the researchers anonymously. However, we did not receive any blank questionnaires returned to us. All participants were comfortable completing the questionnaire because their identifying details, such as name and student number,

Table 1

Sample of Online Learning Questionnaire Items

Construct	Sample of items
Independent learning	Lecturers asked us to answer questions based on the materials provided online.
	Lecturers asked us to an independent assignment and submit it online.
	Lecturers gave us a video to watch independently.
Virtual meeting	Lecturers taught our classes using a video conference application (such as Zoom, Google Meet, Webex, Microsoft Teams, etc.)
	Lecturers taught our classes using audio calls (such as WhatsApp group calls, BigBlueButton, etc.)
	Lecturers delivered a class using text messages in Social Media applications (such as Facebook Messenger, WhatsApp, SMS, etc.)
Forum discussion	We were asked to give our written opinion about the materials using group chatting applications (such as WhatsApp, Telegram, etch.)
	Lectures asked us to discuss a topic through video or audio conference applications (such as Zoom, Google Meet, Webex, Microsoft Team, BigBlueButton, WhatsApp, etc.)
	Lectures asked us to discuss a topic using learning management systems (such as Google Classroom, Edmodo, Moodle, etc.)
collaborative learning	Lecturers asked us to complete a group assignment online.
	Lecturers asked us to give a group presentation online.
	Lecturers asked us to assess our classmate works online.
Assessment	Lecturers delivered a test online.
	Lecturers asked us to complete a project online as an assessment.
	Lecturers have us oral examination online.

were not requested in the questionnaire. In addition, the researchers gave the students brief instructions on how to complete the questionnaires. It took the participants between 15 to 20 minutes to complete the questionnaire. After all participants completed the questionnaires, the researchers expressed their appreciation to the students and lecturers teaching their classes.

Data Analysis

After collecting the data, the researchers analyzed the data by calculating the correlation between each construct in the independent variable (the use of online learning platforms) and each construct in the dependent variable (self-efficacy in online learning). The researchers used the Spearman correlation coefficient formula because the data were categorical data. In testing the hypothesis, the null hypothesis was rejected at a significance level of 0.05. The level of correlation was assigned based on Schober and Schwarte (2018), as presented in Table 2.

RESULTS

Descriptive Statistics

Descriptive statistics are used to display the primary summary of the research data. The following are the descriptive statistics of the use of online learning platforms and EFL students' self-efficacy.

According to Table 3, the average use of online learning platforms is at a moderate level. Students were asked to complete online assessments and independent learning tasks more frequently than other online learning activities. In addition, the summary of EFL students' self-efficacy is shown in Table 4.

Table 2

Interpretation of Correlation Levels

Correlation Coefficient Range	Description
0.00–0.10	Negligible
0.10–0.39	Weak
0.40–0.69	Moderate
0.70–0.89	Strong
0.90–1.00	Very strong

Table 3

Data Summary for Factors of the Use of Online Learning Platforms

Variable	Min	Q1	Median	Q3	Max	Mean	SD
Independent Learning	2.00	3.12	3.50	3.88	4.75	3.47	0.53
Virtual Meeting	1.60	3.20	3.60	4.00	5.00	3.57	0.61
Forum Discussion	1.33	2.67	3.00	4.00	5.00	3.22	0.84
Collaborative Learning	1.29	2.86	3.29	3.71	5.00	3.25	0.70
Assessment	1.17	3.00	3.50	3.83	5.00	3.46	0.72
Overall	1.55	3.10	3.45	3.83	4.45	3.41	0.52

Table 4

Data Summary for Factors of EFL Students' Self-Efficacy

Variable	Min	Q1	Median	Q3	Max	Mean	SD
Course completion	1.38	3.38	3.75	4.00	5.00	3.63	0.62
Social Interaction	1.20	3.20	3.60	4.00	5.00	3.60	0.66
The use of LMS	2.00	3.67	4.00	4.50	5.00	4.06	0.57
Interaction with Lecturers	2.00	3.20	3.80	4.00	5.00	3.65	0.58
Academic Interaction	2.00	3.50	3.83	4.00	5.00	3.77	0.56
Overall	1.90	3.50	3.80	4.00	5.00	3.74	0.48

Based on Table 4, the average score of EFL students' self-efficacy ranges between moderate and high levels. EFL students have higher self-efficacy in handling tools in a Learning Management System and lower self-efficacy in interacting socially with their classmates in an online learning environment. The following section deals with further analyses to seek the correlation between both variables.

Correlational Analyses

This section presents the correlational result of research variables to determine whether there is a significant correlation between the use of online learning platforms and EFL students' self-efficacy in online learning. The correlational analyses were performed using Spearman Correlation Coefficient Formula, and the results are displayed in the following tables.

As presented in Table 5, all constructs of the use of online learning platforms are correlated with EFL students' self-efficacy in terms of course completion. The level of the correlation varied from weak to moderate level. The constructs that have a weak level of correlation are independent learning, virtual meeting, and assessment. Moreover, the overall correlation of all constructs between online learning platforms and EFL students' self-efficacy in completing courses given during online learning is moderate. A better illustration is presented in Figure 1.

Figure 1 shows that all constructs of the use of online learning platforms are correlated with EFL students' self-efficacy in completing their course, and the correlation ranges between 0.30 and 0.48. Furthermore, the result of the correlation analysis between online learning platform usage and students' social interaction is displayed in Table 6.

Based on Table 6, almost all constructs of the use of online learning platforms are correlated with EFL students' self-efficacy in terms of their social interaction with their classmates during online learning. Only two constructs, namely virtual meetings and assessment, are not significantly correlated with EFL students' self-efficacy. The correlation levels for all constructs are weak. These correlation levels are presented in the scatterplots in Figure 2.

From the scatterplot in Figure 2, it can be concluded that two constructs of online learning platforms have no significant correlation with EFL students' self-efficacy in their social interaction with their classmates. Besides, the correlation level of other constructs ranges between 0.18 and 0.23, or weak correlation. Furthermore, Table 7 shows the correlation between EFL students' self-efficacy in handling tools in LMS and online learning activities.

According to Table 7, all constructs of the use of online learning platforms are significantly correlated with EFL students' self-efficacy using LMS. The level of correlation varied from weak to moderate level. Furthermore, the correlation level of collaborative learning constructs and the overall correlation between both variables is moderate because they have a correlation coefficient above 0.40. A visual illustration of the correlation is presented in Figure 3.

Table 5

Correlation between Using Online Learning Platforms and Self-Efficacy in Completing the Course

Course Completion	r	p-value
Independent Learning	0.37	0.000
Virtual Meeting	0.34	0.000
Forum Discussion	0.40	0.000
Collaborative Learning	0.41	0.000
Assessment	0.30	0.000
Overall	0.48	0.000

Table 6

Correlation between Using Online Learning Platforms and Self-Efficacy in Social Interaction

Social Interaction	r	P-Value
Independent Learning	0.23	0.007
Virtual Meeting	0.14	0.101
Forum Discussion	0.22	0.012
Collaborative Learning	0.18	0.034
Assessment	0.07	0.395
Overall	0.24	0.006

Figure 1

Correlation between Using Online Learning Platforms and Self-Efficacy in Completing the Course

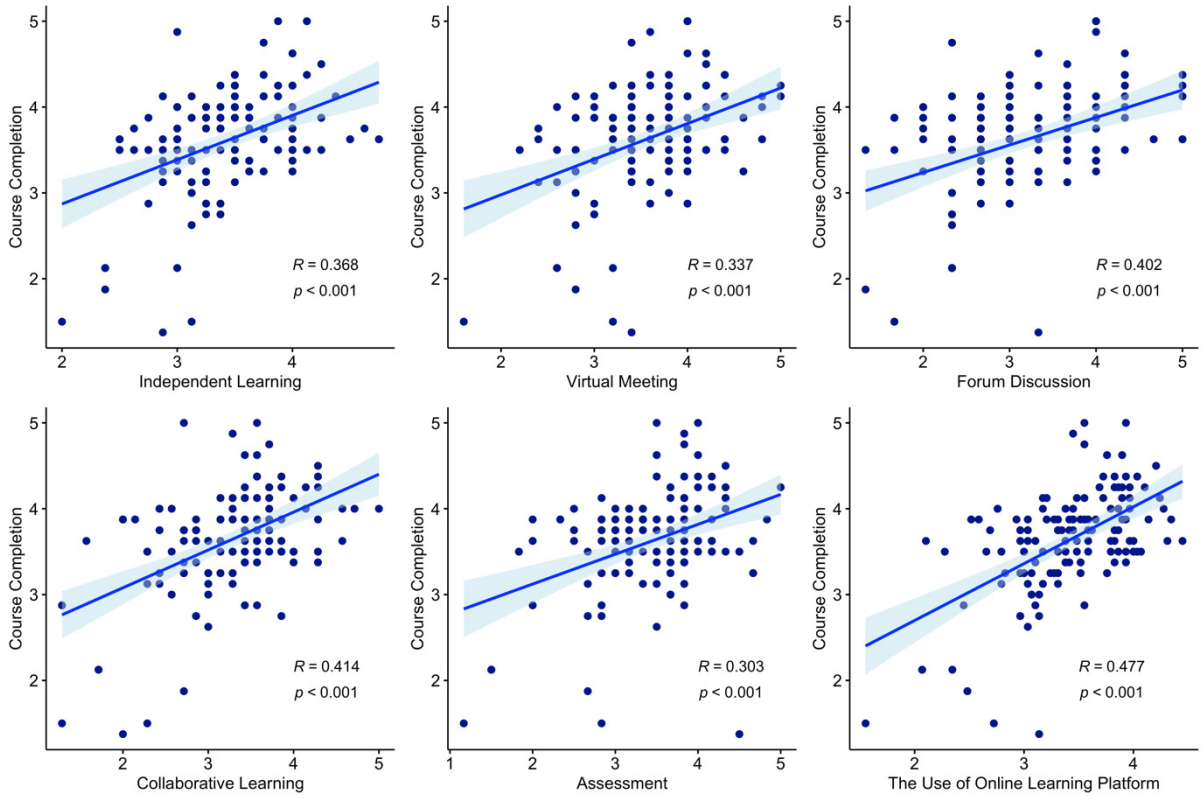


Figure 2

Correlation between Using Online Learning Platforms and Self-Efficacy in Social Interaction

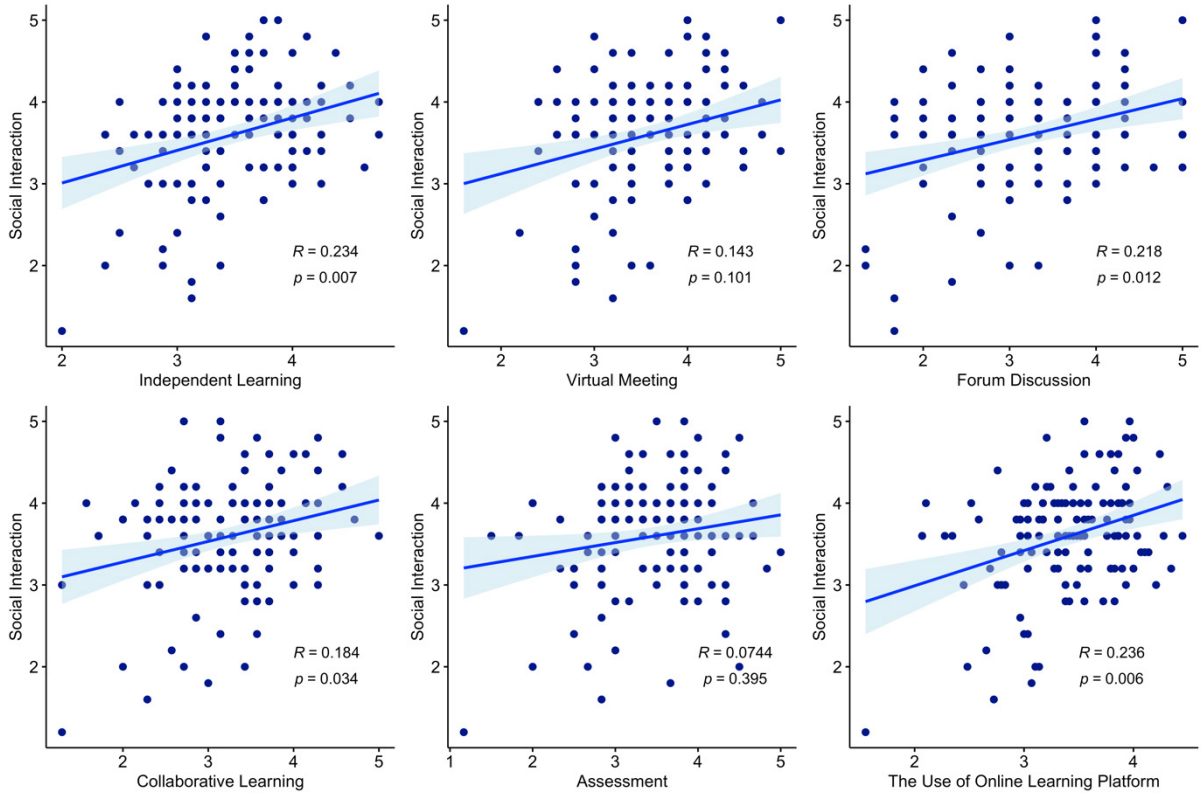


Table 7

Correlation between Using Online Learning Platforms and Self-Efficacy in Using LMS

The Use of LMS	r	p-value
Independent Learning	0.34	0.000
Virtual Meeting	0.29	0.001
Forum Discussion	0.41	0.000
Collaborative Learning	0.32	0.000
Assessment	0.32	0.000
Overall	0.45	0.000

Figure 3

Correlation between Using online Learning Platforms and Self-Efficacy in Using LMS

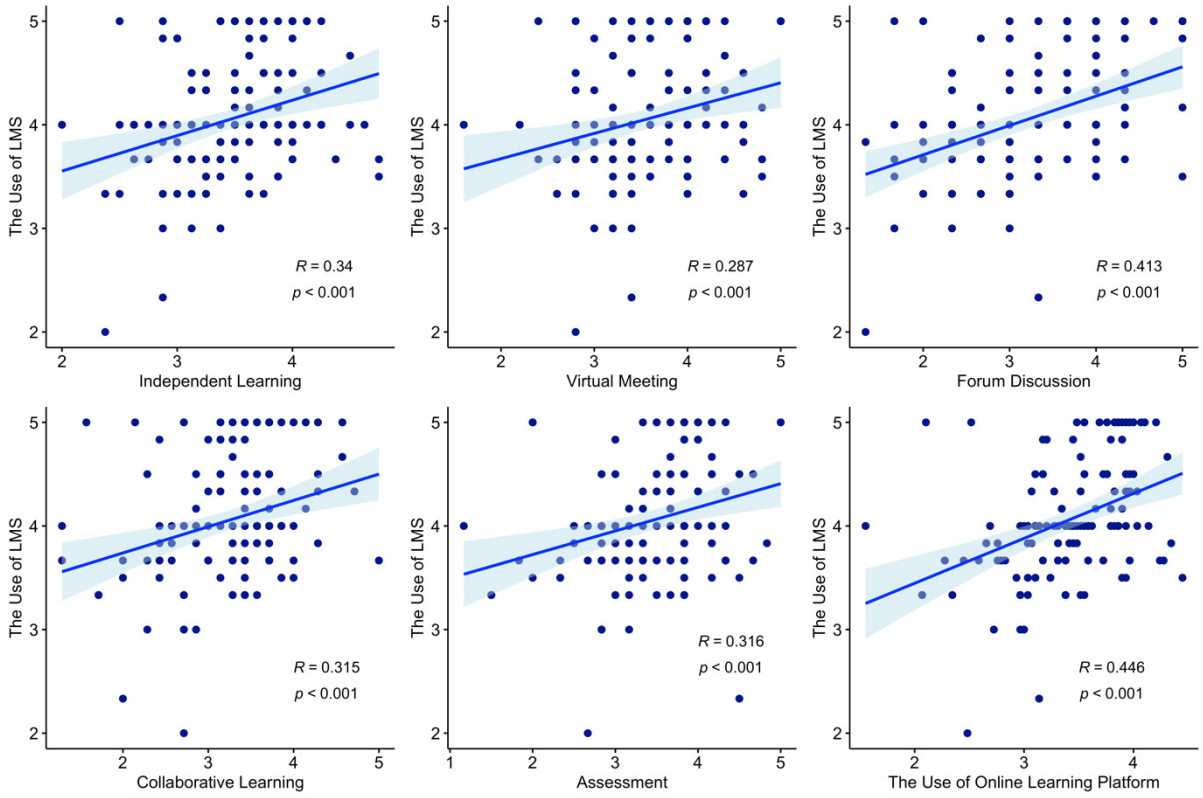


Figure 3 shows that the use of online learning platforms is correlated with EFL students' self-efficacy in handling tools in LMS. The correlation lines in the scatterplots show that the levels of correlation are high and moderate. Moreover, the result of the correlation analysis between using online learning platforms and students' self-efficacy in interacting with their lecturers is displayed in Table 8.

Table 8 shows a weak correlation between almost all constructs of using online learning platforms and students' self-efficacy in their interaction with the lecturers. In addition, the constructs that are not correlated to students' self-efficacy are virtual meetings and assessments (p-value > 0.05). Moreover, the correlation levels of all pairs are weak. These correlations are illustrated in Figure 4.

Figure 4 shows how students' self-efficacy in interacting with their lecturers correlates to using online learning platforms. Two constructs of online learning platforms, i.e. virtual meetings and assessments, display almost flat lines, suggesting that the correlations are not significant. Furthermore, Table 9 shows the correlation between using online learning platforms and students' academic interaction self-efficacy.

According to Table 9, the correlation levels of most constructs are weak. In addition, the correlations are not evident between two constructs of using online learning platforms, i.e. virtual meetings and assessments, and the dependent variable. The illustration of correlations in Table 8 is presented in Figure 5.

Table 8

Correlation between Using Online Learning Platforms and Self-Efficacy in Interaction with Lecturers

Interaction with Lecturers	r	p-value
Independent Learning	0.21	0.015
Virtual Meeting	0.10	0.239
Forum Discussion	0.18	0.040
Collaborative Learning	0.22	0.011
Assessment	0.06	0.499
Overall	0.22	0.010

Figure 4

Correlation between Using Online Learning Platforms and Self-Efficacy of Students' Interaction with their Lecturers

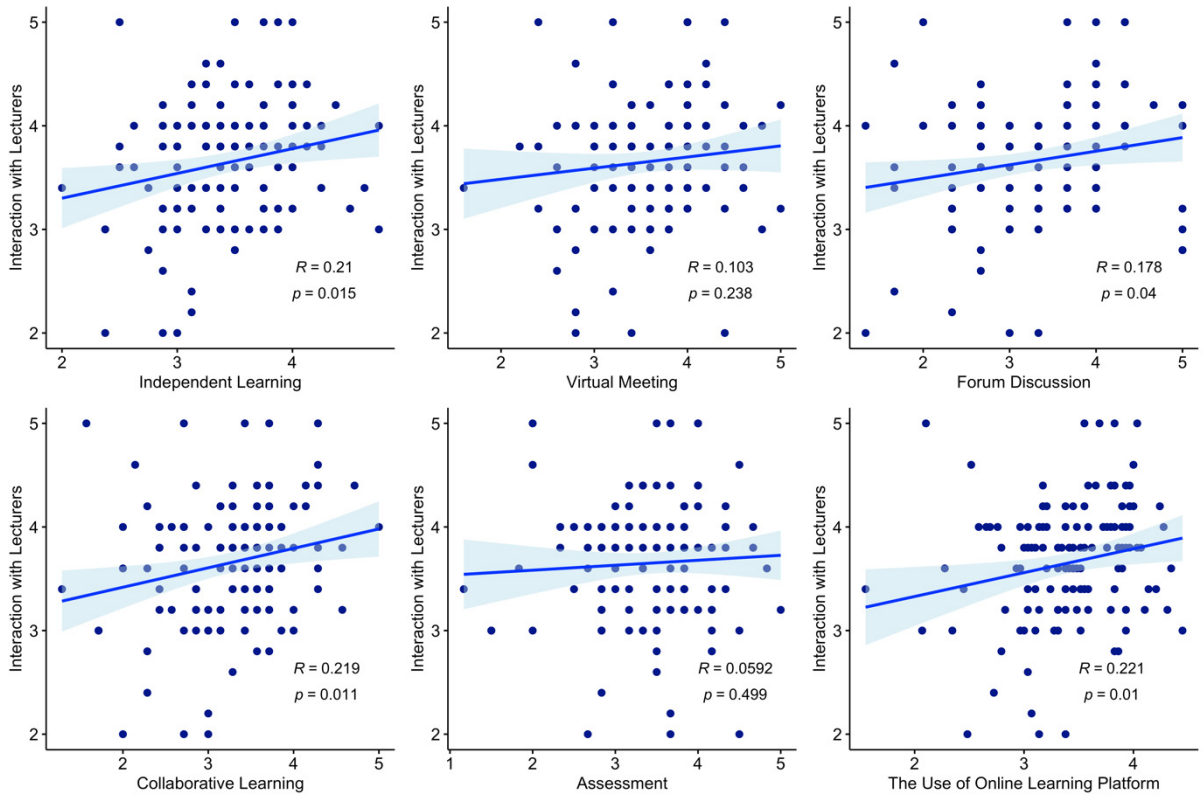


Figure 5 shows two scatterplots with near horizontal correlation lines, while others are slightly sloped upwards, showing certain levels of correlation. Finally, the result of the overall correlation analysis between using online learning platforms and EFL students' self-efficacy is displayed in Table 10.

Table 10 shows significant correlations between the use of online learning platforms and EFL students' self-efficacy. The level of correlation varied from weak to moderate level. The constructs that have a weak level of correlation are virtual meetings, collaborative learning, and assessments. The scatterplots in Figure 6 give a better illustration of these correlations.

Figure 6 shows that all constructs of the use of online learning platforms are correlated with EFL students' self-efficacy. The correlation lines in all scatterplots are trending upwards, which shows that the correlations are significant. To summarize the results of correlation analyses, Figure 7 shows the correlations between all constructs of the use of online learning platforms and all constructs of students' self-efficacy. Different line colors are used for clarity.

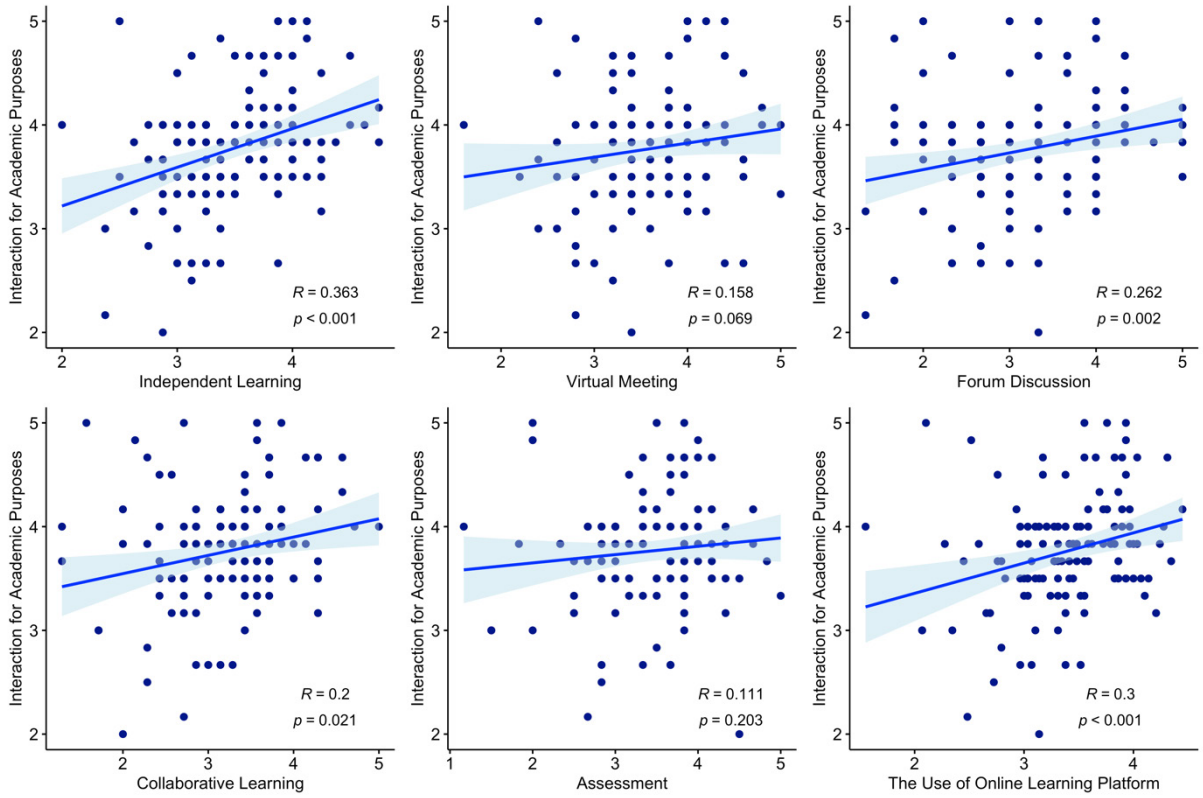
Table 9

Correlation between Using Online Learning Platforms and Students' Self-Efficacy in Academic Interaction

Academic Interaction	r	p-value
Independent Learning	0.36	0.000
Virtual Meeting	0.16	0.069
Forum Discussion	0.26	0.002
Collaborative Learning	0.20	0.021
Assessment	0.11	0.203
Overall	0.30	0.000

Figure 5

Correlation between Using Online Learning Platforms and Students' Self-Efficacy in Academic Interaction



DISCUSSION

This research aims to investigate whether there is a significant correlation between online learning platforms and EFL students' self-efficacy in online learning. The findings of this research indicate a positive correlation between almost all constructs of the use of online learning platforms (UOLP) and students' self-efficacy (SSE). More specifically, a moderate correlation was found in three constructs of UOLP, i.e., independent learning, forum discussion, and overall UOLP. This correlation shows the significance of using online learning platforms in determining EFL students' self-efficacy, which suggests that students will be more confident that they will be successful in online learning if their teachers use online learning platforms more frequently for independent learning and forum discussion. In addition, the result is as expected because previous studies have found that using online learning platforms promotes students' autonomy in learning (Li, 2021; Nugroho & Atmojo, 2022). Besides, online learning platforms also encourage students to actively engage in a discussion forum (Alsubhi et al., 2020). Students' engagement in online learning activities can indirectly affect their self-efficacy through vicarious experience or verbal persuasion sources (Hodges, 2016). For instance, students can observe their classmates' successful performances and receive encouragement from their lecturers during those activities. Therefore, this finding is beneficial for lecturers in assisting their students in using online learning platforms effectively.

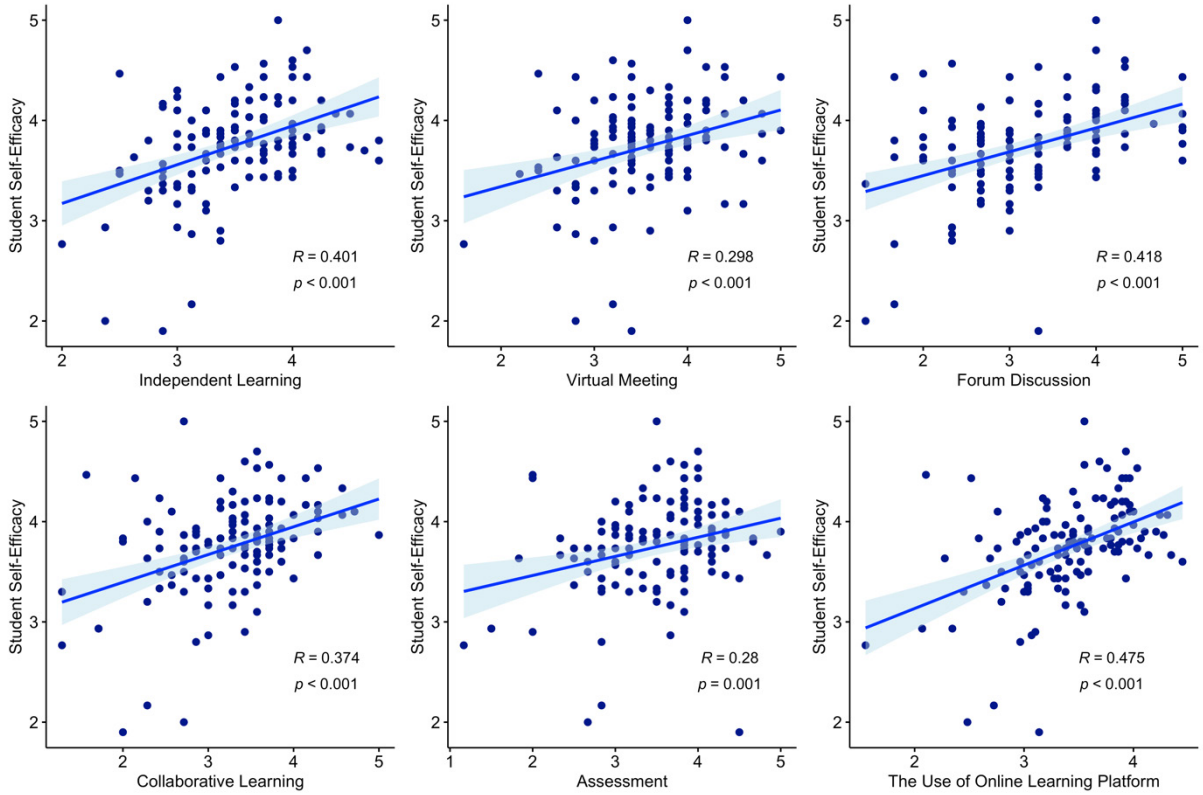
Table 10

Correlation Analysis Results of the Use of Online Learning Platforms and EFL Students' Self-Efficacy in Online Learning

Students' self-efficacy	r	p-value
Independent Learning	0.40	0.000
Virtual Meeting	0.30	0.000
Forum Discussion	0.42	0.000
Collaborative Learning	0.37	0.000
Assessment	0.28	0.001
Online Learning Platforms	0.48	0.000

Figure 6

Correlation between the Use of Online Learning Platforms and Efl Students' Self-Efficacy in Online Learning

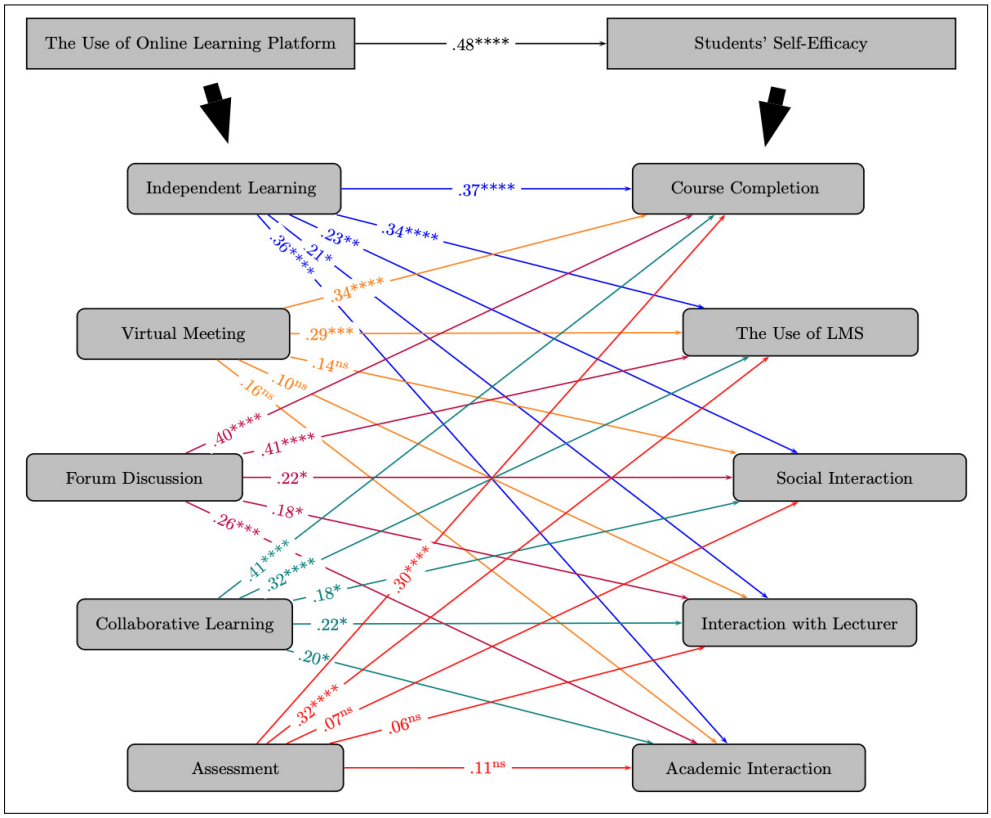


Similarly, students' self-efficacies in completing the online course and using LMS were also moderately correlated with all factors of online learning platforms except independent learning. The findings present a weak correlation between independent learning and both constructs of SSE. This result suggests that the learning activities involving independent learning, such as teachers asking students to read materials or complete assignments independently, did not affect students' belief of their success in completing the course of using LMS. These results are unexpected because independent learning is considered one of the most frequently used activities in online learning based on the data in this study. This unexpected result might be explained by students' mastery experiences and LMS use (Udin et al., 2022). For instance, Al-Mamary et al. (2023) found that students who believed that they would not fail in performing a learning activity in LMS would not doubt their abilities, which later decreased their motivation to use LMS. Therefore, this present research is expected to help teachers make the best use of features provided by online learning platforms that enhance students' independent learning.

In addition, a significant correlation also exists between students' self-efficacy in completing an online course and collaborative learning at a moderate level. This result indicates that students who engage in collaborative learning more often are more likely to believe they will successfully complete online courses. In addition, Kumi-Yeboah et al. (2017)

Figure 7

Summary of Correlations between the Use of Online Learning Platforms and Students' Self-Efficacy



*Note: ns p-value > 0.05, * p-value < 0.05, ** p-value > 0.01, *** p-value > 0.001, **** p-value > 0.000*

claim that collaborative learning activities can help students complete online courses by working with their classmates in group work. Besides, it can promote students' participation and engagement so they can have a better chance of success in an online course (Li & Yang, 2021). Budhyani et al. (2022) assert that peer learning can improve students' confidence and minimize their anxiety in an online learning class with assistance and feedback from their classmates. As a result, students' self-efficacy will increase when the class uses more collaborative learning activities. This current result has shown the significance of collaborative learning activities in improving students' self-efficacy, and therefore, teachers have to consider using this activity with the help of digital platforms in teaching an online class.

Furthermore, there is no correlation between three constructs of students' self-efficacy, those related to social and academic interactions, and two constructs of UOLP, namely virtual meetings and assessments. These results indicate that students' interaction was relatively poor during virtual class meetings using video conference applications. In addition, most assessments are delivered through online quizzes or testing applications, and thus, interaction was minimal. This is supported by Rahmat and Fachrunnisa (2021), who mention that students interact less using video meeting applications. Besides, Fitriyah and Jannah (2021) add that students' interaction with their teachers is considerably poor during the online assessment. The possible reason for these unexpected results might be some problems experienced by students in following the online learning instructions. According to Nehe (2021), interaction in video meeting applications can be more difficult due to uncontrolled class conditions and microphone sound crashing problems when students speak concurrently. Besides microphone issues, another reason for interaction problems is that most students prefer to turn off their cameras during virtual meetings, which reduces interactions (Wu et al., 2022). Regarding assessment, Suradi et al. (2022) mention that technical issues such as the quality of internet connection can affect students' belief in the success of online examinations because they fear their answers will be lost unexpectedly due to unstable internet connection. These results suggest that online learning instructors consider these issues. Several efforts can be undertaken to overcome the problem of interaction in an online classroom. For instance, teachers can provide immediate and direct feedback on students' work (Mafulah et al., 2023) and create breakout rooms with video application features where students can share their opinions on the materials (Libre, 2021). Another study suggests using interactive platforms such as Nearpod as a tool for

interactive learning (Kaddoura & Al Husseiny, 2021). In addition, Tseng (2020) emphasizes the importance of teacher presence in an online learning setting; for instance, teachers can assist students when they have difficulty, or teachers can provide asynchronous video comments on students' tasks and evaluations.

Finally, this research had several limitations during the data collection, such as a limited population size because we only covered three universities in Indonesia. In addition, the sample size was adequate, but the data could have been categorized into some groups based on students' demographic information if the sample size had been larger. Therefore, future researchers are suggested to use a larger sample size from a larger population, covering several universities. In addition, the researchers suggest that future researchers analyze the data based on several categories, such as gender and grade point average, to seek the differences between each category. In addition, if a future related study addresses adult learners, the researcher is also recommended to consider an andragogical approach in designing the research instrument, as suggested by Kaddoura and Husseiny (2021).

CONCLUSION

This research investigates whether the use of online learning platforms is significantly correlated to EFL students' self-efficacy in online learning, specifically in English courses. Based on research findings, significant correlations were found between both variables. The correlation level ranges from weak to moderate, and the correlations were also absent for some constructs. Forum discussion and overall online learning platform usage are moderately correlated with students' self-efficacy in completing online courses and handling LMS tools, and overall students' self-efficacy. Besides, collaborative learning has a moderate correlation with course completion, and the correlation between independent learning and overall students' self-efficacy is also moderate. These results show that students will become more efficacious in their online learning if their teachers increase the frequency of independent learning, collaborative learning, and discussion in their online classes. Moreover, other constructs, i.e., independent learning, forum discussion, collaborative learning, and overall online learning platforms, are weakly correlated to students' self-efficacy in social interaction. On the other hand, two constructs of UOLP are not correlated with students' self-efficacy related to social and academic interaction with both their classmates and lecturer, i.e., virtual meetings and assessments. Based on these results, students' belief about their success in learning interaction is not affected by how their teachers use online learning platforms.

The present research suggests that educational instructors such as teachers consider using online learning platforms in online learning settings, which has been studied to correlate with EFL students' self-efficacy in online learning. Regarding the research findings, the researchers recommend that teachers conduct forum discussion activities more frequently as they moderately correlate with EFL students' self-efficacy. Students can discuss specific learning material with their classmates and share their ideas confidently. Besides, students can observe their classmates' success when they perform a presentation, which can improve their motivation.

Regarding students' social and academic interaction issues with their peers or instructors, researchers suggest that teachers provide immediate feedback on students' performance and encourage them during online learning so they will feel more confident in their abilities. In addition, teachers can establish small group projects that can enhance students' participation and academic interaction with their peers. Furthermore, students can actively engage in virtual meetings using the breakout rooms feature, as they can communicate and exchange knowledge with their classmates within the rooms. Furthermore, students can increase their social interaction during virtual learning by exchanging messages through social media such as WhatsApp groups.

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DECLARATION OF COMPETITING INTEREST

None declared.

AUTHORS' CONTRIBUTION

Asnawi Muslem: conceptualization; investigation; supervision; writing – review & editing.

Usman Kasim: funding acquisition; investigation; supervision; writing – review & editing.

Faisal Mustafa: data curation; formal analysis; methodology; writing – review & editing.

Siti Sarah Fitriani: project administration; resources; writing – review & editing.

Maulidia Rahmi: data curation; visualization; writing – original draft.

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L1 Influence on the Use of the English Present Perfect: A Corpus Analysis of Russian and Spanish Learners' Essays

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ABSTRACT

Background: Mastering verbal tenses, especially those expressing aspect, in a second language presents a challenge as learners frequently link the semantic nuances of verbal forms in their second language (L2) to the characteristics of the verbal systems in their native languages (L1). This study explores the impact of L1 on the usage of the English Present Perfect (PP) among non-native speakers.

Purpose: In an effort to contribute to the ongoing research on the mechanisms governing the acquisition of English tenses, this study focuses on the variations that affect the usage of the PP in the writing of English learners. The investigation is particularly centered on university students whose L1 is Russian and Spanish, seeking to delve into the ways in which their first language influences the utilisation of the PP in their English writing.

Method: Analysis of L2 English by Russian and Spanish learners, based on corpora of argumentative essays written by undergraduate Russian and Spanish learners of English, controlled by a corpus of essays produced by native speakers of English; frequency and distribution of the PP in learner writings; examination of semantic contexts; identification of error types.

Results: The findings indicate that, despite a higher occurrence of the PP in texts produced by Spanish learners compared to Russian learners, the rate of errors in its application is nearly identical in both learner corpora. These errors are likely attributable to challenges in comprehending the functions of the PP and in distinguishing its semantics from those of other English tenses, particularly the Past Simple.

Conclusion: The study suggests that the increased prevalence of PP usage by L2 learners may be attributed to positive transfer from their L1 when it exhibits structures analogous to the English PP. Conversely, patterns indicative of, for example, undergeneralisation of semantic contexts suggesting the relevance of an action, or of overgeneralisation of adverbs compatible with the PP can be interpreted as evidence of negative transfer. The results of this study hold significance for language pedagogy, as they highlight potential challenges in acquiring the PP that learners from diverse L1 backgrounds may encounter.

KEYWORDS

Present Perfect, Russian, Spanish, L1 transfer, learner corpora

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INTRODUCTION

The Present Perfect (PP henceforth) is one of most frequently used tenses in English, productive in every register, including academic prose (Biber et al., 1999, p. 463). Even though the PP emerges at quite early stages in EFL (English as a Foreign Language) courses, its fully-fledged system of uses, including the distinction between the PP and the Past Simple (e.g. *I have been to Paris* vs. *I went to Paris in 2019*), which causes most difficulties for EFL learners, is mastered only at the most advanced levels of language proficiency (Housen, 2002a, p. 163; Davydova, 2011, p. 4). The problems that students face when using the PP forms have been described by a number of researchers in the field of Second Language Acquisition (van der Wurff, 1999; Housen, 2002b; Davydova, 2011, among

others). To give an example, Davydova (2011) conducted a study with learners with different L1 backgrounds (Russian, German, Hindi) and showed that only those speakers who had been studying English for a long period of time (more than 15 years) were able to "demonstrate the use of the PP consistent with descriptions found in traditional grammars of Standard English" (2011, p. 91). According to Davydova, this is explained by the fact that the PP has a complex system of uses determined by its various semantic meanings. To investigate whether L1 transfer can explain L2 divergence at the syntax-pragmatics interface, Antonova-Unlu and Wei (2020, p. 2) suggest studying "at least two groups of participants whose L1s are different in terms of the availability of this interface".

The similarities and differences between learners' target and native language are contended to have facilitating or inhibitory effects on the L2 acquisition process (Odlin, 2000). As far as the positive L1 transfer is concerned, according to Cai (2010), in the process of second language acquisition, a learner develops a set of associations with their L1 with fixed strengths, which are activated when a similar L2 pattern is learnt. As a result, L1 can play a positive role in its acquisition, triggering a positive transfer. However, as pointed out by Comrie (1976), L1 transfer tends to complicate the use of the PP in learners of English. Language transfer manifests itself in all subsystems of language including pragmatics, semantics, syntax, morphology, phonetics and orthography. Odlin posits that the phenomenon of transfer, or cross-linguistic influence, is connected with "interlingual identifications, that is, the judgments that something in the native language and something in the target language are similar" (Odlin, 2008, p. 454). More recently, Fuchs et al. (2016) identified three trends which pertain to different aspects of L1 and exert influence on the acquisition of the English PP. First, the use of the PP by L2 speakers of English is likely to be reduced if their native language lacks a formal or functional category corresponding to the PP (see also Bulut, 2011, pp. 225–226). Second, as also pointed out by Bardovi-Harlig (2000), L1 influence on the number of verb forms produced by learners or on the associations they have about the meanings of L2 verb forms is limited. Third, the semantics of particular verbs, for instance, so-called 'telic achievement' verbs, i.e. verbs with a defined end point, might cause the "non-target-like use of the Present Perfect" (see Collins, 2002, pp. 85–86 in this respect). However, it was shown in corpus-based studies that when the learners' native languages are typologically and structurally close to English, they do not always facilitate faster and more accurate production of the PP in L2 English (e.g., Eriksson, 2008; Davydova, 2011; Rogatcheva, 2014). For instance, it was demonstrated by Fuchs et al. (2016), who investigated the acquisition of the PP by L1 German learners, that native-language influence of this nature might support learners only at a later point. These authors suggest that the blockage of L1 influence can be explained by the complexity of the tense form, on the one hand, and the relatively low frequency of the PP in the input that the learners receive, on the other.

Since comparing the interlanguage of learners with the native and target languages has certain limitations, as mentioned by Odlin (2008), a number of scholars (e.g., Master, 1987; Jarvis & Odlin, 2000; Helms-Park, 2001; Antonova-Unlu, 2017) recommended conducting a comprehensive inquiry into the way in which learners with different native languages use a target-language structure that is present in one native language but absent in the other. Master (1987) employed this method to study the use of articles in L2 English by students of various L1 backgrounds. Helms-Park (2001) examined the acquisition of causatives by speakers of Hindi-Urdu and Vietnamese. Antonova-Unlu (2017) focused on the acquisition of English spatial prepositions by L1 Russian and Turkish learners. However, Jarvis (2000) contended that to get more valid results, it is reasonable to use both methods; in other words, both inter-group heterogeneity and similarity between the interlanguage of the learners and their L1 should be considered.

In order to investigate the way cross-linguistic conditions affect the use of the PP, in this study we investigated L1 effects on L2 usage of the PP by comparing use of this tense in the L2-English essays of native speakers of Russian (which lacks the PP), native Spanish (which has this form) and the essays of native English speakers. Our choice of a corpus-based methodology in this context does not obscure the necessity of exploring the transfer of verbal paradigms from alternative perspectives. Despite the vast body of psycholinguistic and neurolinguistic literature on transfer, studies specifically addressing the transfer of verb-tense categories are limited. In this regard, our knowledge is restricted to eye-tracking experiments investigating L1 influence on the L2 in predicates' argument structure (e.g., transitive/intransitive patterns) in Shirai and Andersen (1995). Additionally, the so-called Aspect Hypothesis has been empirically examined in Odlin (2005). As claimed by Spada and Lightbown (1999), increasing learners' awareness of cross-linguistic differences is likely to eliminate certain difficulties in the target language. Therefore, research into linguistic transfer in the use of the PP might not only have certain theoretical importance, but also be beneficial for language pedagogy.

This study aims to contribute to the ongoing debate about what role, if any, L1 plays in the use of English PP by non-native speakers of English. This investigation is based on the analysis of specific and universal mechanisms underlying the occurrence of the PP forms in Russian and Spanish varieties of English. We compare two corpora of academic essays written by Russian and Spanish undergraduate students, with the initial hypothesis that Russian learners of English will use the PP less frequently and make more errors in its use than Spanish students because Russian lacks a tense straightforwardly equivalent to the English PP, while the Spanish paradigm of verbal tenses hosts a PP correlate.

Although variation in the uses of the PP by native and non-native speakers of English has been approached in a number of works (e.g., Elsness, 1997; Hundt & Smith, 2009; Davydova, 2011, 2012; Yao & Collins, 2012; Seoane & Suárez-Gómez, 2013; Werner, 2013, 2014), the findings are quite contradictory. For example, on the one hand, Davydova (2011), who studied the uses of the PP in a corpus of non-native Russian, German and Indian varieties of English, and compared them with the London-Lund Corpus of Spoken English (LLC), reported that the PP is underrepresented in the studied varieties of English compared to the corpus L1 English, which can be explained by the complexity of this strategy, so that L2 speakers appear to avoid using the PP due to its complexity and opt for the Past Simple instead. On the other hand, Yao and Collins (2012), whose analysis was based on selected components and registers of the International Corpus of English (ICE), concluded that the frequency of the PP in non-native varieties of English is comparable to that of the native varieties, with Indian English employing this form most often and Philippine English least often.

LITERATURE REVIEW

The Use of the Present Perfect in L2 learner English

The use of the PP in learner corpora has attracted considerable attention in the academia. For example, Bardovi-Harlig's (1997) longitudinal study analysed Arabic, Japanese, Korean and Spanish learners' oral and written data, and concluded that learners routinely confuse the PP forms with the forms of the Past Simple tense and the Present tense. Bardovi-Harlig claimed that this could be explained by the fact that the learners' semantic knowledge of the PP was not established to the fullest in relation to the other tenses. Fuchs et al. (2016) investigated variation between the PP and the Past Simple in ESL (English as a Second Language) German learners' data in an attempt to determine correlation between learner proficiency, mode (i.e. writing vs. speaking) and the use of the PP in their productions in English. In line with Bardovi-Harlig (1997), Fuchs et al. found that the PP emerged quite late in L2 learner English, namely with those students that achieved an advanced level of proficiency and had an opportunity to use English as often as native speakers did. Another interesting finding in this study was that the PP is more common in writing. Mohammed (2019) investigated the use of the PP by Iraqi leaners of English and found that they faced difficulties with using the tense possibly due to insufficient training. Uno (2014) investigated the use of the English PP by Japanese learners of English and paid special attention to the inherent semantic aspectual properties of the verbs. The analysis evinced the lack of strong correlation between the use of the PP and the verbs' lexical aspectual class (telic vs. atelic) in contexts with no temporal adverbials. In other studies learners' data are contrasted with native speakers' productions. For instance, Rogatcheva (2012) compared the use of the PP in German and Bulgarian learners' argumentative writing with productions by non-professional British and American writers. Her study confirmed the results reported by previous corpus-based investigations as regards the preference for the PP in British English. Besides, significant differences were detected between Bulgarian and German learner writing. Specifically, Bulgarian EFL learners' texts were closer to those by British novice writers as far as the uses of the PP were concerned, while the frequencies of the PP by German EFL learners were similar to those by American novice writers. Rogatcheva claimed that such differences could be explained not only by L1 influence but also by register effects, the latter not being relevant to the present discussion since we are only analysing academic texts.

Main Uses of the Present Perfect in English, Russian and Spanish

This section briefly describes the PP and its equivalents in Russian and Spanish and outlines the semantic contexts in which the PP is used in standard English. The comparison of the semantic contexts of the PP in L1 and L2 is also carried out in what follows.

The English Present Perfect

There are four unanimously recognised dominant semantic contexts of the English PP (Fenn, 1987; Winford, 1993; Tagliamonte, 2000; Huddleston & Pullum, 2002; Siemund, 2004; Radden & Dirven, 2007; Davydova, 2011):

(i) the resultative context, which denotes a past action that results in a change of state at the moment of speaking (sometimes known as 'current relevance'), as in (3),

(ii) the so-called 'extended-now' context, with situations that started in the past and continue into the moment of speaking, in (4),

(iii) the experiential context, whereby a situation or an event occurred once or several times before the moment of speaking in cases when a definite time reference is not given, illustrated here in (5),

(iv) the recent past context, which involves a recent event, again without a reference to the definite time of the action, in (6).

(3) *I have lost my keys somewhere*.

(4) *I have lived/have been living here for 3 years now.*

(5) *I have seen it many times.*

(6) *I have just taken my final exams.*

The Russian Present Perfect

The Russian verbal paradigm includes forms of past, present and future, and for an overwhelming majority of verbs two aspects, perfective and imperfective, which allow speakers to convey various meanings. The imperfective aspect is used for either an action in progress or a repeated action, for example, *Ya chitayu knigu* ('I am reading a book'), while the perfective aspect in Russian denotes "a single completed action" (Wade[1], 2002, p. 119), which, unlike the English PP, often occurs in the sentence with past references as long as it is presented as complete, for instance, *Ya prochital knigu vchera* ('I read the book yesterday'). Researchers have highlighted the aspectual and temporal components of the perfect, and have stressed that the perfective meaning is overwhelmingly a characteristic of the perfective aspect which is seen as one of the meanings of the past tense (e.g., Telin, 1988). Maslov (2004) considers 'perfectness' as an aspectual semantic category which possesses certain temporal duality, a combination of two interconnected temporal plans in a predicate: the antecedent and the subsequent one.

Of all the forms in the Russian verbal paradigm, there is only one in which the occurrence of the past participle makes the construction comparable to the English PP tense: auxiliary verb *be* + past passive participle, e.g. *Dom byl postroen dva goda nazad* ('The house was built two years ago'). Auxiliary *be* is subject to obligatory omission in the Present tense and is sometimes omitted in the Past tense. It is this construction that Comrie (1976, p. 58) categorised as corresponding to English perfectivity, despite the challenge of attesting the English PP in expressions conveying past tense and the regular occurrence of the corresponding Russian form with adverbials of time. As regards the semantic contexts the English PP is used in, namely, resultative, experiential and recent past, in the Russian language preterit is more frequently employed; for example, *On napisal pis'mo* ('He has written a letter') or *Ona videla etot film ran'she* ('She has seen this film before'). By contrast, in the extended-now context, the Present tense is predominant, for instance, *Oni rabotayut v etoi kompanii neskol'ko let* ('They have worked for this company for several years'). Therefore, since in Russian there is no special verb form that would discriminate the PP contexts, Russian speakers of English face difficulties when using this tense (Davydova, 2011).

The Spanish Present Perfect

Spanish has a PP form similar to the English one both with respect to form (present indicative of the auxiliary verb *haber* plus past participle of the main verb) and use. The specific features of the Spanish PP have been the focus of academic investigation by, among others, Comrie (1976), Lehmann (1982), Dahl (1985), Klein (1992), Bybee et al. (1994), Schwenter (1994), Dahl and Hedin (2000), Lindstedt (2000), Squartini and Bertinetto (2000) and Copple (2009). In a nutshell, in the comprehensive *Nueva gramática de la lengua española*[2] the Spanish PP tense is classified as an 'absolute' tense since it is anchored to the present. It conveys two main interpretations: (i) anteriority (or, in Cartagena's 1999: §45.1.2 words, "perfection") with respect to a point in the present in contexts in which the event is assessed with reference to the present (i.e. experience or relevance perfect), as in *Ha sufrido mucho en la vida* ('S/he has suffered a lot in her/his life'), and (ii) immediate past, in, for example, *Arturo ha estado tres veces en Santiago en el último año* ('Arturo has been in Santiago on three occasions this year'), possibility still reaching the present. The *Nueva gramática* recognises that these prototypical values are subject to major dialectal variation, the PP being frequently replaced in Spanish with the Past Simple tense.

As pointed out by, for example, Gorbova (2015), the Spanish PP is increasingly used with specific temporal references in narrated chains of events, which suggests that this form is in a process of grammaticalisation known as 'aoristic drift', according to which it adopts semantic values bridging between the past and the present (see also Michaelis, 1998, p. 10). Nevertheless, as the temporal interval indicated by the locative extends further from the present, the acceptability of constructing a Perfect utterance in Spanish diminishes. Expressions such as *hace una hora* ('an hour ago') or *hace un momento* ('a moment ago') are routinely combined with the Perfect, whereas a time locative such as *la semana pasada* ('last week') accompanies the Perfect less often, and *hace 10 años* ('ten years ago') is very unlikely to appear with it. The interrogative locative *cuándo* ('when') is very commonly used with the Perfect (*¿Cuándo has llegado?* 'When did you arrive?'), probably because its interrogative nature is perceived by Spanish speakers as strongly connected with the concept of 'novelty[3] worth communicating'. Consequently, Spanish PP and preterite tenses have been claimed to share

[1] Wade, T. (2002). *The Oxford Russian grammar and verbs*. Oxford University Press.

[2] Real Academia Española. (2009). *Nueva gramática de la lengua española*. Espasa.

[3] The sense of 'recentness' that is part of the 'past of present' tense is rather variable, as it is measured differently depending on the characteristics of the process. For instance, a process such as *llamar a la puerta* ('knock on the door, ring the doorbell') can be regarded as a recent development in Spanish perhaps only hours after it has taken place. In fact, it would be very difficult to find a situation in which a Spanish speaker would select the 'past of present' tense a day after the event has taken place. In contrast, a process such as *publicar un libro* ('publish a book, the coming out of a book') is normally treated as a recent development.

the same cognitive meaning (i.e. reference to the past) and can for this reason be treated as realisations of a "commonly underlying form" in the PP contexts (Davydova, 2011, p. 50). In this vein, added to its reference to the past, authors like Harris (1982, p. 55) emphasise that the Spanish PP preserves the pragmatically subjective meaning of "current relevance".

Present-Perfect Uses in Native and Learner English

This section describes points of convergence and divergence between the contexts in which the PP is used in L1 and L2 English. Firstly, as pointed out above, in resultative contexts like (7) the perfective aspect of the Past tense is used in Russian, which "indicates completion of an action in the past ('he made, has made, had made a call')" and implies a result (Wade[4], 2002, p. 111). In the same way, the Spanish PP may also express result (González & Quintana Hernández, 2018, p. 615), as illustrated in (8).

(7) *Ona slomala ruku*.

She break-Past-PERF arm

'She has broken / broke her arm.'

(8) *He comido hoy.*

have eaten today

'I have eaten today.'

Secondly, extended-now contexts pose difficulties for Russian learners of English because Russian conveys this meaning via imperfective-aspect Present tense, as in (9):

(9) *Ya zhivu v Moskve s 2000 goda.*

I live-Present-IMPERF in Moscow since 2000 year

'I have been living/have lived in Moscow since 2000.'

Such interference from L1 Russian explains frequent erroneous utterances produced by Russian learners like **I'm studying French for five years* (Davydova, 2011, p. 28). By contrast, in Spanish, as in English, the PP is used to denote an action taking place in a period of time including the present, that is, in so-called 'past in the present' time (Lavid et al., 2010, p. 401), and can co-occur with compatible temporal adverbials (e.g. *ahora* 'now', *hoy* 'today', *estos días* 'these days'), as in (10):

(10) *No he dormido en toda la semana.*

'I haven't slept for a week now.'

Thirdly, in Russian, imperfective aspect in the Past tense is used in experiential contexts, as in (11). That is why, as mentioned by Davydova (2011), when talking about experience in English, Russian speakers frequently use Past Simple rather than the PP. In Spanish, the experiential context, like the extended-now one, is one of 'present relevance' and requires the PP, as exemplified by (12).

(11) *Ya smotrel etot fil'm dvazhdy.*

I see-Past-IMPERF this film twice

'I have seen this film twice.'

(12) *El autor de este drama no ha estado nunca en esta ciudad*.

'The author of this play has never been to this town.' (from Lavid et al., 2010, p. 403)

Finally, as regards recent-past contexts, despite "the subjective character of the notions of 'relevance' and 'recentness'" (Lavid et al., 2010, p. 426), speakers of English and Spanish tend to agree to a large extent on what can be considered "a relevant piece of news" and thus use the PP to denote these actions quite similarly. Russian, by contrast, makes no differences between events that happened recently and those from some time ago. In both cases imperfective aspect in the Past tense is used in Russian, as in (13) and (14).

(13) *Ya nedavno videl druga*.

I recently see-Past-IMPERF a friend.

'I have seen a friend recently.'

(14) *Ya videl druga mesyatc nazad*.

I see-Past-IMPERF a friend a month ago.

'I saw a friend a month ago.'

Lacking such a formal distinction between recent events and completed past events in their L1, Russian learners frequently use the PP in English when they describe events with definite time reference, as in (14). Also, erroneous uses of the PP with indications of time in the past are attested even more often in Russian learner writing, as in (15).

(15) *I don't think that Europe has done the right thing when they united in one*. (from Davydova, 2011, p. 28)

It should be noted, however, that a similar error is also attested in L2 English by Spanish learners. As Lavid et al. (2010, p. 426) point out, the presence of a time adverbial in the clause such as *ayer* ('yesterday') or *la semana pasada* ('last week') "does not prevent Spanish speakers from using the Perfect if they regard the process as charged with current relevance", whilst Past Simple is mandatory with a specific temporal location in English.

[4] Wade, T. (2002). *The Oxford Russian grammar and verbs*. Oxford University Press.

A Corpus-Based Analysis of L2 English by Russian and Spanish Learners

The studies mentioned in the previous sections pave the way for the investigation of the uses of the PP in L2 learner writing. Specifically, this paper undertakes the analysis of PP usage in academic essays in L2 English written by Russian and Spanish undergraduate learners, under the hypothesis that Russian students, who lack the PP category in their native language, will use the PP less frequently, will make more errors and will use temporal adverbials more frequently when using the PP in comparison with Spanish students, since the PP is available in the Spanish verbal paradigm. Three research questions (RQ) are addressed in this paper:

RQ1: Which students use PP forms more frequently in their writing, Russian or Spanish learners?

RQ2: What semantic contexts prevail with the PP in Russian and Spanish L2 productions?

RQ3: Which students make more errors in their uses of the PP? Which errors can be described as independent of the learners' L1, and which can be explained by L1 transfer?

METHOD

Data

The analysis of the use of the PP was conducted on two corpora of argumentative essays written by undergraduate Russian and Spanish learners of English. A third corpus of essays produced by native speakers (NS) of English was used for control purposes. WriCLE (Written Corpus of Learner English; Rollinson & Mendikoetxea, 2010) was collected at the Universidad Autónoma de Madrid and contains L1 Spanish students' essays written for the academic-writing module of their English Language course in the first and third year of the degree in English Studies. Their level of language proficiency was determined with the help of the Oxford Quick Placement Test, which the learners took at a time close to the writing of the essays. The test scores range from 57 to 90 with the mean score being 72. According to the Common European Framework of Reference (CEFR), these results can be interpreted as proficiency levels ranging from B1 to C1. REALEC (Russian Error-Annotated Learner English Corpus; Vinogradova, 2019) is a collection of essays written by L1 Russian undergraduate students from the Higher School of Economics (HSE University) as part of their English examination at the end of the university course of English. This examination is conducted in the International English Language Testing System (IELTS) format and its results show that the learners' proficiency in English ranges from B1 to C1. Therefore, in terms of proficiency levels of the students, the L2 corpora are comparable and can serve the purposes of the current study. The third corpus, LOCNESS (the Louvain Corpus of Native English Essays), was compiled at the Centre for English Corpus Linguistics (CECL), Université Catholique de Louvain, and comprises three types of texts: British pupils' A level essays, British university students' essays and American university students' essays. Table 1 provides more information about the corpora.

Method and Procedure

The first stage of the analysis involved the identification of all the instances of the PP in the corpora. The texts were annotated with part-of-speech tags through TreeTagger (Schmit, 1994, 1995). A basic Python code was used to retrieve combinations of *has/'s* or *have/'ve* plus past participle within a two-token distance, so that forms like *has already begun* and *have at last received* could be considered. The following uses of the tokens *has/'s* and *have/'ve* with the past participle had to be removed:

- *has/have to be done* (*It has to be done now*)
- *has/have got/gotten to do something* (*You have got to know it*)
- perfect forms of the modals (*It must have been*)
- causative uses *has/have something done*.

The frequencies and the distribution per corpus of PP expressions in the three corpora are displayed in Table 2.

As regards the method, usage of the PP has been investigated by reporting statistically significant differences be-

Table 1

Sizes and Contents of the Corpora Used in the Study

	Spanish corpus	Russian corpus	Corpus of English native speakers
Name	WriCLE	REALEC	LOCNESS (the Louvain Corpus of Native English Essays)
Type of texts	Argumentative essays ranging from 500 words up to 2,000 words	Argumentative essays of approximately 250 words	Argumentative essays of approximately 500 words
Size (words)	801,000	833,000	324,000
Size (texts)	716	2,973	710

Table 2

Raw and Normalised Frequencies (in brackets) per 100,000 Words of all Verbs and the PP Forms in the Corpora

	Number of verb tokens	PP instances	PP/number of verb tokens ratio
Russian corpus	134,375 (16,131.45)	959 (115.13)	0.007
Spanish corpus	117,352 (14,650.69)	3,792 (423.41)	0.032
NS corpus	54,699 (16,882.41)	1,044 (322.22)	0.019

tween the corpora. In our more qualitative analysis, 500 PP examples were selected randomly in each corpus with two objectives in mind: the analysis of the uses of the PP across the four semantic contexts described above, and the identification of erroneous uses. Finally, temporal adverbials categorised by Davydova (2011) as conveying current relevance (*never*, *ever*, *always*, *just (now)*, *today*, *in my life*, *lately*, *often*, *before (now)*, *at present*, *up till now*, *so far*, *(as) yet*, *already*, *during these # years past*, *here with*, *since*, *for*, *in/over {the} recent*) were searched via AntConc (Anthony, 2014)[5] with the objective of detecting cases where other tense forms were used instead of the PP.

RESULTS

On Frequency Significance

Differences between the Russian and Spanish corpora were tested for statistical significance. The significance of the differences in frequencies was calculated with chi-squared tests and *p*-values. For values ≤5, the Fisher exact test was used for calculating *p*-values. Statistical significance was conventionalised as follows: 0.1% level when $p \leq .001$, 1% level when $p \leq .01$ and 5% level when the significance of the variation is reported by a *p*-value ≤.05. Firstly, the frequency of the PP is significantly higher in the Spanish corpus (χ^2 ranges from 1796.20, when compared to the Russian corpus, to 121.86 with respect to the NS corpus; $p \leq .01$, df=1). Secondly, the ratios of the PP per verbal form demonstrate that the Russian corpus contains the lowest number of PP forms per total number of verbs.

Semantic Contexts of the PP

As already mentioned, the qualitative analysis of the data involved the random selection of 500 sentences with PP forms from each of the three corpora. In particular, for each corpus, randomised lists of examples were generated by Microsoft Excel, out of which we selected the first 500 instances from each corpus. The examples were manually classified into five groups according to the semantic contexts identified above: resultative, experiential, recent past, extended-now and other. The last category ('other') comprises the instances of erroneous use of the PP that cannot be categorised among the other semantic contexts, as in example (16):

(16) *Independent on the amount of money humans have had, they always try to make the world around them pretty* (Rus).

To ensure methodological reliability, the categorisation of the examples was carried out by native (Russian or Spanish) linguists and confirmed by native non-linguist speakers.[6] The former made the final decision in a few instances of disagreement. The results are given in Tables 3 and 4.

Overall, it was found that there is a significant variation in the use of the PP in all sematic contexts across the three languages except the experience one. As shown in Table 3, in the three corpora the PP is most frequently used in the resultative context. However, in the Russian students' texts this context is attested less often than in the Spanish students' and native speakers' texts ($p < .001$). The PP is more frequently used in recent past, extended-now and experience contexts in the Russian learners' essays than in the other corpora. The differences were found to be statistically significant for recent past (both when compared to the Spanish students' and the native speakers' texts) and extended-now (only with the Spanish learners' essays), but not for experience. The differences in the uses of the semantic contexts of the PP between the Spanish students' and the NS texts were found not to be statistically significant.

Erroneous Contexts with the PP

At the next stage of the analysis, we investigated the erroneous contexts with the PP in the Russian and Spanish corpora. As reflected in Table 5, it was found that the number of erroneous uses of the PP among the 500 randomly selected

[5] Anthony, L. (2014). *AntConc* (Version 3.4.4) [Computer Software]. Tokyo: Waseda University.

[6] Regarding diatopic variation, two key points are noteworthy. First, the reliability of inter-coder assessments remains unaffected by the coder's British/American variety of English. This is ensured by the double-checking of the categorisation of the semantic contexts carried out by native English and American informants. Second, despite the reported distinctions between the two varieties of English concerning the use of the PP in the resultative context, our overall results remain unbiased. This impartiality is guaranteed by the random selection of data and the balanced representation of British and American essays in the corpus (British pupils' A level essays: 60,209 words, British university students' essays: 95,695 words, American university students' essays: 168,400 words).

Table 3

Raw Frequencies and Percentages of the Mains Uses of the PP

	Recent past	Extended-now	Experience	Result	Other
Russian corpus	50 (10%)	86 (17%)	61 (12%)	290 (58%)	13 (3%)
Spanish corpus	23 (5%)	52 (10%)	47 (9%)	368 (74%)	10 (2%)
NS corpus	11 (2%)	68 (14%)	44 (9%)	377 (76%)	0

Table 4

Significance Tests of the Variations in Table 3

Semantic contexts	Overall			Russian vs. Spanish			Russian vs. NS			Spanish vs. NS		
	chi-square	*p*-value	df	chi-square	*p*-value	df	chi-square	*p*-value	df	chi-square	*p*-value	df
Recent past	30.19	<.001	2	9.99	.002	1	25.21	<.001	1	3.68	.055	1
Extended-now	9.77	.008	2	9.15	.003	1	2.22	.136	1	2.13	.144	1
Experience	3.62	.164	2	1.23	.268	1	2.06	.151	1	0.05	.826	1
Result	42.81	<.001	2	26.35	<.001	1	33.30	<.001	1	0.34	.562	1
Other	-	-	2	0.18	.6731	1	-	-	1	-	-	1

Table 5

Proportions and Raw Frequencies of Tenses Replacing the PP in Spanish and Russian Learners' Essays

	Past Simple	Present Simple	Past Perfect	*Would* + perfect infinitive
Spanish corpus	29 (82%)	5 (18%)	–	–
Russian corpus	15 (52%)	11 (38%)	2 (7%)	1 (3%)

examples in the two corpora is almost the same (29 cases in the Russian corpus vs. 34 cases in the Spanish corpus).

First, both Spanish and Russian learners tend to use the PP extensively instead of the Past Simple, especially with definite past expressions (see examples (17) and (18)). Second, the following most common type of error is the use of the PP instead of the Simple Present (18% i.e. 5 cases in the Spanish corpus, and 38% i.e. 11 examples in the Russian corpus) – see examples (19) and (20). Third, there is a larger variety of tense forms that would be appropriate instead of the PP in the Russian students' texts than in the Spanish corpus. Apart from Past Simple and Present Simple, there are examples where Past Perfect or *would*+perfect infinitive should have been used (see examples (21) and (22)).

(17) *… but in last years another terrorist group, called Al Qaeda, has murdered a lot of people in the famous attempt in Madrid in 2004* (Span).

(18) *For example, last year in the social network "Vkontakte" public page "Just do it" has become really popular* (Rus).

(19) *That is, they enjoy to hangout with friends on a Friday or Saturday night, going to clubs and discos, and so on, until the sun rises and a new day have come* (Span).

(20) *Unfortunately, original disk with music or film have cost about 15-20 dollars per disk* (Rus).

(21) *I've worked for an year in HP company and it helped me to fulfill need of my current professors and to avoid misunderstanding with them* (Rus).

(22) [*Firstly, food import gives the opportunity for the population of the country to taste the foreigh products that can't grow in their country because of the different reasons, such as climate or the lack of resources.*] *For instance, people in Russia have never had a chance to taste bananas, oranges and another exotic fruits without the import of products from Africa as an example* (Rus).

Subsequently, we analysed the examples with the temporal expressions listed in the Data and method section in order to detect sentences where other tense forms were used instead of the PP. In the Russian corpus 68 sentences were identified, which amount to 23% of all contexts with specific temporal adverbials. The Spanish corpus contains 19 instances of this sort, which make only 4% of the contexts with temporal adverbials. Table 6 displays the raw frequencies and the proportions of tenses that were used by the learners instead of the PP in the two corpora.

Table 6

Proportions and Raw Frequencies of Tenses Replacing the PP with Temporal Adverbials

	Past Simple	Present Simple	Past Continuous	Present Continuous
Spanish corpus	14 (74%)	3 (16%)	–	2 (10%)
Russian corpus	42 (61%)	24 (36%)	1 (1%)	1 (1%)

Not surprisingly, the most common tense that is used where the PP would be appropriate by both Russian and Spanish learners is Past Simple (see examples (23) and (24)). The striking observation here is that Russian learners underuse the PP in its prototypical contexts much more often that Spanish learners, the frequency of present tenses being similar to that of the past tenses. The second most popular tense used instead of the PP is Present Simple, illustrated in (25) and (26):

(23) *Historically, women were always better at house-keeping or cooking* (Rus).

(24) *Cannabis, which was known at the same time in both China and Antique Greece for 15.000 years,…* (Span).

(25) *There are lots of crashes in recent years* (Rus).

(26) *To sum up, there are many arguments concerning the safety of the world since the war against terrorism began* (Span).

In the next stage of the investigation we focused on the substitutes for the PP which demonstrated a higher percentage of errors in sentences with temporal adverbials in the two learner corpora. The results are given in Table 7.

The results evince different patterns. While the most common semantic context requiring the PP in the Russian corpus is talking about recent past, in the Spanish corpus this context accounts for the smallest number of errors (p<.001), while the extended-now context was the most problematic for Spanish learners (p=.0121 when compared to the Russian students' texts).

The choice of tenses used instead of the PP by Russian and Spanish students also seems to be quite different, as reflected in Table 8, where we have also tested the statistical significance for all the variations.

In the resultative context, the most popular choice in the Russian learner texts was the Present Simple tense (p=.0013 when compared to the Spanish), illustrated in (27). By contrast, in the Spanish corpus, Past Simple is more frequently used in this case, as in (28). However, this difference was not found to be statistically significant.

(27) *But the influence on human consuming such produce and animal meat is not studied yet.*

(28) *However, it seems to me that this does not have to be directly related with the wearing of the veil, as I already observed above.*

A significant difference was revealed for the experience context, where Past Simple was more frequently used by the Russian students (in (29)).

(29) *Unfortunately, only few people felt themselves really happy* (Rus).

Another noticeable difference is related to the recent-past context, where Russian students sometimes use Past Simple or Present Continuous, but the most common choice for both groups of learners is Present Simple:

(30) *In recent years there are a wide range of crashes of planes* (Rus).

(31) *Secondly, lately the world lives terrified by the fear of a war in which nuclear weapons could be used* (Span).

DISCUSSION

This study has focused on the usage of the PP by Russian and Spanish learners of ESL through the quantitative and qualitative analysis of comparable University essays. The selection of L1 Russian and L1 Spanish students meets justification in this investigation in light of the systematic differences between the two languages: whereas Russian lacks a tense paradigmatically equivalent to the English PP, the Spanish paradigm contains a PP tense structurally identical to the corresponding English verbal tense. In consequence, this study involving L2 English produced by Russian and Spanish students constitutes a perfect context to check transfer issues as well as L1 influence on L2.

As regards the first research question 'Which students use the PP more frequently in their writing, Russian or Spanish learners?', the data have revealed, first, that the PP is more common in the Spanish learners' texts than in the Russian corpus, therefore confirming our hypothesis that Russian students, who lack the PP tense in their native language, use this tense form less frequently. In this respect, we agree with Fuchs and Werner (2018) that transfer from native languages that lack a structure similar to the PP in the L2s might be responsible for lower PP frequencies in the latter varieties. By comparison, transfer from L1 languages that have a structure similar to the English PP might explain why in some L2 varieties the PP is more frequent (see Fuchs et

Table 7

Percentages and Raw Frequencies of Semantic Contexts where the PP is Replaced with Another Verbal Alternative in Spanish and Russian Essays

	Russian	Spanish	*p*-value
Result	14 (21%)	3 (16%)	.0006
Experience	12 (18%)	4 (21%)	.0040
Extended-now	18 (26%)	11 (58%)	.0121
Recent past	24 (35%)	1 (5%)	<.0001

Table 8

Raw Frequencies and Significance-Test (df=1) Results of Tenses Replacing the PP in Spanish and Russian Essays per Semantic Context

		Russian	Spanish	Chi-square	*p*-value
Result	Past Simple	5	2	–	.1152
	Present Simple	9	1	–	.0013
	Present Continuous	0	0	–	–
	Past Continuous	0	0	–	–
Experience	Past Simple	12	4	–	.0040
	Present Simple	0	0	–	–
	Present Continuous	0	0	–	–
	Past Continuous	0	0	–	–
Extended-now	Past Simple	13	8	3.81	.0508
	Present Simple	4	1	–	.0764
	Present Continuous	1	2	–	1
	Past Continuous	0	0	–	–
Recent past	Past Simple	8	0	–	–
	Present Simple	15	1	–	<.0001
	Present Continuous	0	0	–	–
	Past Continuous	1	0	–	–

al., 2016, pp. 248–249). This thesis gains support from the evidence that our study has evinced a much lower ratio of PP forms in REALEC than in the corpus of native speakers of English, and even a much higher ratio of PP forms in the Spanish corpus in comparison with native uses, which prompts a need for additional investigation into the frequency of the PP in Spanish L1. It should be mentioned that cross-linguistic influence also manifests itself in terms of the identified errors connected with the use of other tenses instead of the PP in the Russian students' essays which can be explained by limited associations that the learners have about the form that is absent in their L1 (e.g., Bardovi-Harlig, 2000).

Second, as far the semantic contexts in which the PP forms are attested are concerned (second research question: 'What semantic contexts with the PP prevail in the two corpora?'), the data demonstrate that, although the resultative context prevails in the three corpora, in the essays by the Russian students the distribution of the PP instances is more even across the four semantic contexts than in the texts written by the Spanish and the native students. Extending the interpretation derived from the overall frequencies of the PP outlined in the preceding paragraph, the uniform distribution of the PP in the Russian dataset finds rationale in the absence of a native PP in Russian. This absence does not constrain the utilisation of this verbal tense within particular semantic contexts, thereby facilitating its unmarked usage by Russian learners.

With respect to the third research question 'Which students make more errors in their use of the PP? Which errors can be described as independent of the learners' L1, and which can be explained by L1 transfer?', the proportion of er-

rors favouring the PP over other tenses is alike in the two learner corpora, while the number of examples that use verbal forms other than the PP in contexts in which the latter would be more appropriate is higher in the texts by the Russian students. There are two ways to explain this finding. Firstly, early research into PP uses in learner English revealed two types of errors: (i) overgeneralisation of the PP in Simple-Past contexts where the temporal adverbials should co-occur with the Past Simple, and (ii) undergeneralisation, when the Past Simple is used in the PP contexts where the temporal adverbials highlight the relevance of the action, which calls for the use of the PP. Thus, what makes the PP additionally difficult is that learners do not have to struggle only with its formal and functional properties, but also its "semantically close neighbors", among which the Past Simple is a formidable adversary (Bardovi-Harlig, 1997, p. 376). Errors caused by this twofold operationality of the PP can also be justified by the fact that the functional distinction between the PP and the Past Simple is commonly delayed in L2 teaching, as pointed out by, for example, Klein (1995, p. 47), Housen (2002a, p. 163) and Odlin and Alonso Vázquez (2006, p. 54). Secondly, drawing from our experience as EFL professionals, we suggest that most of the incorrect uses of PP in Russian learner writing can be explained by L1 negative transfer, particularly, by the conventions of Russian academic discourse, which regularly give support to the use of the Present tense in describing past events. It was also found that, despite the fact that in the Russian and Spanish learners' texts the most common tense the PP is confused with is the Past Simple, the Russian students tend to display a larger variety of errors connected with the use of other tenses instead of the PP. It is assumed that this can also be explained by L1 influence, namely, limited associations that the Russian learners have about the PP which is absent in their L1.

Our data also revealed that even though the Spanish language possesses the form of the PP, the number of errors the L1 Spanish learners make when using the English PP is comparable to that made by the L1 Russian learners, which might suggest that the positive transfer from their L1 does not take place in this case. This finding is in line with Antonova-Unlu and Wei's (2020) conclusion, who studied the use of the accusative case in Turkish by L1 Russian and L1 English learners. The authors hypothesised that, provided that context-dependent definiteness exists in English, the L1 English users of L2 Turkish would have an advantage over the L1 Russian participants and make fewer errors with the use of the accusative case. However, it was found that the L1 English learners were not able to transfer their L1 knowledge to their L2 at the interface domain. In a similar vein, in the multifactorial analysis of the PP as opposed to the Past Simple, Werner et al. (2021) demonstrated that the Chinese and German learners' native linguistic backgrounds do not influence their uses of the PP and the Past Simple in English. Their study concluded that universal linguistic factors are more essential in the acquisition of the two tenses under consideration than L1-specific ones, despite the typological differences between the two languages.

CONCLUSION

This study has delved into the utilisation of the Present Perfect (PP) by Russian and Spanish learners of English, scrutinising transfer patterns between their respective native linguistic frameworks (given that Russian lacks the PP, while Spanish possesses a PP correlate) and the English verb paradigm. In summary, our findings indicate that, while positive transfer explains the overall availability and actual use of the PP by learners, other factors aligned with negative transfer may elucidate the disparities between native usage and the learners' realisations. Positive transfer is substantiated by the heightened deployment of the PP by L1 Spanish learners, whose native language incorporates this form. Notably, the PP is more prevalent in the Spanish essays than in the native writings. Conversely, the similar frequency of errors across the two L2 corpora suggests that positive transfer alone cannot comprehensively account for the learners' use of this verbal tense. Indeed, our data have revealed tendencies toward both overgeneralisation (e.g., of adverbs compatible with the PP) and undergeneralisation (e.g., of the identification of semantic contexts conveying the relevance of action), providing grounds for considering the applicability of negative transfer hypotheses.

The previous findings lead us to the conclusion that this study has contributed to a linguistic domain that involves the intersection of syntactic and pragmatic domains that potentially pose challenges for learners. The novelty of this investigation is justified by its research goals, methodology and the potential application of the results. Firstly, to our knowledge, this is the first contrastive examination addressing the materialisation of the PP in sentences produced by Russian and Spanish learners of English, whose linguistic structuring of the verbal paradigms differs markedly. Secondly, in terms of methodology, we have undertaken a comprehensive comparison of both native and non-native linguistic productions, rather than focusing solely on one type of text. Finally, concerning the potential utilisation of the findings in a teaching environment, ESL teaching can leverage the reported results. The difficulties identified in the use of the PP by learners with diverse L1 backgrounds can serve as a foundation for developing learning materials tailored to their specific needs.

As far as the limitations of this research are concerned, we compared the use of the PP only in two varieties of L2 English. Our immediate goal is to provide a fuller picture of the use of the PP in learner English by widening this study's empirical linguistic evidence with data from other L1 varieties that demonstrate diverse structuring of their verbal paradigms.

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DECLARATION OF COMPETITING INTEREST

None declared.

AUTHORS' CONTRIBUTION

Elizaveta Smirnova: conceptualisation, data curation, formal analysis, investigation, methodology, visualisation, writing – original draft, writing – review and editing.

Javier Pérez-Guerra: investigation, methodology, resources, supervision, validation, visualisation, writing – original draft, writing – review and editing.

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Self-Efficacy (SE) and Motivation of the Indonesian Teacher Educator Authors (TEAs) in Writing Articles for Publication: The Bloom Digital Taxonomy (BDT) Perspective

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ABSTRACT

Background: Writing articles is inevitable for Teacher Educator Authors (TEAs) at the university level, and many studies reported writing articles for publication. However, self-efficacy (SE) and motivation in writing scientific articles by higher education teachers remained unexplored compared to the Bloom Digital Taxonomy (BDT).

Purpose: This study explored self-efficacy (SE) as well as intrinsic and extrinsic motivation (IM & EM) in writing articles for publication by Teacher Educator Authors (TEAs) in the light of the Bloom Digital Taxonomy (BDT). Furthermore, it measured how prior empirical evidence and current findings are presented in the Bloom Digital Taxonomy (BDT).

Method: The design used qualitative descriptive content data from an ethnographic study, and 21 Teacher Educator Authors (TEAs) of English in Indonesia with specific characteristics were purposively selected. The participants constituted state and private universities in Java, Sumatra, Borneo, and Celebes. Data were collected through questionnaire, in-depth interviews, and electronic observation. The participants were then requested to complete a Google Form, and directly interviewed electronically and physically. The questionnaire data were subsequently addressed in the in-depth interview. This study utilised the Criteria Content Analysis (CCA) method and exploratory-provisional coding to analyse the transcription data.

Results: The results showed that self-efficacy (SE) features were mainly related to profession, self-development, and attributes of Teacher Educator Authors (TEAs). Furthermore, self-esteem, expertise markers, and a way to learn dominated intrinsic motivation (IM), while appreciation, shaping expertise, and seeking dignity dominated the extrinsic. The findings were in the high order of affective skills (HOAs) with valuing (A3) and internalising (A5). The study had practical implications that writing for scholarly publications should inevitably be part of the curriculum in higher education, and grants should increase to maintain the internalisation of Teacher Educator Authors (TEAs) in producing articles. In addition, the results contributed to the theoretical implication that HOAs, valuing, and internalising dominated roles in creating quality articles at any level.

KEYWORDS

Bloom's digital taxonomy, High order affective skills, Intrinsic motivation, Extrinsic motivation, Self-efficacy, Teacher Educator Authors

INTRODUCTION

Producing academic publications is essential to the scientific endeavours of higher education (HE), and Teacher Educator Authors (TEAs), as well as students in various countries, engage in this industry. Turmudi's (2020a) reported that writing for publication has become the predominant aspect of professional endeavours worldwide. To write articles, Teacher Educator Authors (TEAs) require self-efficacy (SE) and motivation because both factors play a crucial role in determining the direction of action, whether positive or negative (Lunenburg, 2011).

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Individuals who possess self-efficacy (SE) have strong motivation, leading to high-quality work. However, the features of self-efficacy (SE) and motivation in the context of Teacher Educator Authors (TEAs) remain unexplored.

Individuals without self-efficacy (SE) show low motivation with poor performance or misconduct (Magogwe et al., 2015). This study focused on self-efficacy (SE) and motivation in writing scholarly manuscripts, and addressed the theories of autonomous and regulated motivation, as described by scholars in self-determination theory (SDT) (Deci & Ryan, 2008; Ryan&Deci, 2000). Previous research on self-efficacy (SE) and motivation has extended to include several factors related to writing essays, creative and academic writing, as well as publishing papers. Therefore, there were discrepancies, and this study aimed to fill the gaps as a contribution to literature.

The trend of previous research shows that writing for publication is widely seen as an academic responsibility and commitment to all countries and higher education institutions. The countries mentioned are China, Taiwan, Iran, Egypt, Korea, USA, Hong Kong, and Poland (Turmudi et al., 2020b; Zheng & Guo, 2019; Chien, 2019; Maniati & Jalilifar, 2018; Shehata & Eldakar, 2018; Kim, 2018). Producing articles for publication fulfils a dual purpose by functioning as students evaluation as well as a duty and means of career progression for Teacher Educator Authors (TEAs).

Writing for publication has been studied as a duty and means of career building, but the trend includes other variables than self-efficacy (SE) and motivation. Some studies reported writing procedure, pre-writing, during writing, post-writing activities, and solving challenges in writing articles for publication (Turmudi, 2020b; Turmudi et al. (2020c; Jiang et al.,2017; Zheng & Guo, 2019; Chien, 2019; Lei & Hu, 2019; Maniati & Jalilifar,2018; Hyland, 2016; Rathert & Okan,2015; and TEFLIN Journal, 2012). The trend also includes skills in writing for publication (Turmudi et al.,2020c; Humphreys & Wyatt, 2014; Komarraju & Nadler, 2013; Mascle, 2013; McKinley, 2013). Most of the studies used confirmatory and explanatory rather than exploratory, and included students rather than lecturers (TEAs). Hence, all reviewed trends leave gaps in self-efficacy (SE) and motivation variables, designs, participants, instruments, data analysis, and data-finding natures (Miles, 2017).

Numerous studies were conducted on self-efficacy (SE), and how the genre-based approach (GBA) enhanced academic writing was explained, while the current study primarily explored the characteristics of self-efficacy (SE) and motivation (Wardhana, 2022). The results showed that the genre-based approach (GBA) improved academic writing proficiency and self-efficacy (SE), therefore, the current study perpetuated this suggestion. Umamah et al. (2022) showed the use of self-regulated writing (SRW) procedures to enhance writing outcomes. The results confirmed the importance of SRW strategies and explained individual differences, while the current study seeks otherwise. A similar report by Nikcevic-Milkovic et al. (2022) showed self-regulated learning (SRL) and sociodemographics in academic writing proficiency. The current study found academic writing and self-efficacy (SE) as attributes of personal variables and a significant predictor in the writing process. However, the results confirmed a correlation between self-regulated learning (SRL) and sociodemographics in academic writing proficiency, while the current study explored otherwise. Yicai and Xueai (2021) showed the correlation between self-efficacy (SE) and English writing performance, while the current study investigated self-efficacy (SE) features and affective categories in the Bloom Digital Taxonomy (BDT). Furthermore, Blankenstein et al. (2019) studied how self-efficacy (SE) beliefs and intrinsic motivation (IM) for academic writing and research are developed. The results showed multiple variables self-efficacy (SE) , which were the opposite of the current study. Hence, this study presented the similarity in the publication self-efficacy (SE) despite different directions. Turmudi (2020c) presented four distinct characteristics in writing for publication, namely activities, difficulties, solutions, and skills. However, the variables did not include self-efficacy (SE) and motivation, and the current study offered novelties. Mirovic and Knezevic (2018) investigated the awareness of Serbian experts' standards and conventions for writing articles in English and the strategies to overcome writing problems. The results showed perceptions and strategies for solving problems in writing articles, while the current study revealed the needed self-efficacy (SE). The results of Mirovic and Knezevic (2018) and the current study explored the details of strategies and self-efficacy (SE), except for the affective domain in the Bloom Digital Taxonomy (BDT). Using the findings of recent studies (Wardhana, 2022; Umamah et al., 2022; Nikcevic-Milkovic et al., 2022; Yicai & Xueai, 2021; Blankenstein et al., 2019; Mirovic & Knezevic, 2018), it was concluded that self-efficacy (SE) has been examined from different perspectives and the current study adds new insights to existing knowledge of the Bloom Digital Taxonomy (BDT).

Regarding self-efficacy (SE), scholars examined intrinsic motivation (IM) variables in writing. Alzubi and Nazim (2024) analysed the relationship between intrinsic motivation (IM), attitudes, and writing skills. The study significantly validated the association between intrinsic motivation (IM), attitudes, and writing proficiency. Therefore, the study was stated to be confirmatory, while the current study proposed an exploration of intrinsic motivation (IM) and clustered it in the Bloom Digital Taxonomy (BDT). Chen (2021) investigated students' motivation with higher proficiency (HP) in L2 collaborative writing and identified the influencing elements. The findings were different because motivation grows from beliefs and practices. Therefore, the current study explored intrinsic motivation (IM) and labelled it with the Bloom Digital Taxonomy (BDT) rather than unveiling the cause and effect on scholarly writing. Wang (2021) examined the relationship

between Achievement Motivation and State Anxiety (AMSA) in the context of Creative Writing Performance (CWP). The results validated AMSA and CWP, while the current study used exploratory and classified motivation as intrinsic and extrinsic with the cluster in the Bloom Digital Taxonomy (BDT). Banegas et al. (2020) examined the relationship between authenticity and motivation in writing for publication and found that the genuineness of the audience served as a stimulus for more proficient student-teachers. Both investigations showed a convergent exploratory approach, however, the current study categorised «motivation» based on intrinsic and extrinsic characteristics. Turmudi et al. (2020) investigated perception, motives, contribution types, and time ranges in publication and found that Teacher Educator Authors (TEAs) were motivated by various internal and external factors. The current study found that the survey produced a preliminary investigation and seeks more prevalent findings.

Lei and Jiang (2019) investigated university faculty members producing research articles by addressing motivation, language choice, differences, and disciplinary background. The results showed the swift proliferation of English as the prevailing language for publication, and the perception of its advantages reflected a complex and nuanced comprehension of why Chinese scholars chose to publish scholarly work in English. The current study challenged the findings of Lei and Jiang (2019) under self-determination theory (SDT) (Deci & Ryan, 2008; Ryan & Deci, 2000). Blankenstein et al. (2018) examined self-efficacy (SE) belief and intrinsic motivation (IM) for various tasks, and found the concept of motivation, but the current study distinguished motivation into two categories, namely intrinsic and extrinsic. Therefore, it was stated that the current study builds upon the earlier work on self-determination theory (Deci & Ryan, 2008; Ryan & Deci, 2000) by organising evidence in the context of the Bloom Digital Taxonomy (BDT). It was concluded that the current study seeks novelties to prior papers as outlined in recent surveys (Alzubi & Nazim,2024; Chen, 2021; Wang, 2021; Banegas et al.,2020; Lei & Jiang,2019; Blankenstein et al.,2018; Deci & Ryan, 2008; Ryan & Deci, 2000). The analysis of this study supported self-determination theory (SDT) and confirmed intrinsic motivation (IM) (Deci & Ryan, 2008), which is a component of autonomous motivation, including intrinsic and extrinsic.

Extrinsic motivation (EM) is the reverse of intrinsic, which was comprehensively analysed in prior studies to show the disparities. Previous investigations showed few commonalities primarily centred around the variable of motivation (Chen, 2021; Banegas et al., 2020; Lei & Jiang, 2019). Some expressed intrinsic (Alzubi & Nazim, 2024; Blankenstein et al., 2018) and achievement motivation (Wang, 2021), while Deci and Ryan (2008) showed the significance of both intrinsic and extrinsic within self-determination theory (SDT) which includes autonomous and controlled. It was found that the sole comparable terminology, intrinsic motivation, was present in earlier investigations by Alzubi and Nazim (2024) and Blankenstein et al. (2018). However, the studies had different corresponding variables, such as writing proficiency (Alzubi & Nazim, 2024), composing argumentative essays in an academic context (Chen, 2021), performance in creative writing (Wang, 2021), writing for publication (Banegas et al., 2020), academic writing (Blakentein et al., 2018), and research articles (Lei & Jiang, 2019).

The current study provided a rationale for extrinsic motivation, and it can be stated that the present investigation on extrinsic motivation (EM) amended previous survey (Alzubi & Nazim, 2024; Wang, 2021; Lei & Jiang, 2019; Blakentein et al., 2018), with certain limits. Through comparison and analysis of recent studies (Alzubi & Nazim, 2024; Chen, 2021; Wang, 2021; Banegas et al., 2020; Lei & Jiang, 2019; Blankenstein et al., 2018; Deci & Ryan, 2008; Ryan & Deci, 2000), it was confirmed that distinctive characteristics of motivation have been identified and classified as regulated motivation within the context of Self-Determination Theory (Deci & Ryan, 2008). Therefore, the current study suggested that the results supported previous findings. This article traced how Teacher Educator Authors (TEAs) of Indonesia perceive writing articles, their motivation, and how self-efficacy (SE) is viewed in the affective domain of Bloom's Digital Taxonomy[1]. The objectives were (1) to explore how Teacher Educator Authors (TEAs) perceive their writing for publication, (2) to disclose what motivates Teacher Educator Authors (TEAs) to write articles concerning intrinsic and extrinsic motivation, (3) to determine the category of self-efficacy (SE) and motivation in the affective domain of the Bloom Digital Taxonomy (BDT). The current study tried to answer the research questions for the body of knowledge by exploring (1) How do Teacher Educator Authors (TEAs)explain their activities of writing articles for publication? (2) What motivates them to keep writing articles, seen from intrinsic and extrinsic motivation? and (3) How does the concept of the Bloom Digital Taxonomy (BDT) categorise self-efficacy (SE) and motivation?

LITERATURE REVIEW

Writing Articles for Publication

Writing articles for publication was addressed in the context of Indonesia's higher education (HE) in the global education community. According to Garrido (2017), the context comprises place, actors, and actions. The study occurred in the English Department of State and private universities in Indonesia with an A or B in accreditation. The actors were Teach-

1 Churches, A. (2009). *Bloom's Digital Taxonomy*. Edorigami. https://www.researchgate.net/publication/228381038_Bloom's_Digital_Taxonomy

er Educator Authors (TEAs), locally known as *dosen*, and the action included writing articles for publication. Therefore, writing was defined as the simultaneous production of research papers for publication in renowned journals, such as Scopus, and World of Science (WoS), that Teacher Educator Authors (TEAs) need to produce every semester of the teaching cycles. Publishing articles is part of the duty of Teacher Educator Authors (TEAs) including teaching and education (45%), research and publication (35%), public service (10%), and supporting activities (10%)[2]. As Teacher Educator Authors (TEAs) have obligations to publish articles, the higher the academic rank, the more reputable articles are required, for example, Scopus Q1, Q2, and WoS. Underwriting articles lay critical variables of self-efficacy (SE) and motivation to make the articles finally published (Pajares, 2003). The definition of writing articles for publication provides a preview of the scope and focus of this study.

Teacher Educator Authors (TEAs)

Teacher Educator Authors (TEAs) refer to university teachers in Indonesia's Education System. These individuals are locally called «*dosen*» or, in English, «lecturer» instead of 'professor' in other countries (UU No 14 tahun2005). They have different academic ranks ranging from base to top such as (1) assistant professor, (2) junior associate professor, (3) senior associate professor, and (4) professor[3]. Each rank requires a different quality and quantity of published articles. Therefore, writing articles for publication is a prime responsibility after teaching duty, and it is routine work to do for a semester. The current study used the various academic ranks of lecturers from state and private universities in 4 main islands, namely Java, Sumatra, Borneo, and Celebes.

Self-Efficacy (SE)

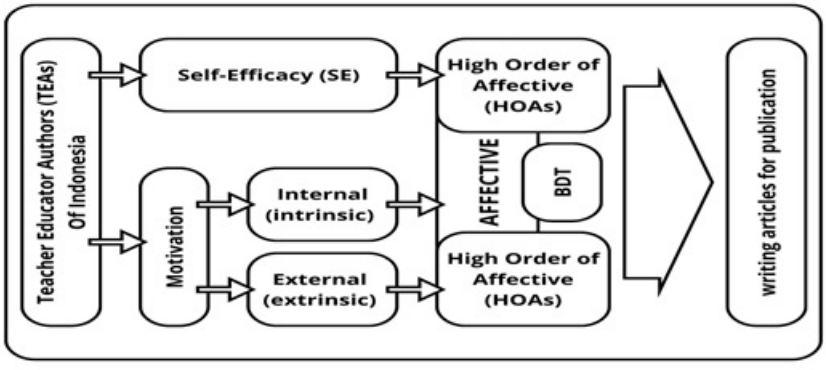
The current article used self-efficacy (SE) for perception and belief, and it was adapted from a previous study (Pajares, 2003). Self-efficacy (SE) is a social cognitive or learning theory that refers to an individual's belief in their ability to accomplish a specific task (Lunenburg, 2011). Self-efficacy (SE) originated from past performance, miscellaneous experiences, verbal advice, and emotional signs (Lunenburg, 2011), and is essential because it determines whether a positive or negative action happens. The TEAs' self-efficacy (SE) was explored because a good attitude can lead to a well-motivated one, or a bad attitude can cause wrongdoings (Magogwe et al., 2015). Self-efficacy (SE) was categorised according to the Bloom Digital Taxonomy (BDT) in the current study. Recent studies provided empirical evidence of self-efficacy (SE), which was synthesised from several surveys (Wardhana, 2022; Umamah et al., 2022; Nikcevic-Milkovic et al., 2022; Yicai & Xueai, 2021; Blankenstein et al., 2019; Mirovic & Knezevic, 2018). It was concluded that self-efficacy (SE) had been sufficiently addressed, therefore, the current study added new insights into self-efficacy (SE), which were compared and contrasted in the discussion.

Intrinsic and Extrinsic Motivation (IM &EM)

Motivation is defined as the enthusiasm for carrying out a task, and when perception is possessed, the motivation is more apparent (Alzubi & Nazim, 2024; Chen, 2021; Wang, 2021; Banegas et al., 2020; Blankenstein et al., 2018; Lei & Jiang, 2019; Deci &Ryan, 2008; Ryan & Deci, 2000; Sujatha & Kavitha, 2018). Consequently, intrinsic and extrinsic motivation (EM) can be identified. Intrinsic motivation (IM) is a significant and primary characteristic (van Blankenstein et al., 2019), and is the term used to describe the excitement that comes from within an individual to engage in an activity (Luik & Lepp, 2021). Meanwhile, extrinsic motivation (EM) is enthusiasm for doing a task triggered by external factors (Deci &Ryan, 2008). Scholars stated that many factors, including self-efficacy (SE) and interest affected motivation (Luik & Lepp, 2021). In addition, a belief or perception leads

Figure 1

Conceptual Framework



2 Kepmen-Penyebutan-JA-Dosen-dalam-Bahasa-Inggris.pdf, Pub. L. No. 164/M/KPT/2019, 1 (2019).

3 Ministry of Education and Culture (2014) *Permendikbud-RI no-143-tahun-2014-juknis-pelaks-jabfung-pengawas-dan-angka-kreditnya.* https://peraturan.go.id/id/permendikbud-no-143-tahun-2014

to a clear motivation for both intrinsic motivation (IM) and extrinsic motivation (EM).

Scholars stated that the motivation variable is part of self-determination theory (SDT), as Deci and Ryan (2008) theorised. The central differentiation is between autonomous and controlled motivation, where autonomous motivation (AM) consists of Intrinsic motivation (IM) and extrinsic motivation (EM). Individuals carry out a task due to the value and internalise it as characters. Meanwhile, controlled motivation (CM) consists of external and interjected regulation, as defined by Deci and Ryan (2008). According to scholars, individuals engage in specific actions because they are motivated by external variables such as the desire for rewards or the fear of punishment. These external motives include seeking approval, avoiding embarrassment, maintaining self-esteem, and being driven by personal interests (Deci & Ryan, 2008).

Bloom's Digital Taxonomy (BDT)

There were numerous reasons why the Bloom Digital Taxonomy (BDT) was picked as a theory to examine self-efficacy (SE) and motivation. The Bloom Digital Taxonomy (BDT) was the third amendment refining the initial ideas developed[4] called Bloom Revised Taxonomy (BRT) by scholars[5] who had amended the original Bloom's Taxonomy (Munzenmaier & Rubin, 2013). The amendment of domains focused on the cognitive part, and the rest of the affective and psychomotor domains remained the same as BRT's. The use of the Bloom Digital Taxonomy (BDT) in the current study has empirical justification, as reported in numerous articles (Netolicka & Simonova, 2017). The undebatable factor is that the Bloom Digital Taxonomy (BDT) is also called the Learning Objectives (LO), and academics apply this to measure three domain levels and learning outputs. The Bloom Digital Taxonomy (BDT) is used because writing articles for publication is part of the life-long learning of Teacher Educator Authors (TEAs). Moreover, the current era is a digital age that Teacher Educator Authors (TEAs) need to uphold (Keshavarz & Ghoneim, 2021).

Affective Domain (AD) in the Bloom Digital Taxonomy (BDT)

Since the study objects are self-efficacy (SE) and motivation (M), the correlated domain is the affective domain (AD). The model cited is not from the work of Churches[6] but from the list of the Bloom Digital Taxonomy (BDT)[7]. Moreover, the five compelling domain verbs are receiving and responding phenomena, valuing, organising, and internalising values[8]. Beneath these five categories is a list of compelling verbs from low to high order of affective as applied in a dissertation (Turmudi, 2020c). The entire verbs are later used to categorise the types of essences in both self-efficacy (SE) and motivation. The empirical and theoretical gaps in self-efficacy (SE) and motivation were addressed to provide insightful novelties. Therefore, this study explored how Teacher Educator Authors (TEAs) of English in Indonesia perceive, what motivates them to publish, and how both variables are categorised from perspective. Shaded by the Bloom Digital Taxonomy (BDT), this study aimed to fill the gaps by exploring self-efficacy (SE), intrinsic and extrinsic features, and their cluster in the Bloom Digital Taxonomy (BDT). This action is a road map to share knowledge with scientists (Pho & Tran, 2016) in the ELT context (Chien, 2019) and shape expertise in academic writing (Chernick, 2012).

METHOD

Research Design

This study used qualitative ethnography method as proposed by Creswell (2014), and employed specific criteria to explore self-efficacy (SE) and motivation of English Teacher Educator Authors (TEAs) in Indonesia. The goal was to explore how and why Teacher Educator Authors (TEAs) perceive writing articles. The objectives were to determine features of self-efficacy (SE), as well as intrinsic and extrinsic motivation. Furthermore, self-efficacy (SE) with intrinsic and extrinsic motivation (EM) were scaled based on whether they belonged to a low or high order of affective skills.

Participants

The participants were from higher education and were English teacher authors who have published articles on platforms like National Journal (NJ), National Accredited Journal (NAJ), International Journal (IJ), and International Reputable Journal (IRJ). A purposive sampling technique was used to select 38 participants through the official website of *Pangkalan Data Perguruan Tinggi*, *known as forlap Indonesian Higher Education Ministry*[9]. However, only 21 were recruited for in-depth interview, and were Teacher Educator Authors (TEAs) of English with different backgrounds including gender (G), age category (AC), origin (O), university type (UT), teaching experience (TE), academic rank (AR), number of publication

4 Churches, A. (2009). Ibid.

5 Anderson, L. W., & Krathwohl, D. R. (2000). Bloom's revised taxonomy: Cognitive, affective, and psychomotor. https://www.celt.iastate.edu/instructional-strategies/effective-teaching-practices/revised-blooms-taxonomy/

6 Churches, A. (2009). Ibid.

7 Anderson, L. W., & Krathwohl, D. R. (2000). Ibid.

8 Anderson, L. W., & Krathwohl, D. R. (2000). Ibid.

9 https://pddikti.kemdikbud.go.id/dosen

Table 1

Participants' Identity and Productivity

RC	G	AC	O	UT	TE	AR	NP	TJ	ALP
R1	F	51-over	Sumatra	State	29	*Junior Associate Professor (L)*	25	NJ	1-6
R2	F	51-over	Sumatra	State	30	*Senior Associate Professor (LK)*	5	NAJ	7-9
R3	M	31-40	Sumatra	State	6	Assistant Professor *(AA)*	2	NAJ	1-6
R4	F	41-50	Java	State	13	Assistant Professor *(AA)*	4	NAJ	7-9
R5	F	41-50	Java	State	17	*Junior Associate Professor (L)*	4	Mix	10-12
R6	F	31-40	Sumatra	State	11	*Junior Associate Professor (L)*	8	NAJ	1-6
R7	M	41-50	Java	State	15	*Junior Associate Professor (L)*	4	IRJ	1-6
R8	M	41-50	Borneo	State	18	*Junior Associate Professor (L)*	10	IRJ	10-12
R9	M	41-50	Borneo	State	17	*Junior Associate Professor (L)*	2	IRJ	1-6
R10	F	41-50	Borneo	State	18	*Senior Associate Professor (LK)*	7	IRJ	A year >
R11	F	31-40	Borneo	State	16	*Junior Associate Professor (L)*	7	Mix	7-9
R12	F	41-50	Java	Private	10	*Junior Associate Professor (L)*	15	Mix	7-9
R13	F	31-40	Java	Private	10	Assistant Professor *(AA)*	4	Mix	10-12
R14	M	41-50	Java	Private	20	*Junior Associate Professor (L)*	3	NJ	10-12
R15	M	31-40	Java	State	9	*Junior Associate Professor (L)*	5	mix	1-6
R16	M	31-40	Java	Private	3	*Lecturer (TP)*	4	NJ	1-6
R17	F	41-50	Java	State	5	*Lecturer (TP)*	2	Mix	A year >
R18	M	50-over	Sumatra	State	33	*Professor (Prof)*	9	Mix	1-6
R19	F	50-over	Sumatra	State	32	*Senior Associate Professor (LK)*	5	Mix	10-12
R20	F	41-50	Java	State	11	*Junior Associate Professor (L)*	4	Mix	A year >
R21	F	21-30	Java	State	6	Assistant Professor *(AA)*	3	Mix	1-6

*Note. (***RC***=Respondent Codes)*

(NP), type of journal (TJ), and an average length of publication (ALP). The academic ranks were based on the terms in the official acts, and the total number of participants is described in Table 1.

Instruments

This study used a questionnaire and an in-depth interview (Hyland, 2016), selected as the initial input because the data type was numeric. Reliability was tested in Excel 2019 using Cronbach's alpha, indicating good reliability with a value of 0.737, surpassing the reference value of 0.70. The questionnaire was a primary short quantitative data in Google Form explored in the in-depth interview. The contents included identity and affiliation, teaching histories, and publication records, as described in Table 1. Furthermore, an in-depth interview was used to perpetuate data from questionnaires and conducted to explore the qualitative content data assigned to the research questions. The interview prompt questions were; "(1) How do you perceive writing articles for publication as self-efficacy (SE)? What does it mean? (2) What motivates you to keep on writing articles for publication? Which one belongs to intrinsic and extrinsic motivation?» Both instruments were created and validated by research questions (self-validated), blueprints (self-validated), two expert judgments (external validation), and a pilot study to build trustworthiness.

Data Collection and Analysis

The questionnaire and in-depth interview were extracted as primary data with official ethical clearance. Subsequently, an official request was sent to the university with a copy of the content to the dean, head of department, chair of the English study program, and the targeted Teacher Educator Authors (TEAs). The participants were contacted through WhatsApp with a backup using an email address to fill out the online questionnaires in Google Form. The responses were analysed to determine whether the target participants met the criteria. Furthermore, the eligible Teacher Educator Authors (TEAs) were requested to schedule interview, and were interviewed at their universities. A list of in-depth interview questions, an android recorder, and paper notes with a pen were provided to assist instruments, and the primary

data were recorded in Mp3 file. The process of data collection lasted for six months because all the eligible Teacher Educator Authors (TEAs) reside in the four main islands of Indonesia. Also, publication records were electronically observed in Google Scholar and *SINTA Ristekdikti* profiles to confirm the questionnaire and the interview data. The interview produced content data, hence Criteria Content Analysis (CCA) theory was used. The data transcription of the 21 participants was in English through interviews, and rigorous procedures were followed to obtain the desired data in 13 detailed steps. Subsequently, the data were transcribed, reviewed, coded, categorised, and clustered using a content category analysis (CCA) (Matthew et al., 2014) through a three-stage process, namely comprehensive, topical-oriented, and hypothesis-oriented. The final process was qualitative criteria analysis, while the Criteria Content Analysis (CCA) categories were self-efficacy (SE), as well as extrinsic and intrinsic motivation. The participants and content data were coded differently as shown in Table 2. The coding of the participants was with «R1, R2, R3…» as an ethical clearance practice. Meanwhile, the content coding was with IM for intrinsic motivation (IM) and extrinsic motivation (EM) for extrinsic. The order was IM1, IM2, IM3…, EM1, EM2, EM3, and more.

Table 2 shows the participants and the content data coding, which were inserted at the beginning of the tabulation. The data were then recapped and categorised based on the Bloom Digital Taxonomy (BDT) of the affective domain. Supporting softwares such as MS Office 365 and Mendeley Desktop version 1.19.4 referencing tool.win32-exe were used to consolidate all data processing, citing, and display.

RESULTS

The current study aimed to find the three research questions, and the content ideas were listed in a quantitative analysis to determine the overall frequency of thoughts. However, the quantitative graphics were not presented, and tables of qualitative findings were based on Criteria Content Analysis (CCA). The following is the result of qualitative evidence based on the Criteria Content Analysis (CCA).

Table 3 shows that different respondents reported self-efficacy (SE) with different frequencies, where 47.61% of respondents accumulated the highest self-efficacy (SE), and believed that it was an inevitable duty or obligation and responsibility. Furthermore, 38.9% believed self-efficacy (SE) to be the best way to learn something, and 19.04% believed it to be a marker of Teacher Educator Authors (TEAs) .

R2 is a female Teacher Educator Author, aged over 51, with 30 years of teaching experience and an associate professor. R2 described self-efficacy (SE) in writing as follows:

> Writing is vital for Teacher Educator Authors (TEAs) because it reflects our knowledge. We seek knowledge, summarise it, and share it with others. It is quite beneficial, especially for our students. I often use the results of my studies to support my lectures as they are beneficial, although they are mini research. The mini research intends to make use of it. When I conduct a study, it is related to my subject in lecture. For instance, I teach comparative literature literary criticism for both subjects, and I find both valuable (R2).

R10 is a female TEA, aged over 40 with 18 years of teaching experience and is an associate professor. The following self description was made:

> «Writing journals should be our passion. When I started as a lecturer, it was to teach students, so I should change my mindset. However, writing articles in social and natural sciences is different. The social science authors had to play with the language. For example, when we had a souvenir of a flash drive, the wrapping should be beautiful for Westerners. That is for social science authors.»
>
> «On the other hand, for the natural science authors, the flash drive was as it was. I just wrapped it with plastic and handed it over to the receiver. It was more to the point; the paper could be 5-6 pages. Nevertheless, for social science authors, it was impossible to happen; the same paper might be 25 pages. That was what I found challenging. English is a foreign language, and people see the good side of us from wrapping it up. When we see studies in Q1 and Q2, we can do that. However, the paper presented is beautiful. That was the point where we were defeated. It was the aspect that demotivated us to write articles» (R-10).

The following self-efficacy (SE) findings provided qualitative evidence of intrinsic motivation (IM). All respondents reported their IM with at least one IM and a maximum of five. This evidence showed that the respondents had a basis impetus, but in different quantities.

Table 2

Participant and Data Coding System

Respondents' Coding	Content Coding		Combination
	Intrinsic Motivation (IM)	Extrinsic Motivation (EM)	Intrinsic and Extrinsic Motivation
R1, R2, R3, R4, R5	IM-1, IM-2, IM-3, etc.	EM-1, EM-2, EM-3, etc.	R1-IM-1, IM-2 R1-EM-1, EM-2
R6, R7, R8, R9, R10	R6-IM-1	R6-EM-1	R6-IM-1, EM-2
R11, R12, R13, R14, R15	R11-IM-1	R11-EM-1	R11-IM-1, EM-1
R16, R17, R18, R19, R20, R21	R16-IM-1	R16-EM-1	R16-IM-1, EM-1

Table 3

Criteria Content of Self-Efficacy (SE)

No	Criteria content of self-efficacy (SE)	F	%
	An inevitable duty or obligation, a responsibility	10	47.61
	Best way to learn, update knowledge, and improve teaching and students' output	8	38.09
	Marker attributes of TEAs	4	19.04
	Marking their identity for TEAs	3	14.28
	Beneficial for TEAs	3	14.28
	An effective way of sharing knowledge	3	14.28
	Interesting, challenging, deliberate	3	14.28
	Central life for TEAs	3	14.28
	The difference in any field of study	3	14.28
	Due to experiencing gaps between theories and practices	2	9.52
	As self-actualisation and passion	2	9.52
	A demand for lecturing and sharing knowledge	2	9.52
	A great work for TEAs	2	9.52
	A need for career promotion	2	9.52
	A part of Professional Development	2	9.52
	A burden than teaching	2	9.52
	A follow-up of teaching and research	2	9.52
	Marking a great civilisation	1	4.76
	May inspire people	1	4.76
	A boredom healer	1	4.76
Voters		***59***	

Table 4

Criteria Content of Intrinsic Motivation (IM) Qualitatively

No	Criteria content category on intrinsic motivation (IM)	F	%
	A part of personal pride or self-esteem	8	38
	A marker of expertise qualification	8	38
	A way of learning something	7	33
	A way of contributing to knowledge or impact factors	6	29
	A method of sharing ideas	4	19
	A form of sharing expertise	4	19
	Usefulness or benefitting	4	19
	A way to solve problems	3	14
	Indicating personal traits	3	14
Voters		***47***	

Table 4 shows that different respondents preferred all intrinsic motivation (IM) categories. The highest was *a part of personal pride or self-esteem* by 38% of respondents, and the second was *a marker of expertise qualification* by 38%. The third was *a way of learning something* by 33%, while the fourth was *a way of contributing knowledge* by 29%. The rest of the motivation was by less than 20% of respondents. Some categories might be similar but had a different context when analysed.

R-8 is a male TEA, aged over 40 with 18 years of teaching experience and an associate professor. Intrinsic and extrinsic motivations were described as follows:

> «The first one is satisfaction when you write. Even though I am not a writing man, I also like to write. Writing is not my hobby, and neither is reading. By writing a thing, you are urged to read and write. As I told you, the motivation is that writing is a big job. You must struggle and spend time and effort more than the job that you do in your daily teaching and running programs. That is investing your time and your ideas. By writing, I fulfil satisfaction; I update my knowledge. If I do not get the thing, why bother writing? Because writing is struggling. So, that is why if I were the rector, the dean, or the minister, I think I must put the reward in terms of a sum of money. Research is essential, but the proof is a publication. So, why don't you spend much money on publication? What the government must do is spend the money. The government should increase the money for publication. We must decide the level of publication: unrecognised, unaccredited journals at the National level and a good journal at the National level. However, it is a good recognition of the journal. They have a list of journals; level one is the fundamental level of journal at a national level, and level two is until the international journal is indexed. They must provide money and support these different levels with different funds. I found no reward from Campus, although I got my article published in a reputable journal publisher. Our rector said, 'yes' be rewarded, but «no» reward (R-8).

The Table of self-efficacy (SE), intrinsic (IM), and extrinsic motivation (EM) shows that all respondents reported their EM with at least one EM and a maximum of four. This means the respondents have a fundamental motivation, although in different quantities. The EM may reflect reliance on stimulants when writing articles for publication. The list of qualitative evidence is presented in the following Table.

Table 5 shows that all respondents reported their motivation in different features. The highest extrinsic motivation (EM) was *appreciation and financial support,* as stated by 100% of respondents. The second was *profession demand or shaping expertise*, with 33%. The third was *seeking dignity or self-esteem*, with 33%, and the fourth was an *obligation from the government*, with 29%. The fifth was *career promotion*, with 24%, and the last was *contributing to knowledge* with 19% of respondents.

R-19 is a female TEA, aged over 50 with 32 years of teaching experience and is an associate professor. The intrinsic and extrinsic motivation were described as follows:

> My intrinsic motivation is like what I told you before. I want to let others know something good from my experiment, and I want people to be affected by my writing. Of course, from external to get a credit point. I got an incentive from DIKTI and UNILA, which allowed me publish the article for free. Also, I got a 10 million grant from DIKTI in 1999. However, I wanted to know if that would be rewarded. I never think about extrinsic motivation, and I try to write. I fulfil what I want to know if there is another significant effect (R-19).

When self-efficacy (SE), intrinsic, and extrinsic motivation (EM) categories are presented, they are clustered into the affective domain in the Bloom Digital Taxonomy (BDT). Nevertheless, the cognitive and psychomotoric domains were not applicable since self-efficacy (SE) and motivation were in the affective domain[10]. The only domain was affective, ranked from low to high order affective skills. It was reported by (Turmudi, 2020b), with sub-domains of affective such as receiving phenomena, responding phenomena, valuing, organising, and internalising values (A1 to A5).

Table 6A shows various affective domains of self-efficacy (SE). The most effective was valuing (A3) with 161.90% of the respondents and in the high order of affective. The second was internalising values (A5) with 57% and in the HOAs. Both A3 and A5 showed that HOAs dominated self-efficacy (SE) of Teacher Educator Authors (TEAs). The rest of the affective domains were represented by responding phenomena (A2) with 47% and receiving phenomena (A1) with 14.28%. A1 and A2 were in the low order of affective (LOAs).

Table 5

Extrinsic Motivation Qualitatively

No	Criteria content category of extrinsic motivation (EM)	F	%
	Gaining appreciation and financial support	21	100%
	Developing professional demand or shaping expertise	7	33%
	Seeking dignity or self-esteem	7	33%
	Doing obligation from the government	6	29%
	Improving career promotion	5	24%
	Contributing knowledge	4	19%
Voters		***50***	

[10] Anderson, L. W., & Krathwohl, D. R. (2000). Ibid.

Table 6A

Table of the Bloom Digital Taxonomy (BDT) for self-efficacy (SE)

Affective Domain	Frequency	Percentage	Level of BDT
A1	3	14.28%	LOAs
A2	10	47.61%	LOAs
A3	34	161.90%	HOAs
A4	0	-	-
A5	12	57.14%	HOAs

Table 6B

Table of the Bloom Digital Taxonomy (BDT) of Intrinsic Motivation (IM)

Affective Domain	Frequency	Percentage	Level of BDT
A1	12	57.14%	LOAs
A2	0	0	-
A3	18	85.71 %	HOAs
A4	0	0	-
A5	17	80.95%	HOAs

Table 6C

Table of the Bloom Digital Taxonomy (BDT) of Extrinsic Motivation (EM)

Affective Domain	Frequency	Percentage	Level of BDT
A1	0	0%	-
A2	18	85.71 %	LOAs
A3	21	100%	HOAs
A4	0	-	-
A5	11	52.38%	HOAs

Table 6B shows the affective domain of intrinsic motivation (IM). The most effective domain was valuing (A3) with 85.71% and in the HOAs. The second was internalising values (A5), with 80.95% in the HOAs. Both A3 and A5 showed that HOAs dominated the intrinsic motivation (IM). The rest of the affective domains were represented by receiving phenomena (A1) with 57% in the low order of affective (LOAs).

Table 6C shows various affective domains of extrinsic motivation (EM). The most effective domain was valuing (A3) with 100 % and in HOAs. The second was responding phenomena (A2), with 85.71%, and in the low order of affective (LOAs). The rest of the affective domain presented internalising values (A5) with 52% in the HOAs. Both A3 and A5 showed that the high order of affective highly dominated extrinsic motivation.

DISCUSSION

The results showed variants of self-efficacy (SE), intrinsic, and extrinsic motivation (EM) with twenty types of self-efficacy (SE) (59 voters as shown Table 3), nine forms of intrinsic (47 voters as shown in Table 4), and six features of extrinsic motivation (EM) (50 voters as presented in Table 5), which are more than previous studies.

Self-Efficacy (SE)

Out of 59 self-efficacy (SE) voters, most were inevitable obligation, responsibility (47.61%), and the best way to learn, update knowledge, as well as improve teaching and students' output (38.9%).» The rest variants were less than 20% (n-21). The answers cover 20 types of self-efficacy (SE) as responses to the following questions, namely "*How do you perceive the activities of writing articles for publication regarding self-efficacy (SE)? What does it mean?*» Teacher Educator Authors (TEAs) revealed unexpected perceptions, for example, «inevitable obligation and a responsibility» (Table 3 no 1). About one-third of TEAs expressed «the best way to learn, update knowledge, and improve teaching and students' output» as shown in Table 3 no 2. Both examples did not meet theorists claim that self-efficacy (SE) is a belief in successfully performing a particular task (Lunenburg, 2011). Moreover,

the critical point of self-efficacy (SE) is «belief», which is essential for Teacher Educator Authors (TEAs) since it affects a person's rational features and emotional reaction configuration (Yicai & Xueai, 2021). Teacher Educator Authors (TEAs) might misunderstand the question as the dominant answer was perception in general. The rest of the 20 self-efficacy (SE) (Table 3) were identical to intrinsic and extrinsic motivation. The previous five years research was reviewed to ascertain the evidence on "self-efficacy" by presenting similarities and differences (Wardhana,2022; Umamah et al., 2022; Nikcevic-Milkovic et al.,2022; Yicai & Xueai, 2021; Blankenstein et al.,2019; Mirovic & Knezevic, 2018). Firstly, Wardhana (2022) found that the genre-based approach (GBA) positively affected scholarly writing and students' HOTs. The paper addressed "self-efficacy" and broader participants for future surveys, while the current study showed self-efficacy (SE) variants and ranked them in HOAs. The findings of Wardhana (2022) were positive and explanatory in explaining genre-based approach (GBA) and HOTs, while the current study was supportive and exploratory (table 6A). Both studies are different in genre-based approach (GBA) and HOTs as cognitive domains and HOAs as affective. The current study suggested theoretical self-efficacy (SE) and affective order features in the Bloom Digital Taxonomy (BDT), however, there were constraints. A solid concept of self-efficacy" needs further confirmation before Teacher Educator Authors (TEAs) are asked about this question. Secondly, a prior study by Umamah et al. (2022) found that 58 EFL university students were highly aware of using self-regulated writing (SRW) strategies and have a standard contribution. The findings of Umamah et al. (2022) were confirmatory and confirmed the importance of SRW strategies and explained individual differences that might not significantly influence the SRW strategies. Meanwhile, the finding in the current study was exploratory, to determine "self-efficacy features (table 3) and the degree of affective order in the concept of the Bloom Digital Taxonomy (BDT) (table 6A). The findings contributed novelties in features of self-efficacy (SE) and order of affective in the Bloom Digital Taxonomy (BDT). However, this study had limitations in comparing distinctive writing types, namely argumentative essay versus scholarly writing. Nikcevic-Milkovic et al. (2022) found no difference between students' L1 and L2 writing proficiency. Even though the study addressed self-efficacy (SE), it functioned as an attribute of personal variables and a significant predictor in the writing process, and not as a data type. The current study addressed self-efficacy (SE) and employed the reciprocal direction nature of findings. It was concluded that there were no identical findings with no justification on whether results were amending or enriching. This study showed weaknesses because academic proficiency and scholarly writing have different generic structures and organisations. Yicai and Xueai (2021) found no correlation between self-efficacy (SE) and the performance of writing English essay. Consequently, both shared minor similarities, with self-efficacy (SE) being a central variable as a predictor. Yicai and Xueai (2021) findings confirmed the correlation among variables of "self-efficacy on English writing performance, while the current study explored "self-efficacy features (table 3) and the affective order in the Bloom Digital Taxonomy (BDT) (table 6A). There was a supporting evidence of self-efficacy in relation to the existing knowledge, but with weaknesses because essay performance and scholarly writing have different generic structures and organisation. Blankenstein et al. (2019) stated that enactive mastery and positive social interdependence promoted self-efficacy (SE) and feelings of relatedness promoted intrinsic motivation (IM) for writing. Both studies used self-efficacy (SE) as a variable with a divergent focus. The previous survey focused on growth, while the current study explored the types. Furthermore, it shared significant differences in the findings because Blankenstein et al.'s study (2019) was confirmatory. It was then concluded that both studies shared a similar self-efficacy (SE) variable, and the novelty was in the importance of self-efficacy (SE) from another direction. Mirovic and Knezevic (2018) found awareness of Serbian experts' standards and conventions of writing articles in English and the strategies to overcome challenges, which included proofreading, language reuse, social strategies, and language specialists. The study showed perceptions and strategies for solving problems in writing, while the current study revealed self-efficacy (SE) efficacy types (Table 3). The findings in both Mirovic and Knezevic (2018) and the current study were details of strategies and self-efficacy (SE) types (table 3) except for the affective domain in the Bloom Digital Taxonomy (BDT) (Table 6A). Nevertheless, the current study had limitations because self-efficacy (SE) features need to shrink similar ideas. Summarising the findings of recent studies (Wardhana, 2022; Umamah et al., 2022; Nikcevic-Milkovic et al., 2022; Yicai & Xueai, 2021; Blankenstein et al., 2019; Mirovic & Knezevic, 2018), it can be concluded that self-efficacy (SE) has been examined from different perspectives. Therefore, this current study has made novel contributions to the Bloom Digital Taxonomy (BDT) and the limitations [1004].

Internal or Intrinsic Motivation (IM)

The current study identified nine characteristics of intrinsic motivation (IM) and six types of extrinsic while addressing the second research question. The aggregate of intrinsic motivation (IM) was 47 voters, as shown in Table 4. Most of the studies on intrinsic (IM) focused on factors such as self-esteem (38%), expertise or certification (38%), learning process (37%), and the impact of imparting knowledge (29%). The other issues are insignificant but are worth mentioning. All answers met the expectation based on the assigned questions despite being limited, namely «What motivates you to keep on writing articles for publication? Which one belongs to intrinsic and extrinsic motivation?.» Teacher Educator Authors (TEAs) revealed detailed intrinsic and extrinsic motivation (EM) (Table 4 & 5). All answers met self-determination theory (SDT), namely autonomous motivation (Deci &Ryan, 2008; Ryan &Deci, 2000). It was observed that Teacher Educator Authors (TEAs) might under-

stand the question as the dominant answer and were free from external pressure. The current and previous studies on intrinsic motivation (IM) were compared and contrasted but limited to the past five years (Alzubi & Nazim, 2024; Chen, 2021; Wang, 2021; Banegas et al., 2020; Blankenstein et al., 2018; Lei & Jiang, 2019) except two sources (Deci & Ryan, 2008; Ryan & Deci, 2000).

Alzubi and Nazim (2024) showed that (1) highly intrinsically motivated students with writing choices can improve their writing skills, (2) female students had higher intrinsic motivation (IM) with their self-assigned writing topics than male, (3) intrinsically motivated students prefer the descriptive writing genre. The study revealed a correlation between intrinsic motivation (IM), attitudes, and writing skills. In contrast, the current study showed IM features rather than the correlation. It was justified that Alzubi and Nazim (2024) was confirmatory, while the current study was exploratory to identify «intrinsic motivation (IM) landscapes» (Table 4) and the corresponding classes in the Bloom Digital Taxonomy (BDT) (Table 6B). This study supported the importance of IM in previous survey and classified affective order in the Bloom Digital Taxonomy (BDT), but it had limitations because scholarly writing is different, and correlation cannot meet exploration.

Chen (2021) showed three critical aspects that influenced students' motivation in collaborative writing, namely understanding of collaborative writing, past beliefs and experiences of pair/group work, and perceived worth of the role in partnership. The results were different because motivation grows from beliefs and practices, therefore, the current study explored intrinsic motivation (IM) rather than unveiling the cause and effect on scholarly writing. The findings of Chen (2021) are in accordance with the current study's objective of investigating evidence of motivation. However, they presented more details and categories of intrinsic motivation (IM) (Table 4) and the class in affective order in the Bloom Digital Taxonomy (BDT) (Table 6B). The current study provided a unique novelty of intrinsic motivation (IM) (Table 4) and the affective order in the Bloom Digital Taxonomy (BDT) [Table 6B]. [123], but was limited in the failure to consider the unique characteristics of students when creating collaborative writing activities for instructional or assessment objectives. Wang (2021) showed that students with lower worry tended to perform better in creating creative writing. The results validated the correlation between Achievement Motivation and State Anxiety (AMSA) with Creative Writing Performance (CWP). This study found no similarities in the IM features but differences in the direction. The current study adopted an investigative method and classified motivation as "intrinsic" (Table 4) and the subcategories in the Bloom Digital Taxonomy (BDT)(Table 6B). It was concluded that the current study expanded on the previous surveys on Self-Determination Theory (Deci & Ryan, 2008; Ryan & Deci, 2000) by presenting evidence within the framework. There were limitations since it did not explore the impact of students' anxiety on L2 creative writing but focused on scholarly writing.

Banegas et al. (2020) examined authenticity and motivation in writing for publication. The study showed that the authenticity of the audience functioned as a motivating factor for more advanced student teachers. Most student teachers and tutors engaged in motivational constructive interaction triggered by a change in tutors' teaching practices with the possibility of publishing. There were similarities in exploratory as a paradigm and writing for publication. The findings of banegas et al. (2020) were limited in variants, while the current study ategorized motivation into "intrinsic" (table 4) and the classes in the Bloom Digital Taxonomy (BDT) (table 6B). It was found that both surveys shared convergent exploratory, and the current study enriched literature in "motivation" with features of intrinsic motivation.[141]. The limitation of the current study was the need to investigate the ongoing impact of writing for publication on the English language ability, identity, or professional growth of student-teachers and tutors.

Turmudi et al. (2020) showed that Teacher Educator Authors (TEAs) were motivated by internal and external factors such as personal growth, advancement in their field, institutional requirements, pursuit of recognition, fulfilment, duties, and professional expectations. Hence, this study found a shared sense of motivation and article for publication, which correlated with the principles of self-determination theory (SDT), including autonomous and regulated motivation (Deci & Ryan, 2008; Ryan & Deci, 2000), as well as intrinsic and extrinsic (Legault, 2016). This surpassed the earlier study on SDT (Deci & Ryan, 2008; Ryan & Deci, 2000), and the novelty was visible. However, there were limitations in focusing on heterogenous Teacher Educator Authors (TEAs) instead of homogenous with high publication in Scopus.

Lei and Jiang (2019) stated that the rapid expansion of English as the dominant language for publishing and the belief that it is beneficial indicates a complicated and multifaceted understanding of why the Chinese publish scholarly work in English. The study found that motivation had a significant positive impact on authoring scientific articles, confirming the hypothesis. However, the current study ategorized motivation into "intrinsic and extrinsic", as well as contributed to the understanding of the characteristics of intrinsic motivation (IM) (Table 4 and Table 5) and the respective classes in the Bloom Digital Taxonomy (BDT) (Table 6B), making it an exploratory analysis. The study undermined earlier survey on Self-Determination Theory (Deci & Ryan, 2008; Ryan & Deci, 2000) and the grouping of emotional organisation in the Bloom Digital Taxonomy (BDT).

Blankenstein et al. (2018) found that enactive mastery and positive social interdependence enhanced self-efficacy (SE) belief for research on intrinsic motivation (IM). The results of Blankenstein et al. (2018) were consistent with the find-

ings of the current study, which categorised motivation as «intrinsic and extrinsic» (Table 4 and Table 5) and the affective order in the Bloom Digital Taxonomy (BDT) (Table 6B), with one focusing on confirming existing theories and the other exploring new ideas. The current study also built upon the previous survey by adding information about intrinsic motivation (IM) (Table 4), applying self-determination theory (SDT) (Deci & Ryan, 2008; Ryan & Deci, 2000), and categorising motivation divisions in the Bloom Digital Taxonomy (BDT). However, it has limitations because it did not clarify whether intrinsic motivation (IM) facilitate or impede self-efficacy (SE). Based on recent studies (Alzubi & Nazim, 2024; Chen, 2021; Wang, 2021; Banegas et al., 2020; Lei & Jiang, 2019; Blankenstein et al., 2018; Deci & Ryan, 2008; Ryan & Deci, 2000), the relationship between intrinsic motivation (IM) and various factors has been examined. The analysis supported self-determination theory (SDT), which is precisely the concept of intrinsic motivation (IM) (Deci & Ryan, 2008). Some scholars have contended that individuals can internalise Intrinsic Motivation (IM) through the influence of Extrinsic (EM) (Legault, 2016).

External or Extrinsic Motivation (IM & EM)

The current study suggested six types of extrinsic motivation (EM) with a total of 50 voters, and most findings in extrinsic (EM) showed gaining appreciation, namely financial support (100%), shaping expertise (7%), and seeking dignity (7%). The rest were minor, with less than 6 %, and all answers met the expectation based on the assigned questions despite being limited. The interview questions were (1) What motivates you to keep writing articles for publication? Which one belongs to intrinsic and extrinsic motivation?.» Teacher Educator Authors (TEAs) disclosed detailed extrinsic motivation (EM) despite being limited. All answers accommodated controlled motivation including external regulation, where external rewards or punishments and introjected regulation influenced behaviour. Hence, action was partially internalised and driven by seeking approval, avoiding shame, contingent self-esteem, and ego (Deci & Ryan, 2008). Previous five years studies (Alzubi & Nazim, 2024; Chen, 2021; Wang, 2021; Banegas et al., 2020; Lei & Jiang, 2019; Blankenstein et al., 2018; Deci &Ryan, 2008; Ryan & Deci, 2000) that provided evidence with similarities and differences were compared. The studies shared minor motivation similarities but shared motivation in general (Chen, 2021; Banegas et al.,2020; Lei & Jiang, 2019), while a few shared specific motivations such as intrinsic (Alzubi & Nazim, 2024; Blankenstein et al., 2018) and achievement motivation (Wang, 2021). Deci and Ryan (2008) showed both intrinsic and extrinsic under the coverage of "self-determination theory (SDT)" which shelters autonomous and controlled motivation. Previous studies also shared distinct counterpart's variable such as writing skills (Alzubi & Nazim, 2024), writing of argumentative essay (Chen, 2021), Creative Writing Performance (Wang, 2021), publication (Banegas et al., 2020) academic writing (Blakentein et al., 2018), and research article (Lei & Jiang, 2019). The findings were challenged, and it was concluded that the current study of extrinsic motivation (EM) contributed to previous confirmatory surveys (Alzubi & Nazim, 2024; Wang, 2021; Lei & Jiang, 2019; Blakentein et al., 2018) with limitations. Lastly, by comparing and contrasting extrinsic motivation (EM) (Alzubi & Nazim, 2024; Chen, 2021; Wang, 2021; Banegas et al., 2020; Lei & Jiang, 2019; Blankenstein et al., 2018; Deci & Ryan, 2008; Ryan & Deci, 2000), the results of previous studies were confirmed, which mentioned various attributes of motivation.

Intrinsic and Extrinsic Motivation (EM) in the Light of the Bloom Digital Taxonomy (BDT)

The third research question showed that the Bloom Digital Taxonomy (BDT) incorporated self-efficacy (SE), intrinsic (IM), and extrinsic motivation (EM) in the affective domain (AD). The meanings were equivalent in text form to the Bloom Revised Taxonomy (BRT) as defined by Anderson and Krathwohl[11]. Therefore, the existing evidence of SE, IM, and EM, was associated with AD and categorised into five levels, A1 to A5, ranging from low to high HOAs. The primary influential self-efficacy (SE) was the valuing phenomena (A3), which accounted for 161.90% of the HOAs, followed by the internalisation of values (A5), at 57% and directed towards HOAs (Table 6A). Conversely, the least of self-efficacy (SE) was observed in responding phenomena (A2), accounting for 47.61%, and receiving phenomena (A1), for 14.28%, both falling within the category of LOAs. This evidence cannot be compared to the previous investigations because the experts did not utilise the Bloom Digital Taxonomy (BDT) in their research (Afacan Adanır et al., 2020; Turmudi et al., 2020; Saiful, 2020; Hilton et al., 2020; Majhi et al., 2018; Deng & Yuen, 2012;). Secondly, concerning self-efficacy (SE), intrinsic motivation (IM) led to clearly differentiated degrees of expertise in specific domains compared to all other elements. The primary determinant in the IM category was the valuing phenomena (A3), which accounted for 85.71% and associated with HOAs. Additionally, the internalisation of values (A5) contributed 80.95% and in HOAs. The least compelling aspect of intrinsic motivation (IM) was the receiving phenomena (A1), which had 57.14% and in low order of affective (LOAs). This evidence was different from the earlier investigations since the academics in those studies did not focus on the Bloom Digital Taxonomy (BDT) (Afacan Adanır et al., 2020; Turmudi et al., 2020; Saiful, 2020; Hilton et al., 2020; Majhi et al., 2018; Deng & Yuen, 2012). The final and most crucial extrinsic motivation (EM) was valuing phenomena (A3), which had 100% voters and in HOAs. Responding phenomena (A2) had 85.871% voters and in LOAs (Table 6C). The least significant affective domain was internalising phenomena (A5), accounting for 52.38%, and in HOAs. The previous surveys did not examine the Bloom Digital Taxon-

[11] Anderson, L. W., & Krathwohl, D. R. Ibid.

omy (BDT), but the current study enhanced the existing understanding (Afacan Adanır et al., 2020; Turmudi et al., 2020; Saiful, 2020; Hilton et al., 2020; Majhi et al., 2018; Deng & Yuen, 2012;). Therefore, it was concluded that the findings supported the connection between the low and HOAs, indicating the significance of Teacher Educator Authors (TEAs) .

There are few limitations, including the use of an ethnographic study with digital observation through Google Scholar, SINTA, Scopus Profile, and face-to-face interviews. Future studies may use an ethnographic study with a mixed method to obtain data and participants observation. Furthermore, this study employed 21 Teacher Educator Authors (TEAs) of English, such as assistant professors and professors. Future studies may use homogenous Teacher Educator Authors (TEAs), such as associate professors or professors from the English Department and other disciplines. The data were manually obtained by transcribing the recorded interviews, which took long and repeated transcription process. Future studies may use N-Vivo or qualitative data analysis (CDA) software to secure the accuracy of the content data. Lastly, it was challenging to differentiate similar ideas as intrinsic and extrinsic motivation (EM) or self-efficacy (SE).

CONCLUSION

In conclusion, this study showed the types of self-efficacy (SE), and the most dominant factors were profession, self-development, and attributes of Teacher Educator Authors (TEAs). The forms of self-efficacy (SE) were in the HOAs with valuing (A3) and internalising (A5) of the Bloom Digital Taxonomy (BDT). Furthermore, this study provided empirical features of intrinsic motivations (IM), and the most dominant factors were self-esteem, expertise markers, and a way to learn. The most empirical intrinsic motivations (IM) was in the HOAs valuing (A3) and internalising (A5) of the Bloom Digital Taxonomy (BDT). The study provided empirical extrinsic motivation (EM) forms for obtaining appreciation, shaping expertise, and seeking dignity. The most dominant factors were valuing (A3) and internalising values (A5) in the level of HOAs of the Bloom Digital Taxonomy (BDT). In addition, high order of affective dominated the findings for all variables but have implications.

The current study is in ELT and EFL contexts, which implies some theoretical and practical consequences. The higher education authorities need to keep accommodating writing for scholarly publication in the current curriculum. Furthermore, writing scholarly publications should be a sequential part of academic writing and an exclusively core part of the post-thesis writing phase. The government should increase the stimulant of grants to maintain the tradition of writing to get internalised by any Teacher Educator Authors (TEAs) in the Indonesian context. However, in the broader context, it is tolerable to precede what perception should be maintained to keep the motivation behind writing scientific works. Future studies may replicate this study by employing mixed methods and more Teacher Educator Authors (TEAs) with various levels of reputable publication, such as in Scopus and WoS.

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DECLARATION OF COMPETITING INTEREST

None declared.

AUTHORS' CONTRIBUTION

Dedi Turmudi: Conceptualization; Data curation; Formal analysis; Funding acquisition; Investigation; Methodology; Project administration; Resources; Supervision; Writing – original draft; Writing – review & editing.

Ihsan Dacholfani: Conceptualization; Data curation; Formal analysis; Funding acquisition; Investigation; Methodology; Project administration; Resources; Supervision; Writing – original draft; Writing – review & editing**.**

Umi Rasyidah: Conceptualization; Data curation; Formal analysis; Funding acquisition; Investigation; Methodology; Project administration; Resources; Supervision; Writing – original draft; Writing – review & editing.

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APPENDIX 1

Questionnaire (F)

Overview

This questionnaire is sent to you who have specific characteristics (as determined in the research method) in writing articles for publication, covering identity, experiences in publication, and consent.

Direction for respondents:

1. fill out the blank as requested.

2. Choose the option that best fits your situation.

3. your name and email will not be published.

*required

Email address*

.....

1. **Full Name ***

.....

2. **Academic Ranks***
   - o Instructor (TP)
   - o Expert Assistant (AA)
   - o Lector (L)
   - o Associate Professor (LK)
   - o Professor (Prof)

3. **Mobile /WA***

.....

4. **Age Category***
   - o 21-30 years
   - o 31-40 years
   - o 41-50 years
   - o Over 51 years

5. **First year of teaching at higher education (year only)**

.....

6. **Subject of teaching**
   - o English and teach in the English Language
   - o Non-English but taught in English language or Bahasa Indonesia

7. **How many articles have been sent to certain journal publishers up to this survey?**

.....

8. **How many of them are officially published in total?**

.....

9. **What category of those published articles do they belong to?**
   - o National Journal (NJ)
   - o National Accredited Journal (NAJ)
   - o International Journal (IJ) but not indexed in Scimago or Scopus
   - o International (Reputable) Journals Indexed in Scimago or Scopus
   - o Mixed above.

10. **How long did it take for you to get those published articles (average)?**
    - o 1-6 months
    - o 7-9 months
    - o 10-12 months
    - o More than a year

11. **If you are selected, what mode of the interview will you choose?**
    - o Face to face
    - o WhatsApp call
    - o Phone / mobile call
    - o Yahoo Messenger call
    - o Skype call

12. **Is it acceptable to be paid as formal appreciation?**
    - o Yes
    - o No

13. **If yes, please attach your bank account. (Name of Bank and Account Number on behalf of you)**

.....

I am willing to complete the questionnaire (Agree or Disagree) and state that all the input data are correct. Accordingly, I am okay with following the next step of this study or getting an interview to explore more data from a targeted participant.

- o **Agree**
- o **Disagree**

Date of Submission

mm/dd/yyyy

Thank you very much.

https://doi.org/10.17323/jle.2024.14037

The Likelihood of Cheating at Formative Vocabulary Tests: Before and During Online Remote Learning in English Courses

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ABSTRACT

Introduction: Early review studies identified the prevalence of cheating and the emergence of various forms of cheating in academic institutions. Now, there is growing concern about the rise of academic dishonesty in an unproctored online test environment that is conducted remotely.

Purpose: This study examined the likelihood of student cheating at formative vocabulary tests that were conducted before and during online remote learning in English courses. The vocabulary tests were administered using the Socrative application in both learning conditions.

Method: Using a quantitative research design, including Multiple paired-sample t-tests and independent t-tests, this study collected 2971 first- and second-year students' formative scores across six general English courses.

Results: Multiple paired-sample t-tests confirmed that students' scores were significantly higher during online remote learning, with score differences ranging from 0.10 to 2.21 between before and during online remote learning. This difference in score patterns indicated the likelihood of students cheating during online remote learning. Then, independent t-tests did not reveal the tendency that male students are more likely to cheat on online tests more often than female students.

Conclusion: The findings of this study may serve as an initial phase of inquiries into the identification of formative test cheating in online English classes.

KEYWORDS

cheating, online remote test, online remote learning, English course

INTRODUCTION

Due to the emergence of COVID-19 at the beginning of 2020, a sudden shift from face-to-face to online classes has revealed several issues in pedagogical practices. The growth in student cheating on online remote exams and formative tests is one of them. An early review study identified the prevalence of cheating and the emergence of various forms of cheating in academic institutions (McCabe et al. 2001), and now that higher education institutions are forced to organize online remote exams, there is growing concern about the rise of academic dishonesty in an unproctored online test environment. Long before the outbreak, empirical research on student cheating predicted that due to a lack of face-to-face contact between student and teacher, online remote cheating would be more prevalent than traditional forms of cheating (e.g., Fontaine, 2012; McNabb & Olmstead, 2009). An increased amount of research has recently attempted to collect evidence of student cheating (Bilen & Matros, 2021; Vellanki et al., 2023), developed proctoring strategies (Nguyen et al., 2020), and searched for appropriate assessment designs (Raje & Stitzel, 2020) in examinations held during COVID-19 online remote classes. Meccawy et al. (2021) gathered students' and lecturers' perspectives on the implementation of online remote tests during COVID-19's period; both students and lecturers expressed concerns about the increase in cheating and plagiarism and urged the university to

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raise student awareness and ethics, train lecturers to detect cheating methods, and impose severe sanctions on those who engage in such practices.

Despite the noted challenges around maintaining high standards of academic integrity in assessment during the COVID-19 period there are relatively few studies that specifically examine the identification of student cheating on tests in online remote English classes at the university level among Asian EFL students. The existing literature has predominantly concentrated on identifying cheating as a key area of concern. This emphasis is crucial as the insights gained can guide the development of effective designs for online assessments, ultimately minimizing instances of cheating (Arnold, 2016). As a response, the current study attempts to identify cheating at formative vocabulary tests that were conducted before and during COVID-19's online remote learning among university students in Thailand. The Thai government issued a national emergency decree on March 26, 2020, requiring Thai universities, including the site of this research, which was in the midst of the academic year 2019-2020, to transition from face-to-face to fully synchronous online remote learning on April 2, 2020, moving forward (Rofiah et al., 2022). This instruction took place in the middle of the academic term, which meant that students and lecturers had completed half of the academic term in class before the instruction, and students and lecturers experienced online remote classes for the remaining weeks. This study was able to collect data on students' vocabulary test results before and throughout the COVID-19 outbreak's online remote learning.

Three approaches have been used in prior studies to detect the likelihood of cheating. The first approach is to collect students' perceptions using scenarios designed to elicit students' personal perspectives on whether they would cheat on online tests (e.g., Daniels et al., 2021; Walsh et al., 2021). This method may include self-reported surveys or qualitative interviews to ascertain whether students cheated on online tests in previous terms (Janke et al., 2021). The second approach is to compare students' test scores in offline and online environments (e.g., Brallier & Palm, 2015; Chuang et al., 2017; Ranger et al., 2020). The last approach assesses the likelihood of student cheating by examining the grade patterns of students (Arnold, 2016).

The current study takes the second and third approaches, i.e., comparing students' test scores in offline and online remote contexts and observing any unusual grade patterns that may indicate the likelihood of cheating during formative vocabulary tests. The use of the internet and technology, combined with the remote distance between students and teachers, appears to have enhanced the temptation to cheat. The findings of this study examine such an assumption and deepen our understanding of the disproportions in student test performance prior to and during COVID-19's online remote learning.

This study is built upon the approaches of student cheating on online remote tests. Following that, the literature review section below reviews studies on cheating on online remote tests in the context of online remote learning both before and during COVID-19's online remote learning. It continues with a discussion about EFL's teachers' concerns over the reliability and validity of assessments during online learning due to the high possibility of student cheating. Then, it brings up the practice of using technology-based approaches for formative assessment in online learning and the role of gender among students who cheat on a test. Thus, the following research problems are addressed using empirical data:

(1) Was there a significant difference in student performance on vocabulary tests undertaken before the commencement of COVID-19 related online learning and those undertaken during COVID-19 related online learning?

(2) How do the performances of female and male students compare in vocabulary tests?

LITERATURE REVIEW

Cheating Practices in Higher Education

Cheating on a test is described as a violation of the regulations that have been established for a specific test and have been explicitly laid out for students (Dick et al., 2003). Most test rules include the prohibition of copying classmates' answers, the prohibition of opening learning materials sources, such as books and modules, the prohibition of seeking answers from reachable people, such as classmates and teachers, the prohibition of using digital device aids that can assist in finding test answers, and so forth, all of which essentially require students to concentrate on answering test questions using their own knowledge without the assistance of outsiders. Cheating has long been a problem in educational assessments, as cheating is often perceived as a quick way to earn a decent grade (Aiken, 1991). The scale of the problem is demonstrated in an early study by McCabe et al. (2001), who conducted a review of the studies on cheating over the last 30 years and reported that students' impressions of their peers' behavior were the most powerful influence on their inclination to cheat. While it is true that not all students cheat, they are inclined to do so if they witness classmates cheating on tests. Moreover, tests that are seen as difficult learning tasks will have a substantial, direct impact on students' likelihoods of cheating, as they might generate negative emotions, such as anxiety and stress, as well as increased pressure prior to the tests (Wenzel & Reinhard, 2020).

Cheating on tests becomes more of a concern in online remote learning contexts. One of the primary reasons is that

proctors are unable to supervise students completely during online remote testing, which results in increased potential for students to cheat. Even though there are a number of proctoring approaches that enable relatively secure online testing environments to be established, for example ProctorU or Proctorexam.com, this type of affordance was not available to the institution in question. Fask et al. (2014), for example, studied students' test-taking behaviors in offline and online environments. Their findings revealed that the online testing environment has a detrimental effect on performance, including increased ambient distractions, differences in student comfort, differences in technical difficulties, and differences in the ability to seek clarifications for potentially ambiguous exam questions. All these negative consequences encourage students to cheat, meaning that online testing aids student cheating, a conclusion reinforced by further research (e.g., Chuang et al., 2017; et al., 2020). When online remote examinations are not proctored, students are more likely to cheat (Harmon & Lambrinos, 2008). It has been recognized that students perform much better on unproctored online remote tests than on proctored classroom assessments, raising the possibility of cheating (Brallier & Palm, 2015; Waluyo & Tuan, 2021). Thus, to combat academic dishonesty in online testing, previous research has emphasized the importance of 1) tightening the proctoring process using webcam recording software, which can be useful during tests and for post-test evaluation (Dendir & Maxwell, 2020), and 2) using paraphrased test questions whose answers are not readily available on the internet (Golden & Kohlbeck, 2020). Cheating, nevertheless, may not be completely eliminated due to the nature of online remote testing. However, an empirical study conducted by Ladyshewsky (2015) discovered no statistically significant differences in students' test scores on supervised in-class tests and unsupervised online tests among post-graduate students, even though both types of tests included multiple-choice questions that are prone to cheating. These findings suggest that the higher the educational level at which students study, the less likely they are to cheat, regardless of the testing situations.

Online Remote Learning and Test during COVID-19

In March 2020, many higher education institutions worldwide transitioned from face-to-face learning to online learning in response to the COVID-19 pandemic. These significant shifts occurred spontaneously and without prior planning but were critical to reduce contact between students and teachers and to contain the spread of the COVID-19 virus. Since then, educators have encountered numerous barriers and challenges, raising concerns about COVID-19's online remote learning's effectiveness as a substitute for traditional teaching and learning. One of the points of contention is whether the new norm of online learning makes it easier for students to cheat. As a result, a growing number of empirical research has been conducted on the subject in different countries. Janke et al. (2021) conducted a survey in Germany to determine the dangers of ad hoc online assessment for academic integrity. They surveyed 1608 German students from various higher education institutions who had participated in COVID-19's online remote learning. As expected, their investigation found students' accounts of frequent cheating on tests and exams when enrolled in online learning. Similar findings have been found through empirical studies involving students from a variety of countries, including Bangladesh, Canada (Daniels et al., 2021), and the United States of America (Walsh et al., 2021), but little is known about Thailand. Among the key factors that contribute to students cheating on tests during COVID-19's online remote learning are stress and anxiety related to COVID-19's circumstances (Apridayani et al., 2023). Negative emotions impair one's ability to focus on learning. Moreover, both university lecturers and students acknowledged that online remote learning makes it easier for students to cheat due to the lack of supervision (Reedy et al., 2021). The findings from these latest studies on student cheating on tests during COVID-19's online remote learning corroborate the conclusions from previous studies on online test cheating.

Concerns regarding the reliability and validity of formative and summative tests delivered during COVID-19's emergency teaching have also been voiced by EFL teachers. In fact, Ghanbari and Nowroozi's qualitative study (2021) revealed that EFL teachers saw cheating as a key problem and concentrated their efforts on reducing the likelihood of student cheating on online tests. Test results, particularly those from formative assessments, can be utilized to track student progress and serve as a benchmark for continuous improvement of student learning throughout the course. Cheating can skew test results by failing to reflect students' actual knowledge and skills, thereby misleading teachers with the following teaching and learning materials. More crucially, a study by Shoaib and Zahran (2021) discovered that weak students viewed the COVID-19's online remote learning as an opportunity to obtain better grades through cheating. In this case, teachers would have a difficult time identifying weak students and providing suitable interventions to aid in their learning. In other instances, high performers who do not cheat on online remote examinations but receive lower results are deemed weak and receive further learning treatments. These circumstances may result in unconscious misinterpretations of students' English learning progress. Unfortunately, empirical evidence for the subject is still lacking, and research into student cheating on online remote assessments, particularly in the present online remote learning practice, has not been thoroughly investigated in online remote English classes. Moorhouse and Kohnke (2021) conducted a review of articles concerning online English classes during the COVID-19 pandemic, and their findings included no mention of the ELT community's identification of student cheating in online tests as a reaction. Thus, the current study intends to address the research gap at this point.

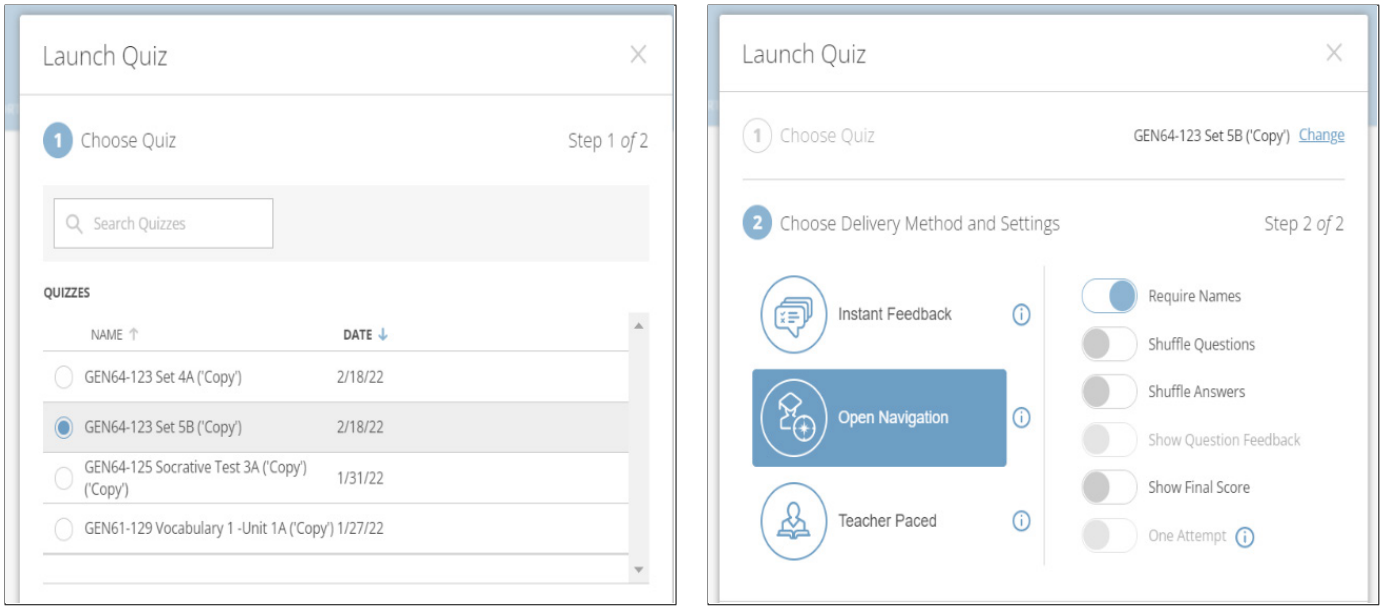
It is critical to highlight that EFL teachers continue to undertake summative and formative assessments in their online English classes, with some adapting assessment plans to meet the online environment and others maintaining the same assessment plans as in face-to-face learning (Zhang et al., 2021; Waluyo, 2020). Between the two, formative assessment is more likely to be compromised by student cheating on formative tests because of its iterative nature throughout the learning process. The results will not assist teachers in identifying students' deficiencies, nor will they assist students in making greater overall academic progress, as Arnold (2016) suggested after examining students' scores on online formative tests at a Dutch university. The study substantiated instances of cheating in online tests by identifying irregular grade patterns that exhibited a negative correlation with students' academic progress. Throughout the pandemic era, the ELT professional community has been actively engaged in the development of process-oriented and formative assessment practices (Chung & Choi, 2021). Online formative assessments have been suggested to be critical in connecting assessment, teaching, and learning because they enable teachers to identify students' weaknesses during the learning process, provide appropriate feedback for students' learning improvement, and direct teachers' subsequent teaching approaches toward student learning enhancement (Gikandi et al., 2011). Yet, this type of assessment may be ineffective unless efforts are made to identify and resolve student cheating on online tests.

COVID-19's online learning has also been considered as an opportunity to apply technology-based formative assessments (Prastikawati, 2021; Waluyo & Apridayani, 2021). One of the practices is the deployment of online applications that incorporate IRS (Interactive Response Systems), which enables teachers to identify students' strengths and weaknesses in real-time. Students can also observe and track their formative test outcomes. Socrative is one of the several IRS-based educational apps that applied in the online teaching and learning space. Students who took tests in an online class that utilized Socrative for formative assessment were pleased with the results since they arrived promptly and simply (Abdulla et al., 2021), and teachers maintained some continuity and active learning in the classroom despite being in a different location (Christianson, 2020). Teachers can develop multiple-choice, true/false, and short-answer questions using Socrative. Teachers can use a variety of delivery methods and settings when presenting the app as a formative test. Teachers can select Instant Feedback, which provides quick feedback to students once they respond to a test question. Teachers can choose Open Navigation, which empowers students to answer questions based on their choices in a random fashion. Also, there is the Teacher Pace option, which allows teachers to manage the flow of questions and monitor responses as they occur. All of these activities take place in real-time and are accessible through smartphones, laptops, and computers. Nonetheless, Rofiah and Waluyo's quantitative study (2020) highlighted Thai EFL students' approval of Socrative as a means for administering vocabulary formative tests, as well as the risk of student cheating during exams. Their research examined the use of Socrative for formative assessment in the classroom. It is reasonable to assume that the possibility of cheating will be greater when the app is used in online exam environments. Nonetheless, actual evidence for this is still sparse, which the current study will explore.

Meanwhile, by gender, significant differences will likely be noticeable when female and male students vary in their

Figure 1

Steps to Launch a Quiz on Socrative.com



levels of self-control, shame, perceived external sanctions, grades, and cheating intentions (Tibbetts, 1999). Given that gender serves as both a control variable (Finn & Frone, 2004) and a personal factor influencing cheating behavior (McCabe & Trevino, 1993), exploring gender differences is pivotal in understanding the motivations behind students reporting suspected academic dishonesty. In alignment with this perspective, Simon et al.'s study (2004) substantiated the relevance of gender in this context by uncovering a substantial contrast between male and female students. Their findings emphasized that female students, in particular, displayed a significantly greater inclination to report suspected instances of academic dishonesty, shedding light on the intricate interplay between gender and reporting behavior in academic integrity matters. Previous studies found that male students cheat more frequently or have a higher perception of cheating than female classmates (Muntada et al., 2013; Zhang et al., 2018). Gender disparities in online test cheating, on the other hand, have not been sufficiently investigated.

METHOD

Research Design

The primary objective of this study was to identify the likelihood of student cheating at formative vocabulary tests that were conducted before and during online remote learning. To achieve this objective, it employed a quantitative research design with an emphasis on examining substantial disparities in student performance between in-class vocabulary tests before and online remote vocabulary tests during COVID-19's online remote learning. The vocabulary tests were administered using the Socrative application in both learning modes. This study tracked students' vocabulary test scores across six general English courses, involving students from different cohorts and academic majors, occurring prior to and during the emergency online learning at a university in the south of Thailand.

Setting

This study was conducted in the context of six mandatory General English (GE) courses that began on February 10, 2020, and ended on May 1, 2020, during the third academic term of 2019-2020. It involved 2971 first- and second-year students studying various academic majors. The students were spread out studying six different English courses. The detailed descriptions of the courses and the number of students involved are elaborated below and summarized in Table 1.

Course 1

The first English course was GE61-122, entitled «Academic Listening and Speaking,» and was taken by 1st-year students. 387 students enrolled in total. The courses place an emphasis on English proficiency practice in both informal and formal settings. Through dialogues, passages, reports, and announcements, it focuses on listening and pronunciation. Moreover, through group discussions, oral presentations, and report writing, it aims to develop academic speaking skills.

Course 2

The second English course was GEN61-123, «Academic Reading and Writing,» which was studied by first-year students. There were 1171 students in all. This course is primarily designed to help students improve their reading and writing skills through a variety of academic texts and exercises. It specifically strengthens students' abilities to conduct critical readings of academic publications, summarize key concepts from texts, create various types of academic reports, compose effective paragraphs and essays, and appropriately use citations and references throughout the writing process.

Course 3

The third English course, GEN61-124, was taken by second-year students and was named «English for Academic Communication.» There were 156 students in all. This course aims to improve students' understanding of the English language and their ability to communicate effectively in academic and professional settings. It equips students with the necessary communication methods and abilities for academic correspondence. Moreover, it teaches students how to properly recognize their sources, which results in more effective academic communication.

Course 4

The fourth English course, GE61-127, was taken by second-year students and was entitled «English for Presentation in Sciences and Technology.» There were 150 students in all. This course focuses on the four key English abilities of listening, speaking, reading, and writing, with an emphasis on scientific phrases, structures, and terminology. Further, it instills in students the required abilities for effective presentation.

Course 5

The fifth English course was GEN61-128, «English for Humanities and Social Sciences Presentation,» which was taken by second-year students. There was a total of 76 students. This course is aimed to teach students how to plan, organize, and deliver excellent presentations while focusing on the content, structure, and delivery. It emphasizes several facets of oral presentations, such as pronunciation, volume, intonation, body language, gestures, and images.

Course 6

The sixth English course, GEN61-129, was taken by second-year students and was titled «English for Media and Communication.» There were 76 students in total. This course is aimed to help students improve their English communication abilities by utilizing a variety of artistic and communicative media. These include teleconferencing, conducting interviews, producing simple news stories, developing engaging commercials, writing scripts for blog sites, voice recording and pronunciation techniques, using a teleprompter, and speaking from a script. It builds students' confidence in their English speaking and communicative abilities.

Course Design and Data

Each of the six courses that the students were studying implemented weekly formative vocabulary tests that lasted 10 weeks. Students were obliged to study fifty academic English words from provided lists each week in these courses. Following that, either in week 2 or week 3, students' vocabulary knowledge was assessed during the first ten minutes of class before the main lessons took place. One test lasted ten minutes and consisted of fifteen multiple-choice questions. Students completed ten vocabulary tests using Socrative.com over the course of ten weeks. Students accessed the tests using their smartphones, which were proctored by teachers in the classroom. When the COVID-19 outbreak occurred, the students were in the middle of the academic term. Therefore, the students took half of the formative tests in-class and the other half online. Researchers tracked students' vocabulary scores in the selected courses. The data was cleaned up, including the removal of incomplete test scores. As presented in Table 1, there were 2971 students' scores that were kept for further analysis. Below is the sample formative vocabulary test administered through the Socrative application.

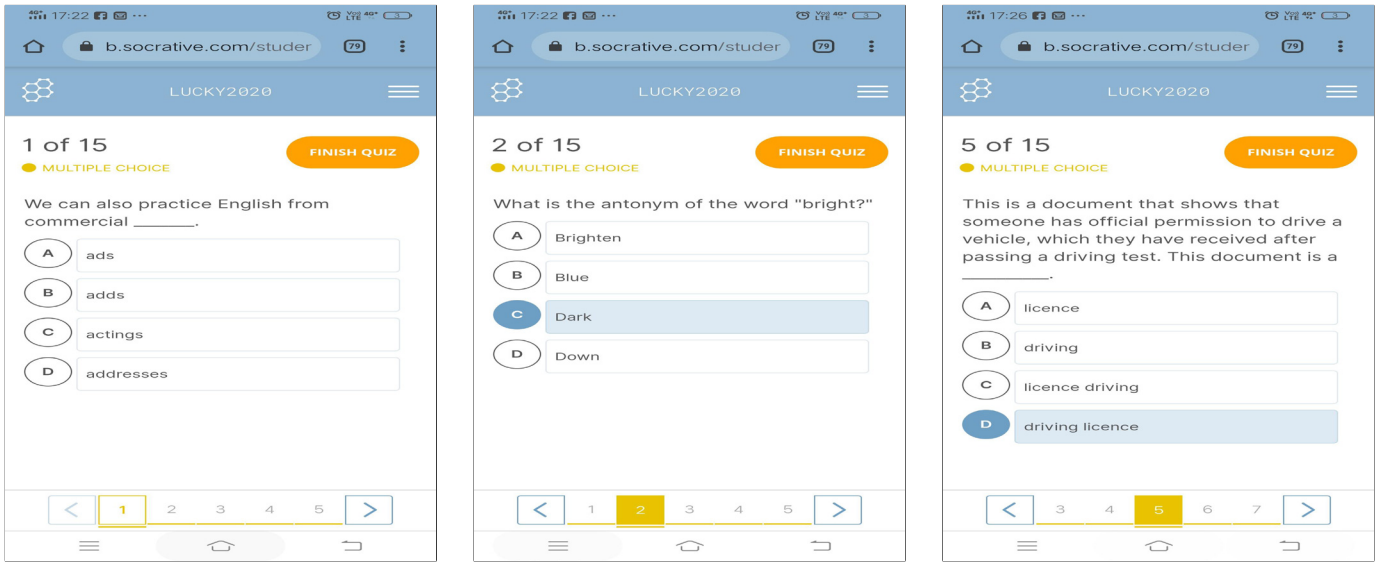
Table 1

Students' Data

Course	Course CEFR Level	Students' Year of Study	Gender		*N*	No. Quizzes in Class	No. Quizzes online remotely
			Male	Female			
GEN61-122 English for Academic Listening and Speaking	A1-A2	1st Year	126	261	387	4	6
GEN61-123 English for Academic Reading and Writing	A1-A2	1st Year	276	895	1171	5	5
GEN61-124 English for Academic Communication	A2-B1	2nd Year	49	107	156	5	5
GEN61-127 English for Presentation in Sciences and Technology	A2-B1	2nd Year	22	128	150	5	5
GEN61-128 English for Presentation in Humanities and Social Sciences	A2-B1	2nd Year	27	49	76	4	6
GEN61-129 English for Media Communication	Upper B1	2nd Year	274	757	1031	5	5

Figure 2

Sample Vocabulary Tests on Socrative



Target Words of the Formative Vocabulary Tests

Each of the six selected courses had a target vocabulary of 500 academic English words ranging from A1 to B1 on the CEFR (Common European Framework of Reference). The words were divided into ten lists that students were required to study independently at home. Students were assigned to write definitions and sample sentences for each word in the vocabulary lists provided. For one week, one list was studied. It was expected that this technique would enable students to acquire vocabulary on their own. In their independent vocabulary learning, students were encouraged to make the most use of any available resources, such as dictionary, *Google Translate*, etc. Students could also consult the words with teachers through *Facebook* if they wished to do so.

Procedure

The research procedures consisted of two phases. In the first phase, students did the formative vocabulary tests in class. At that time, the teaching and learning process was normal and COVID-19 outbreak had not reached the area. This occurred from February 10 to April 1, 2020. Then, the second phase was the time when students took the formative vocabulary tests online remotely. The COVID-19 outbreak had reached the area. As a response, the university moved all English classes remotely online from April 2, 2020, to the end of the term on May 1, 2020. Except the mode of learning, all vocabulary test procedures were kept the same as in the first phase. Table 1 shows the number of formative vocabulary tests that students took in-class and remotely online. Figure 3 is the illustration sample of the data collection procedure. All the courses had an equal number of tests in class and online except for course 1 and course 4 as shown in table 1.

Below are the procedures carried out in each research phase:

First Phase: In-Class Formative Vocabulary Tests

Each course prepared 500 target words, divided into ten vocabulary sets, prior to the start of the term. Each set had fifty words that students were required to study weekly, beginning in week two or three, depending on the course's lesson schedule. A ten-minute test comprised of fifteen multiple-choice questions. The test inquired about the meaning of words, their parts of speech, synonyms, and antonyms, as well as sentence completion. Students completed the test by accessing Socrative.com via their smartphones. The teacher could monitor student progress from the classroom computer, display it on the projection screen, and roam around the room to prevent students from cheating.

Second Phase: Online Formative Vocabulary Tests Remotely

Due to the COVID-19 pandemic, the Thai government issued a national emergency decree on March 26, requiring Thai

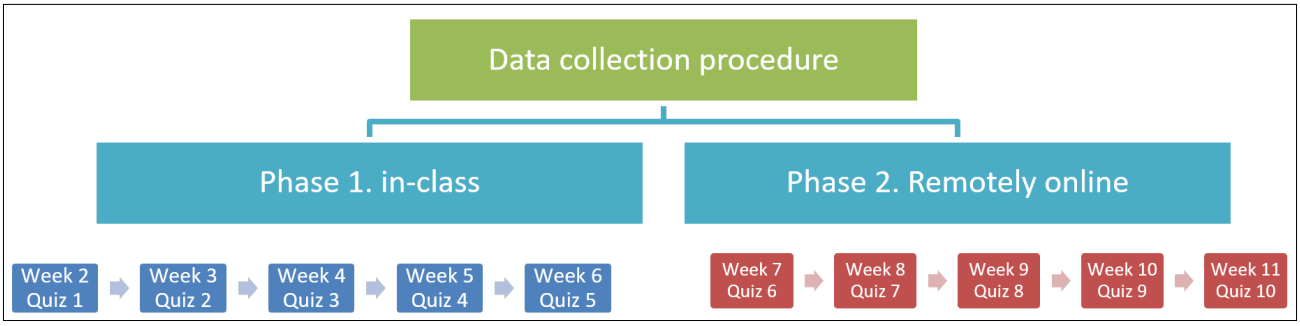
Table 2

Sample Target Words in Each Course

Course	CEFR Level	Example of Target Words
GE61-122 English for Academic Listening and Writing	A1-A2	Quite (adv), Suppose (v), Dish (n), Important (adj), Train station (n)
GE61-123 English for Academic Reading and Writing	A1-A2	activity (n), answer (n), describe (v), text (n), different (adj)
GE61-124 English for Academic Communication	A2-B1	History (n), according (adv), communication (n) compare (v), effect (n)
GE61-127 English for Presentation in Sciences and Technology	A2-B1	beginning (n), successful (adj), audience (n), divide (v), Presentation (n)
GE61-128 English for Presentation in Humanities and Social Sciences	A2-B1	absolutely (adv), accompany (v), account (n), accurate (adj), although (conj)
GE61-129 English for Media Communication	B1	Attract (v), Brochure (n), Buyer (n), Celebrity (n), Goods (n)

Figure 3

Data Collection Procedure



universities, including the site of this research, which was in the midst of the academic year 2019-2020, to transition from face-to-face to fully synchronous online learning on April 2, 2020. Teachers conducted lessons using a variety of conferencing platforms, including Zoom, Webex, and Ms. Team. When teachers administered vocabulary tests, they were able to track students' progress solely through their personal computers. They were unable to effectively supervise the test due to several constraints, including the limited number of students per monitor, a lack of equipment, unfamiliarity with online teaching, and time management. These limits created an environment conducive to disobedience and cheating during the test.

Data Analysis

This study used IBM SPSS 25 for data analysis. Following data collection, they were cleaned, computed in SPSS, and prepared for analysis. Incomplete scores from absent students were not considered for the data analysis. Only completed students' score from test one to ten were all included in the data analysis from all courses. To answer the first research question, multiple paired-sample t-tests were performed and independent t-tests were used to examine the second research question. Then, multiple t-tests were performed on students' formative vocabulary in-class and online test scores separately for each course.

RESULTS

Student Performance on Vocabulary Tests before and during Online Remote Learning

To answer the first research question, multiple paired-sample t-tests were performed. The results showed significant differences between students' formative vocabulary tests before and during COVID-19's online learning in five courses while no significant differences were observed in one course. The analysis results emphasized that students' scores were significantly higher during COVID-19's online learning. Out of 15, the means of students' scores increased from 9.33 to 11.54 (Course 1: d = 2.21, SD = 1.11, P < 0.01), from 11.7 to 12.70 (Course 2: d = 1, SD = 1.05, P < 0.01), from 11.52 to 12.15 (Course 3: d = 0.63 , SD = 1.85, P < 0.01)), from 11.81 to 12.04 (Course 4: d = 0.23 , SD = 1.69, P < 0.05)), and from 10.85 to 10.95 (Course 6: d = 0.10, SD = 1.11, P < 0.05)), except for Course 5 (d = 0.23 , SD = 1.61, P =.208). Among these, Course 2 had the highest effect size (*Cohen's d* = .8), while small effect sizes were noted in Course 3 (*Cohen's d* = .3), 4 (*Cohen's d* = .1), and 5 (*Cohen's d* = .1), and very small effect sizes were obtained from Course 1 (*Cohen's d* = .02) and 6 (*Cohen's d* = .06). All the *SD* values in each course were greater than 1.0, signifying that there were high dispersions among students' test results both in offline and online tests. Table 3 exhibits the detailed results for each course. Chart 1 illustrates the differences in students' scores.

Comparison of Vocabulary Test Performance between Male and Female Students

Independent t-tests were used to examine the second research question. Separately for each course, multiple t-tests were performed on students' formative vocabulary in-class and online test scores. The results indicated that there were no significant differences in mean scores on both in-class and online tests between male and female students in all courses except Course 5. For example, in course 1, the scores of male and female students before (Male = 9.19, Female = 9.41) and during COVID-19 (Male = 11.50, Female = 11.57) all out of 15 were nonsignificant. The case was similar for course 2, course 3, course 4 and course 6. The difference of scores between male and female students were nonsignificant. However, Male students outperformed female students in Course 5 in-class tests (t (74) = 2.04, p =.045) with a medium effect size (*Cohen's d* = (10.39 – 11.31) 1.92 = .5) and online tests (t (74) = 2.50, p =.015) with a medium effect size (*Cohen's d* = (10.61 – 11.54) 1.63 = .6). This trend paralleled the findings from the first research question, where Course 5 was singled out differently. Table 4 demonstrates the detailed results.

DISCUSSION

This study identified the likelihood of student cheating at formative vocabulary tests that were conducted before and during online remote learning. It adopted the approaches employed by previous studies: comparing students' test score results in offline and online settings (e.g., Brallier & Palm, 2015; Chuang et al., 2017; Ranger et al., 2020) and exploring students' grade patterns (Arnold, 2016). The first analysis results showed that students' test scores experienced significant increases when the tests were moved to online remote settings in five courses. The significant increase was not statistically visible in one course, i.e., Course 5. The course had the smallest sample size compared to other courses. The descriptive patterns of the students' scores, as shown in Chart 1, confirmed that they achieved greater scores during online remote learning than they did during previous face-to-face learning. Thus, these findings corroborate previous studies indicating that students perform better on tests in online remote contexts (Chuang et al., 2017; Fask et al., 2014; Ranger et al., 2020). Given the notable increments observed across the majority of the chosen courses, this study aligns with Arnold's (2016) findings, suggesting the possibility that instances of student irregularities in online formative tests might have taken place. These occurrences, if indeed present, could have a discernible impact on students' formative scores.

Table 3

Results of T-tests across the Six Courses

Courses	Means/SD		t/p-value	Cohen's d Effect Size*
	In-class (Before COVID-19)	Online (During COVID-19)		
1	9.33/1.50	11.54/1.11	-32.21, $p < .001$	.02 (Very Small)
2	11.7/1.33	12.70/1.05	-28.18, $p < .001$	.8 (Large)
3	11.52/1.88	12.15/1.85	-6.46, $p < .001$	.3 (Small)
4	11.81/1.68	12.04/1.69	-2.33, $p = .021$	.1 (Small)
5	10.71/1.91	10.94/1.61	-1.270, $p = .208$	.1 (Small)
6	10.85/1.66	10.95/1.85	-2.03, $p = .042$	.06 (Very Small)

Note. *Based on Plonsky and Oswald (2014) Cohen's d effect size

Chart 1

Illustration of the Students' Scores In-Class and Online Remote Learning

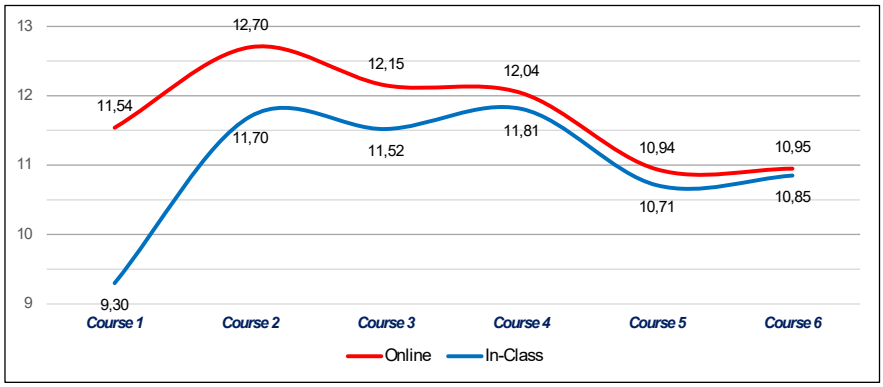


Table 4

Results for Cohen's d Effect Size across the Six Courses

Course	Means/SD				t/p-value	Cohen's d Effect Size	
	In-class (Before COVID-19)		Online (During COVID-19)				
	Male	Female	Male	Female		In-Class	Online
1	9.19/1.36	9.41/1.56	11.50/1.13	11.57/1.11	1.307, $p = .19$	.2 (Small)	.06 (Very Small)
2	11.7/1.34	11.74/1.33	12.70/1.15	12.71/1.03	.454, $p = .65$	.03 (Very Small)	.01 (Very Small)
3	11.31/1.86	11.62/1.70	12.05/2.01	12.21/1.79	.947, $p = .35$	.2 (Small)	.4 (Small)
4	11.97/201	11.79/1.63	12.15/2.31	12.03/1.58	.478, $p = .63$	.01 (Very Small)	.07 (Very Small)
5	11.31/2.05	10.39/1.78	11.54/1.86	10.61/1.37	2.04, p .045	.5 (Medium)	.6 (Medium)
6	10.85/1.77	10.86/1.62	11.06/1.93	10.92/1.83	.061, p .95	.01 (Very Small)	.07 (Very Small)

Several pedagogical implications emerge from the study's findings. Teachers are urged to exercise caution when receiving formative exam scores from students. Now that the study has established the potential of cheating, test scores may not accurately reflect students' true abilities. Teachers should be aware that weak students perceived the assessments administered during online remote learning as opportunities to cheat their way to a better grade (Shoaib & Zahran, 2021; Taherkhani & Aref, 2024). Teachers are urged to utilize paraphrased test questions for which the solutions are not readily available online (Golden & Kohlbeck, 2020) while tightening the proctoring process through the use of

webcam recording software, which can be beneficial during tests and for post-test evaluation (Dendir & Maxwell, 2020). Moreover, formative evaluation cannot be treated in the same way that it is in face-to-face learning. Indeed, online formative assessments are crucial as a benchmark for differentiating learning aid provided to students throughout the learning process (Gikandi et al., 2011). Nonetheless, teachers must monitor students' behaviour and performance in online remote learning classes. Teachers may wish to ask students who do poorly or well on formative assessments to validate their expected competencies. This type of technique may assist teachers in determining the validity of students' formative test results.

Furthermore, these initial results contribute to our understanding that, while employing technology-based formative assessments appears to be a smart idea, the risk of student cheating has been observed in both online and offline situations. Rofiah and Waluyo (2020) discovered that, although students accepted *Socrative.com* as a means for conducting vocabulary formative tests, students acknowledged using an online dictionary, chatting with online peers, and browsing the internet during formative tests on *Socrative*. These activities become even more convenient when teachers and students are located in different locations in online classes. Students can create excuses for not turning on their cameras during COVID-19's online learning, such as poor internet connections or a lack of one. Even when students activate their cameras, teachers' visibility remains limited, particularly in large classes (Koçer & Köksal, 2024). Even though in the current study, the online test setting did have teacher proctoring, and while it did not work perfectly, it could be a solution compared to a case with no teacher proctoring at all. As with formative assessment, this study advocates for online tests administered by IRS-based technology such as Socrative to account for a small portion of a student's grade. Due to the decreased impact online test results have on a student's grade, cheating during tests may be minimized.

The following statistical analysis revealed that female and male students fared equally well on formative vocabulary tests prior to and during COVID-19's online learning in five courses, with the exception of Course 5, where a significant difference was observed. Given that all five classes had a larger student population than Course 5, this study will partially corroborate earlier research indicating that male students are more likely to cheat than female students (Muntada et al., 2013; Tibbetts, 1999; Zhang et al., 2018). The current study's findings may indicate that cheating on tests in online environments is different from cheating in an offline one. Based on prior research indicating that online learning not only increases opportunities for cheating (Brallier & Palm, 2015; Harmon & Lambrinos, 2008; Pratiwi & Waluyo, 2022), but also causes a slew of negative emotions in students, such as stress, anxiety, and worry, especially during the COVID-19 pandemic, and introduces technical difficulties and personal discomforts, this study asserts that students, regardless of gender, will cheat on online formative tests. COVID-19 inherently generates negative emotions and insecurity in students, whether about their personal safety and that of their family, or about their academic performance in terms of grade, causing students to perceive formative tests as difficult, which can result in cheating actions as a temporary and easy solution (Apridayani, 2022; Wenzel & Reinhard, 2020).

CONCLUSION

After assessing students' performance on formative vocabulary tests prior to and throughout online remote classes in English courses, this study concluded that the considerable rise in online remote testing indicates the likelihood of cheating. However, the chance of male students cheating more frequently was not proven, contradicting the findings from offline assessments. Given the study's shortcomings, it is stated that this study would be best suited as a pilot study for attempting to uncover student cheats on formative tests in remote online English classes. If qualitative interviews with students had been done, the study would have garnered further insights. However, due to language barriers and the impact of the COVID-19 outbreak, which restricted their opportunities, prevented the researchers, who were foreigners, from conducting qualitative interviews. As we proceed in online remote English classes, the researchers hope that the study's findings will alert English teachers to the possibility of cheating and how to address the issue.

DECLARATION OF COMPETITING INTEREST

None declared.

AUTHORS' CONTRIBUTION

Budi Waluyo: conceptualization, data curation, formal analysis, investigation, methodology, project administration, resources, software, supervision, validation, visualization, writing – original draft, writing – review & editing.

Nur Lailatur Rofiah: conceptualization, data curation, formal analysis, investigation, methodology, project administration, resources, software, supervision, validation, visualization, writing – original draft, writing – review & editing.

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Analysis of CLIL-related research in school settings: A systematic review

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ABSTRACT

Background: Content Language Integrated Learning (CLIL) is an emerging approach in the global educational landscape, and as such, there is a lack of a systematic review of this field.

Purpose: To explore CLIL-related scientific publications in school settings around the world.

Method: A systematic review was performed following the PRISMA guidelines in WoS and Scopus databases. A total of 142 articles published in the period 2018-2022 were analysed according to three types of variables: extrinsic to the scientific process, methodological, and content based. The results of the methodological and content-based variables were contrasted with the portfolio of CLIL evaluation measures and analysed through the lens of the 4Cs framework.

Results: The findings revealed that CLIL studies were performed in a wide range of countries across continents. It was the secondary school which drew most scientific interest. Apropos of the methodological variable, there was a balance between qualitative and quantitative studies, and a questionnaire as a tool was favoured by the researchers. The major scientific interest lay in the communication principle, while cognition was understudied.

Conclusion: There was a growing scientific interest in CLIL. Although the major interest laid in linguistic gains, other fields of research transpired. The conclusions provide further agenda for CLIL research.

KEYWORDS

Education, schools, second language instruction, Content Language Integrated Learning (CLIL), systematic review

INTRODUCTION

For the increasingly globalized world in the 21st century, the active pursuit of innovative methodologies, which can prepare future generations to integrate in the global community of speakers from diverse linguistic and cultural backgrounds, is on all educational agendas. The dual-focused educational approach, both content- and L2-driven, which is being implemented in practically all educational stages in the European Union is CLIL. However, the question whether CLIL is unique for the European context, or whether it has transpired European borders remains open.

Due to the recent implementation of CLIL, and although the body of research in this field is growing, it is still piecemeal and not "coherent as a package" (Coyle et al., 2010, p. 135). As a result, there has been little systematic review research so far. The current systematic review studies have approached the analysis of CLIL from diverse angles: CLIL's implementation in the European context (Cimermanová, 2021; Goris et al., 2019; Palacios-Hidalgo et al., 2021), foreign language learning in Physical Education (Gil-López et al., 2021), curriculum evaluation of CLIL on a global scale (Li et al., 2020) , and the analysis of content and language outcomes in CLIL, CBI, EMI (Graham et al., 2018). The latter concluded that while CLIL was constantly present on the research agendas of certain countries, especially in the EU, other countries remained understudied, thus further systematic reviews on the implementation of CLIL worldwide are required.

With the purpose of filling in the gap in the systematic review analysis, this study aims to provide an analysis of CLIL-re-

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lated scientific research in school settings, both within and outside the EU borders, according to the following specific objectives:

(1) to analyse CLIL-related research in school settings according to countries, year of publication, and educational stages;

(2) to delve into methodological variables: type of research, data collection tool, population group, area of research;

(3) to inquire which of the 4Cs receives more/ less scientific interest;

(4) to analyse recent areas of scientific research on CLIL;

(5) to contrast the results with the portfolio of evaluation measures.

LITERATURE REVIEW

The Essence of CLIL

In response to the demands of the modern age, specifically to enhance foreign language teaching to promote bilingualism/multilingualism in a European context[1], a group of experts in different fields of education launched CLIL. This novel approach appealed to educators as a wide range of pilot studies on the adaptation of CLIL sprouted all over Europe, and CLIL was recommended to teach subjects in L2 in pre-primary, primary, general secondary, secondary vocational and further education (Marsh, 2002).

CLIL is defined as "a dual-focused educational approach in which an additional language is used for learning and teaching of both content and language" (Coyle et al., 2010, p. 1) inasmuch as the integration of content learning and language learning becomes the essence of CLIL (Mehisto et al., 2008). However, there have been critical voices which have pointed to the ambiguity of this definition and called for its clarification (Cenoz et al., 2014; Linares & Morton, 2017). Due to the novelty of CLIL, there is no blueprint. Nevertheless, rather than being a drawback, this lack of a specific model may be considered an advantage, since it allows educators and practitioners to contribute to the shaping of the method with good practices. As such CLIL is historically and pedagogically unique and can easily fit into different national curricula due to its flexibility (Merino & Lasagabaster, 2018). To this end, under the umbrella of CLIL, different pedagogies and models emerged responding to the socio-cultural context of the countries (Van Mensel et al., 2020). Taking stock of these new models of CLIL implementations, the Eurydice Report[2] stated that although some of the pedagogies had promising results, there was no consensus reached on the theoretical principles of CLIL, which inevitably led to either more language-focus teaching, where content was being used as a mere vehicle for language development, or to content-focus instruction, where less attention was paid to interaction in L2.

To supply a rigorous theoretical basis for this methodology, Coyle (2007) provided a conceptualization of CLIL, placing the focus on an innovative 4Cs framework: Content, Communication, Cognition, and Culture. Drawing on a wide range of theories from different fields of knowledge, Coyle (2007, pp. 550–552) tackled the 4Cs as follows:

> Content is viewed as a construction of knowledge of the subject based more on high-order thinking skills rather than pure memorization of the subject-matter. Therefore, thinking processes must be reflected upon for further linguistic demands as there is an integration of linguistic content with content knowledge. Communication encompasses contextualized use of the target language, which is defined not only by the linguistic needs of the subject-matter but also by social interaction. The latter becomes the way of acquisition of knowledge and skills fundamental for learning. The target language is seen as a vibrant construct which allows the learner to access other fields of knowledge and to be able to interact with others.

Cognition is an integrative component of this framework as the progression from low-order thinking skills (hereinafter LOTs) to high-order thinking skills (hereinafter HOTs) is viewed as a requirement to progress both in content and target language. Since the development of creative and critical thinking is one of the educational demands of the 21st century, problem-solving and decision-making were recommended to form part of CLIL classes (Cimermanová, 2021).

Culture is deeply embedded in the language and determines the way we interpret the world, therefore cultural understanding and awareness of the conventions form part of this method. Hence, Byram's concept of intercultural competence, "the ability to communicate and operate effectively with people from another culture" (Byram, 1997, p. 5), became one of the cornerstones of CLIL. Furthermore, Byram (2012) included citizenship education in this competence, which was incorporated as one of the goals of CLIL (Coyle et al., 2010), and Mehisto et al. (2008) added Community to the principle of Culture.

When providing the examples of CLIL classes in primary and secondary education, Mehisto et al. (2008) contemplated the inclusion the 4Cs as the guiding principles which can contribute to successful outcomes.

[1] Eurydice Report. (2006). Content and Language Integrated Learning (CLIL) at school in Europe (Y. European Commission, Directorate-General for Education Sport and Culture, Ed.). Publications Office. https://op.europa.eu/en/publication-detail/-/publication/756ebdaa-f694-44e4-8409-21eef02c9b9b

[2] ibid

Portfolio of Evaluation Measures

To gain more insight into CLIL implementation and outcomes, Coyle et al. (2010) proposed a series of evaluation criteria, contemplated in the portfolio of evaluation measures. The four areas of research are the following:

Performance evidence englobes the empirical research in which its major aim is to assess the learners' outcomes in CLIL subjects, as well as to compare the results with established expectations from the national curriculum. Both quantitative (statistical data) and qualitative studies (e.g., portfolios) are included in this evaluation measure. For the analysis of progression in subject-matter, a contextual comparison of outcomes in L1 and L2 was recommended.

Affective evidence is the field of research which aims at gathering and evaluating learners' and teachers' testimonies as far as motivation, L2 anxiety, self-esteem, etc. The instruments for qualitative research include open-ended questionnaires, focus groups, and individual interviews. For a more in-depth analysis of CLIL outcomes, a joint evaluation of performance and affective evidence through "a fuller cross-referenced portfolio using the range of students across the ability range" was proposed (Coyle et al., 2010, p. 137)

Both process evidence and materials and task evidence deal with the actual in-class procedures. Whilst process evidence evaluates the learners' verbal performance (individual, pair, groups), task evidence aims at the analysis of the tasks and the materials used. These evaluation elements can be most complex for assessment from a "logistical standpoint", as certain precision is required with data collection procedures and tools of analysis (Coyle et al., 2010, p. 137).

METHOD

Protocol and Registration

This systematic review followed the guidelines of PRISMA (Preferred Reporting Items for Systematic Reviews and Meta-Analyses, 2020) statement, to ensure that the results have adequate quality criteria and to reduce biases during the selection process.

The stages carried out to perform this systematic review were the following: (1) formulation of the research problem, which in this case was to analyse the trajectory and current situation of the most relevant research on CLIL. To this end, (2) a selection of articles on CLIL in indexed publications with double peer review in Scopus and WoS databases were performed. (3) Inclusion and exclusion criteria, which are further explained in this article, were applied. And, finally, (4) the analysis was carried out considering extrinsic and intrinsic variables.

Procedures

The search was carried out in the databases of Scopus and Web of Science (WoS), during the months of March – April 2023. To ensure that all the articles fall into the domain of the present research the following terms were introduced in the English language, following ERIC indicators: TI= (CLIL AND/OR Content Language Integrated Learning).

Search Strategies

To narrow the search of the articles published, and, therefore, to certify the relevance and the current state of the art on the topic of the present study, the period from 2018-2022 was selected. Applying this first criterion, a total of 1878

Table 1

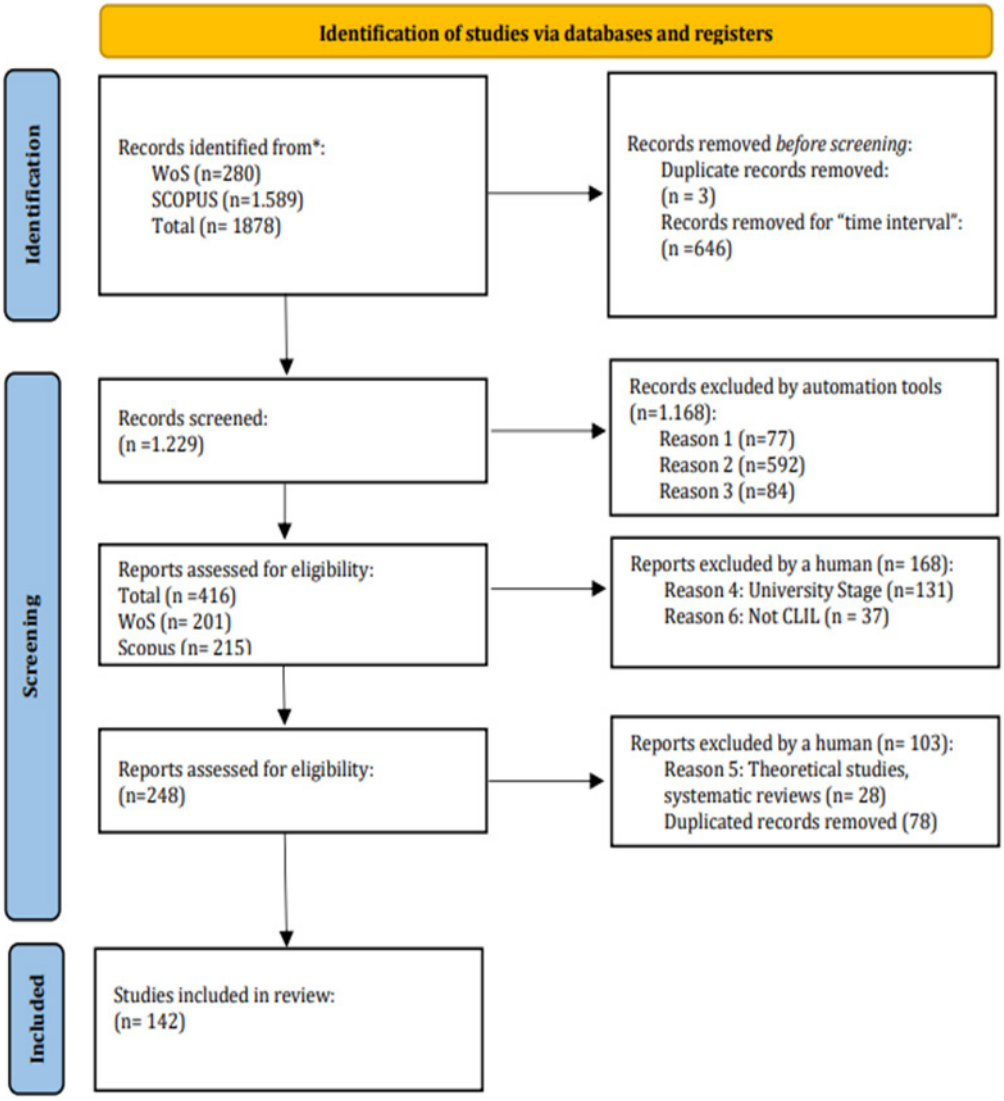
Inclusion and Exclusion Criteria

	Inclusion Criteria	Exclusion Criteria
R1.	Type of publication: journal article	Books, book chapters, theses, conference proceedings
R2.	Field of knowledge: Education and Social Science	Other fields of knowledge
R3.	Language: English, Spanish	Other languages
R4.	Educational stage: pre-primary (3-6), primary (7-11), secondary (12-18)	Other educational stages: undergraduate, postgraduate, etc. Duplicated
R5.	Empirical studies	Theoretical studies, systematic reviews
R6.	CLIL	Other methodologies

Note. R=Reason in Flow Diagram for automation tools

Figure 1

Flow Diagram for Systematic Reviews Adapted from PRISMA 2020



(WoS - 280 articles; Scopus - 1.589 articles) were found. From then on, given the size of the sample, inclusion and exclusion criteria were applied (Table 1).

Selecting Studies Procedure

Considering the eligibility criteria, an evaluation of the selected articles was performed independently. In case of disagreement, judgment was sought from a third person. Both the JBI Critical Appraisal Tools (Lockwood & Tricco, 2020) and the Checklist for Qualitative Research[3] were used specifically. Therefore, the selected articles were found to satisfactorily meet the inclusion criteria (Figure 1).

Based on the number of final records, which met the criteria of inclusion and exclusion, a database was elaborated (Antropova & Poveda, 2023). To proceed with the codification and the analysis of the publications, a series of variables were established: (1) extrinsic to the scientific process (country, year of publication, educational stage); (2) methodological (type of research, data collection tool, area of research[4], population group); (3) content-based (4 Cs, analysis of abstracts).

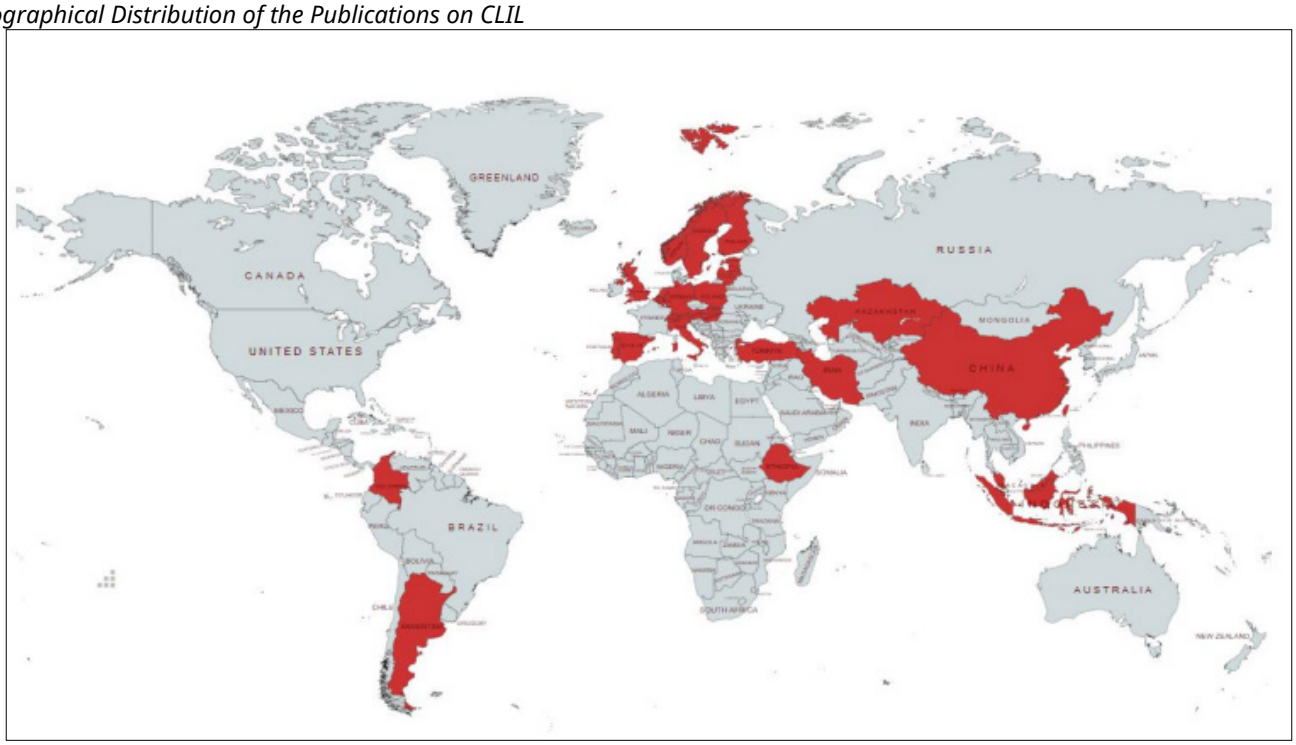
Finally, a detailed qualitative analysis (Stimson, 2014) of the abstracts of each of the articles was conducted to explore content-based variables. The aim was to find "units of registration" (Díaz Herrera, 2018, p. 127) common to all the pub-

[3] Checklist for Qualitative Research. https://bit.ly/2YFoTWH

[4] Area of research: performance evidence, process evidence, affective evidence, material and task evidence (see Portfolio of Evaluation Measures).

Figure 2

Geographical Distribution of the Publications on CLIL



lications, and thus, to establish the central categories and subcategories.

RESULTS

Analysis of Extrinsic Variables

Considering the variables extrinsic to the scientific process, the country of research, year of publication, and educational stage were analysed.

As for the geographical location, a great diversity was observed in terms of the origin of the study sample (Figure 2). Spain (n=70) stood out as the country with the highest concentration of research, followed by other countries: Germany (n=10); Finland (n=9), the Netherlands (n=7), Austria (n=7). Belgium, Portugal, Italy, and the UK had 5 publications. Authors from Colombia and Kazakhstan published 4 articles, followed by scientific research in Switzerland (n=3) and in Argentina, China, Hungary, Indonesia, Iran, Slovakia (n=2). In the rest of the countries (Estonia, Ethiopia, Latvia, Lithuania, Malaysia, Norway, Poland, Sweden, Taiwan, Turkey) there was 1 publication in the time interval analysed.

Regarding the evolution over time (2018 - 2022), starting with a small number in 2018 (n=11), the number of publications displayed a steady growth until 2019 (n=32). In 2020 this type of publication decreased (n=24), albeit in 2021 the publications resumed their gradual increase, reaching the highest number (n=38) and in 2022 (n=36).

Concerning the educational stage of the empirical studies, secondary schools accumulated the highest number of publications (n=82), followed by the studies in primary (n=33), several educational stages simultaneously (n=26), and pre-primary (n=1).

Analysis of Methodological Variables

Regarding the analysis of the methodological variables with respect to the type of research, both qualitative and quantitative studies accumulated 36,6%, mixed method studies - 16%, and feasibility studies - 3,5%.

In terms of data collection strategies, the following tools were used by the researchers (Table 2).

Regarding the analysis according to area of research (Coyle et al., 2010), it was performance evidence (PE) which accrued the highest number of publications (n=80), followed at a considerable distance by material and task evidence (MTE) (n=19) and affective evidence (AE) (n=15). Process evidence (PrE) was the area with the least scientific research (n=13). Some publication explored various areas of research concomitantly in their studies: AE and MTE (n=5), AE/PE (n=13), and PE/MTE/PrE (n=1).

Concerning the population groups, students were the major target subjects (n=74); followed by the studies focused on teachers (n=42). Some researchers enriched their analyses of data collection from mixed population groups of parents, teachers, and students (n=19). The rest of the studies

Table 2

Data Collection Tools according to the Type of Research

Data Collection Tool	Quantitative	Qualitative	Mixed Method	Feasibility	Total
Questionnaire	34		30	1	65
Interview		31	19		50
Observation/audio-video recordings	2	23	6		31
Focus group		9	3		12
Test	12		2		14
Standardized test	13		1		14
Verbal interactions	1	5		1	7
Reports/field notes/essays/written reflections/portfolios	6	4	1		11
Didactic resources analysis/tool proposal and/or validation	2	2		2	6
Task	4	9	4		17
Accelerometer	1		1		2
Didactic proposal				3	3
Pedagogical intervention	4	1		1	6

focused on obtaining information from other types of informants: CLIL programme coordinators (n=2), CLIL experts (n=2), directors (n=2), and inspectors (n=1).

Analysis of Content-Based Variables

For a more in-depth content-based analysis, the following variables were explored: 4Cs framework, abstract.

Delving into the 4Cs framework, the studies dealing with the Communication principle (n=72) were the most numerous, followed by Content (n=31), Culture/Community (n=15) and Cognition (n= 12). Exploring studies which focused on Communication, there was scientific research which only dealt with this principle (n=46); however, Communication was also addressed in concert with other variables including Content (n=12), Community/Culture (n=4), Cognition (n=2) highlighting the combination of Communication and Content, with respect to the others.

Furthermore, abstract analysis was performed. As a result, 13 central categories together with their corresponding subcategories (n=70) emerged (Table 3). This categorisation streamlined content analysis with the focus on the issues currently being researched.

The categories with the highest percentage of appearance were Communication principle (26.83%), Focus on teacher (17,49%), and Focus on student II (11,72%).

In Communication, the subcategory with the highest percentage was L2 development/L2 proficiency/L2 competence (20,74%), followed by Vocabulary/lexical richness (14,81%), written production/literacy skills (13,33%), and Oral production/speaking (11,85%). The rest of the subcategories obtained less than 10%.

In the analysis of the category Focus on teacher, the subcategories that accrued the highest percentages were Pedagogies/didactic competence/teaching experience (26,13%), Professional development/training (25%), Identity/personal beliefs/perspectives (20,45%), and Coordination/organization (11,36%). The rest of the subcategories scored less than 10%.

Apropos of the category Focus on students II, it was Motivation that scored the highest (47,45 %) followed by Satisfaction/enjoyment (16,84%), and Effort/attitude/willingness to communicate (13,55%). Other subcategories obtained less than 10%.

DISCUSSION

This systematic review aimed to analyse CLIL-related scientific research published in English and Spanish in school settings worldwide in 2018-2022. Having explored 142 scientific publications, the findings are the following.

Table 3

Emerging Categories and Subcategories in the Qualitative Analysis with Cumulative Percentages

Categories	Subcategories		N	Percentage
Socio-educational context	International/national educational policies	Language assistants	16	3,20%
	Exchange programmes	Pandemic		
L1 and L2, L3	Translanguaging	L2-L1 influence	27	5,36%
	Bilingualism/multilingualism	L1 as language of instruction		
Curriculum	Didactic application/innovation		11	2,18%
	Evaluation			
	Non-specified			
Communication	L2 development/L2 proficiency/L2 competence	Pronunciation/phonological awareness	135	**26,83%**
	Reception/listening	Vocabulary/lexical richness		
	Oral production/speaking	Grammar/morphology		
	Reception/reading	Fluency		
	Written production/literacy skills	Non-verbal language		
	Students' interaction/conversation analysis	Teacher's language (verbal/non-verbal)		
	Teacher-Students interaction	Teacher's corrections		
Content	Subjects		44	8,78%
	Other content			
Community/ Culture	L2 culture	Students' collaboration/cooperation	16	3,18%
	Intercultural awareness/competence	Class community		
	International orientation			
Cognition	LOTs	Metacognition/learning strategies	21	4,17%
	HOTs	Non-specified		
Teaching methodologies/ strategies	CBI; TBLT; PLTL; CLL; IBSE; GTM; CLT; PBL; Gamification		23	4,57%
	Scaffolding; questioning; games; peer-tutoring			
	Other			
Design I: grouping, time organization	Grouping patterns		5	0,99%
	Study/task time organization			
Design II: instructional materials	Graphic organizers	Textbook/books	33	6,58%
	Digital resources	School facilities		
	Audio-visual aids	Augmented reality		
	Non-specified			
Focus on Teacher	Professional development/training	Collaboration	88	**17,49%**
	Coordination; organization	Ideology		
	Pedagogies/didactic competence/teaching experience	Affective factors		
	Identity/personal beliefs/perspectives			

Categories	Subcategories		N	Percentage
Focus on student I: socio-demographic and personal characteristics	Socio-economic level	Healthy lifestyle	23	4,57%
	Age	Diversity/inclusion		
	Gender	Personality/traits		
	Ideology	Parental support		
	Physical activity			
Focus on student II: affective factors	Motivation	Self-concept	59	**11,72%**
	L2 anxiety	Effort/attitude/ willingness to communicate in L2		
	Satisfaction/enjoyment	L2 self-confidence		

Note. CBI=Content Based Instruction; TBLT=Task-Based Language Teaching; PLTL=Peer-Led Team-Learning; CLL=Cooperative Language Learning; IBSE; GTM=Grammar Translation Method; CLT=Communicative Language Teaching; PBL=Problem-Based Learning.

Gradual Growth of CLIL-related Research in School Settings over the World

As for the analysis according to countries and year of publication, the results show that although most scientific research has been performed in the EU, CLIL has transcended European borders as other countries (e.g., Iran, Taiwan, Indonesia) have gradually introduced this method in their classrooms. On a global scale, there is undeniable interest in CLIL, as the number of publications has been on a continuous rise, albeit there are countries (e.g., Brazil, Russia, India) where it is unclear if there has been any scientific research on the matter at all, perhaps due to the language bias. Since the languages of this study were English and Spanish, scientific research in other languages was not considered.

As CLIL was initially designed for the EU, all the countries which have accumulated the highest number of articles on this topic are in the EU: Spain, Germany, Finland, the Netherlands, and Austria. Nevertheless, other European membership countries have not been prolific CLIL research wise. Therefore, the question arises: are there any factors which have influenced a CLIL implementation in school settings in the countries with the greatest quantity of articles? An example of Spain, which has accrued the highest number of scientific publications (Cimermanová, 2021; Goris et al., 2019) may serve as a model to delve into this question. Several factors have affected the rapid acceptance of CLIL in Spain: (1) bilingualism with minority languages; (2) top-down implementation; (3) low-proficiency in L2 skills due to the lack or inconsistency of SLT instruction (Goris et al., 2019). In the analysis of the countries with more prominent research in CLIL, it seems that traditional multilingual idiosyncrasy has been a mighty factor to promote CLIL in the Netherlands, Finland, Germany, and Austria; perhaps, due to the urgency to introduce teaching of content in other languages. However, not all multilingual/bilingual countries have demonstrated scientific interest in CLIL (e.g., Switzerland, Malta).

Furthermore, regarding CLIL implementation, both top-down implementation and grassroots initiatives have proved efficient. Whilst educational laws streamlined CLIL in Finland (Roiha, 2019), grassroots initiatives gave an impulse to CLIL at schools in the Netherlands (Mearns & Graaff, 2018), Germany (Siepmann et al., 2021), and Austria (Bauer-Marschallinger et al., 2021). For instance, in the Dutch context parents and teachers promoted this method as "a pedagogical principle" in bilingual schools (Mearns & Graaff, 2018, p. 125). The importance of grassroot initiatives can be viewed as evidence of high expectation of CLIL and its easy acceptance on the part of stakeholders (Hüttner et al., 2013).

Regarding low proficiency L2 skills, this is true only for Spain. In 2018, the starting point of the current study, the rest of the abovementioned countries fell into the very high proficiency ranking[5]: the Netherlands - 2, Finland - 8, Austria - 12, and Germany - 10. Therefore, on a global scale, this factor has not been by far the most influential. As no clear pattern emerges to explain the scientific interest in specific countries, further research is required to gain an insight into the factors which can boost CLIL implementation. In the analysis of the articles from the countries with the highest percentage of research, a new ecological factor has emerged in line with the one proposed by Dalton-Puffer et al. (2022): internationalisation. To comply with the educational demands, more specifically plurilingual competence in the era of globalization, the knowledge of English as a lingua franca is given priority. Therefore, CLIL is viewed by many as "a form of extended language policy" (Hüttner et al., 2013) and a tool

[5] EF English First. (2018). The world's largest ranking of countries and regions by English skills. https://www.ef.com/assetscdn/WIBIwq6RdJvcD9bc8RMd/cefcom-epi-site/reports/2018/ef-epi-2018-english.pdf

to promote global citizenship and future job opportunities, hence its importance.

Concerning educational stage, secondary school has attracted more scientific interest in compliance with other systematic reviews (Cimermanová, 2021; Gil-López et al., 2021; Goris et al., 2019; Li et al., 2020), whilst in the pre-primary stage the scientific research has been scarce. Though the pre-primary stage was included in CLIL programmes (Marsh, 2002), due to low L2 proficiency and a small number of subjects in this educational stage, other SLT methodologies are applied. While educational laws promote CLIL in pre-primary stage in Austria and Belgium (Bauer-Marschallinger et al., 2021; Van Mensel et al., 2020), the major bulk of research has explored the outcomes of CLIL in primary and secondary education in these countries. There is still a debate in the European educational context whether an early start of CLIL is beneficial for L2 learning (Goris et al., 2019) or whether L2 training should precede CLIL programmes. In the longitudinal study (Pfenninger, 2020) on the comparison of L2 development in a CLIL group to its mainstream counterpart, the results revealed that there were no meaningful differences in L2 acquisition between early starters of CLIL and slightly later CLIL beginners. Some countries (e.g., the Netherlands, Germany) initiate CLIL only in secondary education with self-selection criteria based on L2 proficiency to be applied to the candidates (Mearns & Graaff, 2018; Siepmann et al., 2021). Thus, verbal intelligence and academic ability have become core elements to join a CLIL programme.

Methodological Approaches to Explore CLIL Efficiency

Regarding methodological variables, the type of research, research instrument, and population groups of the studies were explored. The results of both methodological and content-based variables are contrasted with the portfolio of evaluation measures (Coyle et al., 2010).

There is a similar proportion between qualitative and quantitative studies in comparison to Li et al.'s (2020) systematic review, which highlighted the predominance of quantitative-driven studies. According to the results of this research, the gap between quantitative and qualitative designs has disappeared. Mixed method studies have not been abundant albeit recommended by Coyle et al. (2010). Hence, the importance of a mixed method design has been seemingly overlooked by the researchers. Molina-Azorin and Fetters (2019) highlighted the special value of mixed-method research, since it not only engages stakeholders in the creation of knowledge, but it also helps to evaluate and disseminate the impacts of the study. Thus, a mixed method design can enable us to obtain new empirical insights as well as to provide compelling evidence that can contribute to CLIL's improvement. For instance, in a mixed method study on the impact of CLIL on motivation in the UK (Bower, 2019a), contrastive results to the questionnaire led to a series of questions for interviews and focus groups to explore the reasons for those differences. Moreover, different stakeholders were involved which helped to interpret the findings and to propose a solid theoretical framework for motivation in CLIL.

In terms of data collection instruments, questionnaires have been a predominant tool (Goris et al., 2019; Li et al., 2020). Although Coyle et al. (2010) proposed the use of questionnaires to delve exclusively into affective factors of CLIL participants, in the scientific literature analysed this tool has been used to explore both PE and MTE. Whilst questionnaires have many benefits towards carrying out research, such as possibility of administration to a wide sample of participants and little complexity in analysis and comparison of the results (Hernandez-Sampieri & Mendoza, 2018, p. 263), their disadvantages must not be neglected. Among them are assessment of attitudes, but not behaviours; they do not provide information about the individual, except for the variables measured, and the use of language can be a source of bias and can influence responses. Therefore, the peculiarities of CLIL in different socio-cultural contexts, such as different ages of implementation, various models for CLIL, compulsory/voluntary status of CLIL, not to mention personal experiences, could give rise to a controversy of stakeholders' perspectives which should not be equated on a global level.

Despite Coyle et al.'s (2010) recommendation to use a wide array of data collection instruments, such as portfolios, standardised tests, etc., these instruments have been used with less frequency. As a result, there is a disproportion between qualitative instruments and quantitative techniques. In the literature revised there have been a plethora of voices which have called for more solid evidence to prove CLIL's success in comparison to national and universal standards of education (Coyle et al., 2010; Goris et al., 2019). Even though PE has been by far the most researched area, standardised tests, which supply norm-referenced inferences and provide the results with more rigorous evidence, have been used to a lesser degree. Most of the empirical research which applied standardized tests dealt with English language proficiency. On the other hand, there have been few empirical studies which have used standardized tests to verify L2 proficiency according to CEFR (Common European Framework for Languages), which is nowadays becoming a standardized framework for language abilities on an international scale. In her recent study in Castilla- La Mancha, Ruiz Cordero (2019) applied PET (Preliminary English Test) exams, which helped her not only to compare the L2 writing

skills progression to the mainstream counterparts but also to contrast the results to the EU standards. Hence, to consolidate the findings on CLIL efficiency, standardized tests in compliancy with CEFR are recommended to compare the levels of L2 acquisition with CLIL in different educational environments on a global scale.

Even though CLIL teachers have specified a lack of didactic resources in CLIL (Lorenzo & Granados, 2020; Nieto Moreno de Diezmas, 2019; Siepmann et al., 2021), which has also been stated by Marsh (2002) as an apparent weakness in any CLIL programme, surprisingly, MTE has been scanty. However, it is noteworthy to point out that new types of resources in the era of digitalization, such as augmented reality, have emerged (Çelik & Yangın Ersanlı, 2022). In this experimental study with the use of virtual objects in a physical environment of a CLIL high school classroom in Turkey, the results showed that not only the students improved their L2, but their motivation increased (Çelik & Yangın Ersanlı, 2022). Thus, CLIL didactic resources can be a powerful ally for the teachers, which not only serve as a guide for the correct implementation of this methodology, but they can also boost the learners' communicative competence and motivation. It would be highly advisable to carry out more research on the analysis of didactic resources in a CLIL classroom.

As for population groups, Coyle et al. (2010) mainly proposed students, teachers, and parents. Along the same line, most empirical research has focused on students, either alone or in concert with teachers and/or parents. Moreover, new stakeholders have emerged such as coordinators (Fernández-Barrera, 2019), CLIL specialists (Nieto Moreno de Diezmas, 2019), and school leaders (Bower, 2020). The fact that new stakeholders have been involved allows for a greater enrichment of CLIL studies, as well as providing the scientific community with a broader spectrum of research and a more panoramic view.

Scientific Interest in the 4 C's

Regarding the results of the content-based analysis aimed at exploring which of the 4Cs receives more and less scientific interest, it can be stated that Communication has by far been the most researched principle. There is undeniable interest in the results of CLIL apropos L2 acquisition. The launch of CLIL "was accompanied by hopes of it heralding in a period of change in education, with the most prominent expectations revolving around the desire for change in foreign language learning" (Dalton-Puffer et al., 2022, p. 183). Since then, this methodology has been viewed more as a linguistic phenomenon within a plurilingual educational agenda worldwide. The results of the empirical studies have demonstrated close relation between the instruction in a foreign language and enhanced L2 proficiency skills. It seems that in comparison to their mainstream counterparts CLIL learners have better linguistic performance in listening (Morilla García & Pavón Vázquez, 2018), oral production (Ruiz Cordero, 2022), reading, especially a better comprehension of lexical items (Nieto Moreno de Diezmas, 2018), writing (Ruiz Cordero, 2019), and higher levels of receptive vocabulary and vocabulary size (Castellano-Risco et al., 2020). However, most comparative studies in L2 proficiency were performed in Spain. Therefore, it can be recommended to carry out this type of research on a global level.

Moreover, the least studied principle in CLIL is Cognition. Notwithstanding the fact that creative and critical thinking is one of the educational demands of the 21st century, the question whether HOTs are worked with in a CLIL classroom remains open. In the mixed method study in Spain, the results showed that the teachers tended to lapse into working with LOTs, understanding being the predominant cognitive skill in a CLIL classroom (Campillo-Ferrer & Miralles-Martínez, 2022; Valverde Caravaca, 2019). Thus, through methodological intervention focused on the optimized use of questions, Valverde Caravaca (2019) demonstrated it as a valid strategy to foster critical thinking. More scientific research on the matter is required not only to demonstrate the development of critical thinking but also to propose effective strategies which can boost HOTs.

Emerging Areas of Scientific Research on CLIL

As for the analysis of recent areas of scientific research in CLIL, three areas have emerged: Communication, Focus on teacher, and Focus on student (affective factors).

Within Communication, L2 proficiency/development attracts a major part of scientific interest (Martínez Agudo & Fielden Burns, 2021). It is also noteworthy that another area of emerging research within PrE is in-class procedure in line with the one proposed by Coyle et al. (2010). Discourse analysis with transcripts of verbal reports of students' in-class interaction and teacher-students interaction has been the object of study to explore not only the teachers' language, for instance, the use of open questions as a scaffolding technique to foster interaction and science content in CLIL classes (Tagnin & Ní Ríordáin, 2021), but also to pair dynamics in task-based interaction (Basterrechea & Gallardo-del-Puerto, 2020), collaboration in written tasks (Jakonen, 2019).

Furthermore, since bilingualism is becoming a norm in our globalized world, there is a growing scientific interest in the interaction between the students' L1 and L2, as well as the impact of L2 on mother tongue development in compliance with Coyle et al.'s (2010) recommendations. In the experimental research on the impact of L2 on L1 written production in secondary schools in Spain (Nieto, 2020), the results showed that learners under CLIL instruction outperformed their mainstream counterparts despite limited L1 exposure. On a different note, several studies delved into the strategic use of L1 in a CLIL classroom, specifically translanguaging

(Nieto Moreno de Diezmas, 2018; Nikula & Moore, 2019). Considering that bilingualism is a relatively novel phenomenon on a global educational scope, more research is advised to delve into L1 via L2 development with CLIL instruction to pinpoint benefits and drawbacks.

Notwithstanding the fact that Coyle et al. (2010) proposed to explore affective factors related to teachers in terms of research with a Focus on teachers, it is the area of Pedagogies/didactic competence that has attracted more scientific interest (Ljalikova et al., 2021; Martínez Agudo & Fielden Burns, 2021). Since it is teachers who contribute to the shaping of the CLIL method and as such have become key players, the pedagogic quality of teachers has been put in the spotlight. Both linguistic proficiency and subject knowledge were stated as areas for improvement (Dvorjaninova & Alas, 2018; Huertas-Abril & Shashken, 2021; Lorenzo & Granados, 2020; Pappa et al., 2019), which may be one of the reasons why the synergy of Content and Communication has not been achieved. Consequently, in most research dealing with teachers' perspectives the need for a better professional development was stated (Dvorjaninova & Alas, 2018; Lorenzo & Granados, 2020; McDougald & Pissarello, 2020; Mearns & Graaff, 2018). CLIL training is not obligatory in many countries, which can lead to a misunderstanding of the method and its mediocre implementation. In a case study performed in Columbia with in-service teachers (McDougald & Pissarello, 2020), the results demonstrated that after receiving training in CLIL, the teachers improved significantly not only in the subject knowledge but also in CLIL strategies and lesson planning. In-service opportunities for professional development as well as exchange programmes were some of the improvements highlighted by the teachers in Finland (Pappa et al., 2019).

In the early implementation of CLIL, certain drawbacks were observed, such as the lack of collaboration and administrative support[6] (Mehisto et al., 2008), which continue to be the major challenge shared by CLIL teachers (Lorenzo & Granados, 2020; Mearns & Graaff, 2018; Nieto Moreno de Diezmas, 2019; Pappa et al., 2019). In the qualitative analysis of CLIL teachers' narratives in relation to their teaching experiences in Estonia (Ljalikova et al., 2021), relative loneliness and the extreme importance of administrative support and collaboration were shared by all the stakeholders. This CLIL teachers' loneliness seems to be a common feature in other educational environments. Administrative tensions and apparent lack of administrative support were pinpointed by other studies in Spain (Nieto Moreno de Diezmas, 2019), Kazakhstan (Huertas-Abril & Shashken, 2021), the UK (Bower, 2020), Colombia (McDougald & Pissarello, 2020), etc. Even though Coyle et al. (2010) and Mehisto et al. (2008) stressed the importance of collaboration at all levels of CLIL implementation, it is still a major weakness.

Finally, in relation to Affective factors (students), most studies explored the students' motivation in CLIL. There is a consensus that instruction in a vehicular language boosts students' motivation and increases their linguistic competence (Bower, 2019b; Mearns & Graaff, 2018; Roiha, 2019). Furthermore, it seems that instruction in CLIL has influenced students' personality traits, such as extraversion and agreeableness (Bowers, 2020). However, considering Coyle et al.'s (2010) proposal which stated the need to explore affective factors (AE) in students, parents, and teachers in equal measure, it would be advised to include teachers and parents in the research of affective factors. Furthermore, the joint evaluation of PE and AE has been scarce, albeit recommended by Coyle et al. (2010).

Limitations

As for the limitations of this study, the shortened period (2018-2022) selected by the researchers due to the vast quantity of publications on CLIL, if prolonged it might have strengthened the findings on the expansion of CLIL worldwide. Moreover, since only two databases (Wos and Scopus) were explored, other scientific studies, which could have contributed to the current research, were not considered. Another limitation was the language of the current study. Since only articles in English and Spanish were explored, 84 articles written in other languages were excluded. Thus, even though researchers from other countries had worked with this methodology, they were not visible in this study.

CONCLUSION

We consider that this systematic review has accomplished its pivotal objective to analyse CLIL-related research in school settings around the world. Even though CLIL was started in the EU, it has transpired European borders and there is a growing scientific interest in this method worldwide. Initially, the researchers expected CLIL to be studied in a wider spectrum of countries due to its importance to multilingualism and globalization, however, there are still countries which have not been prolific research wise. Thus, the findings suggest that further research is required to delve into possible factors which can booster CLIL implementation in different countries.

As for methodologies used in the studies, both quantitative and qualitative studies have been applied on an equal basis. However, to enhance the quality of the results, mixed method studies are recommendable. Despite a wide spec-

[6] Eurydice Report. (2006). Content and Language Integrated Learning (CLIL) at school in Europe (Y. European Commission, Directorate-General for Education Sport and Culture, Ed.). Publications Office. https://op.europa.eu/en/publication-detail/-/publication/756ebdaa-f694-44e4-8409-21eef02c9b9b

trum of research tools applied, a questionnaire has been favoured by the researchers. On the other hand, the use of standardized tests in the quantitative studies, especially the ones related to measure students' linguistic competences, has been scarce. Moreover, there has been a disproportion between different areas of research: Performance Evidence, which is more concerned with evaluating learners' outcomes in CLIL, has emerged as the most prominent area of research. Other areas of evaluation portfolio have been less studied notwithstanding their importance to evaluating in-class procedures and affective factors of CLIL stakeholders.

Since in a globalized world the knowledge of English is an essential requirement, Communication principle has attracted the major scientific interest. As a result, other CLIL principles have been overlooked. Cognition has been the less studied principle, albeit the development of HOTs is one of the educational goals of this century. On the other hand, it is very positive that other fields of research in the study of CLIL have emerged, such as bilingualism, and CLIL impact on L1 development. These findings open the possibility of studying the interaction between the two languages and their effect on better implementation of bilingual programmes in education.

We believe that the findings of this study will appeal not only to CLIL researchers but to a wider community of CLIL stakeholders, such as policy makers, CLIL coordinators, and teachers.

DECLARATION OF COMPETITING INTEREST

None declared.

AUTHORS' CONTRIBUTION

Belen Poveda Garcia-Noblejas: methodology, data curation, writing review.

Svetlana Antropova: conceptualization, writing – original draft, editing.

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Translation as Social Justice. Translation Policies and Practices in Non-Governmental Organizations: Book Review

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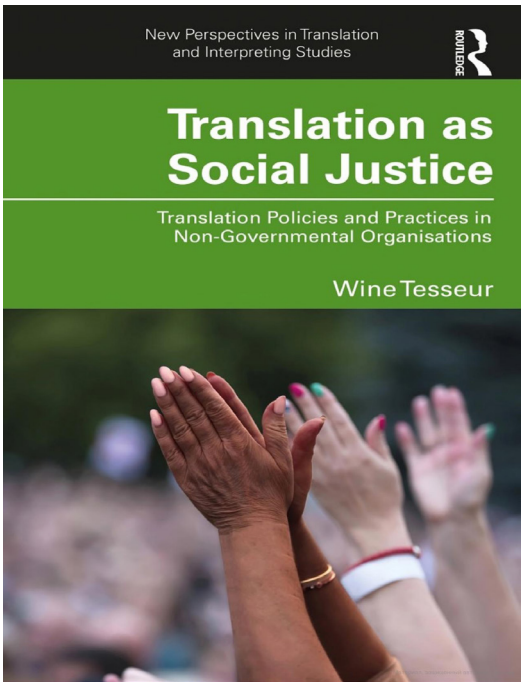
Translation as Social Justice. Translation Policies and Practices in Non-Governmental Organizations, by W. Tesseur, Routledge, 2023, 179 pp., ISBN 9781032331317

INTRODUCTION



Research into the actual translation and interpreting practices in particular institutions has increased over the last two decades with attention being paid to the processes, agents, settings, and socio-cultural contexts in which translations are produced. However, research conducted so far has dealt predominantly with European Union institutions and the United Nations. Research activity into institutional translation and translation policy has not focused extensively on International Non-governmental Organizations' (INGOs) use of translation and interpreting services and how their language choices affect aspects of inclusion or exclusion from activities.

Wine Tesseur's book seeks to establish the missing link between INGOs' use of translation and interpreting and their proclaimed inherent values and operational goals of sustainable development and social justice. It presents unique insights into how INGOs plan for translation and interpreting needs and addresses salient questions on how translation and interpreting provision can serve as a solution and contribute to addressing power imbalances that are exacerbated by language difference. The research that underpins it is highly collaborative and intends to simultaneously raise awareness in INGOs of the link between inequalities, power, and language, and encourage INGOs to be more reflective of their translation and interpreting practices and opt for more inclusive solutions.

Key Concepts Discussed

The analysis is structured around three main concepts. First, language policy and translation policy. According on Bernard Spolsky (2004), language policy includes language management (the formulation of an explicit plan or policy, often written in a formal document), language practices (what people actually do), and language

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beliefs or ideology (what people think should be done). This broad definition allows the exploration of what actually happens in practice and what beliefs shape practices and management tools in INGOs.

Second, social justice. Bell (2016, p.4) considers social justices as "reconstructing society in accordance with principles of equity, recognition, and inclusion, thus envisioning a world in which resources are distributed in an equitable and ecologically sustainable way, and where all members are safe, recognized, and treated with respect". The concept is conceptualized in the book as both a process and a goal, i.e., social justice should not the final aim but should be sought through participatory processes, which are respectful of human diversity and which should be inclusive and affirm people's capacity and human agency.

Third, translation-as-empowerment. Here, translation is considered as a tool that can help people to gain better access to information, hold INGOs to account, and engage in equitable dialogue. The concept allows for the expression of the positive difference that translation can make. Through this concept, Tesseur is emphasizing that translation is about more than creating access, it is about actively choosing to support communication and meaning-making processes in local languages, where English and other lingua francas stop being the go-to language(s) for holding conversations and creating knowledge. Translation thus becomes a tool through which local communities can exercise their agency, and a means through which INGOs can actively choose to relinquish part of their power by challenging their own use of English as the default language of communication.

The discussions present a critical, robust account of translation and interpreting in INGOs from a social justice perspective by exploring the role that languages, translation and cultural knowledge play in policies and practices of development NGOs. Drawing on ethnographic data collected from research projects, the monograph provides new academic insights, produce practical outputs of use to the NGO sector, provide more systematic evidence of the positive difference that translation and interpreting efforts make to the work of INGOs. The general focus is on language and translation policies and practices in INGOs and how a variety of INGOs deal with language barriers and translation and interpreting needs.

CASE STUDIES AND MAIN ISSUES DISCUSSED

The Profile of Languages, Translation and Interpreting in INGOs

In the prologue, Tesseur presents key research insights from translation and interpreting studies, sociolinguistics, language policy, and anthropology that help to understand the role of languages, translation and interpreting in the INGO sector and the wider context that INGOs work in. For example, Federici et al. (2019) and Footitt et al. (2020) who assert that translation and interpreting are often an afterthought in disaster preparedness, emergency response, and the planning of development programs. The central argument is that languages and translation and interpreting are generally accorded a low profile in INGOs and not considered as central, inherent components that contribute to better outcomes. She argues that translation needs tend to have a low profile in the next stages of NGO programming as they are often overlooked in program monitoring and final evaluations. Another key challenge faced by translation and interpreting is budgetary as budgets for translation and interpreting is low and professional provision of translation and interpreting is limited while those who use their translation and interpreting skills are often not recognized or supported for their efforts. Tessuer argues that these practices may lead to inadequate outcomes from a social justice perspective. The body of research also reveals the link between power and privilege and speaking lingua francas, such as English, which helps explain some of the underlying ideologies that have led to INGOs' negligence of translation and interpreting needs.

Translation Management in INGOs Throughout History

Tesseur explores key questions around INGOs' gradual development of translation management through the creation of language and translation policy statements and internal translation services. She examines how INGOs have managed their translation needs throughout their organizational history and how the creation of INGOs' translation policy statements and their internal translation services relate to INGOs' social justice aims and values through a case study on Save the Children UK. The discussion reveals that, it was translation that provided the necessary information for campaigning, and which ultimately led to the foundation of Save the Children (p.27). She further explores the link between translation management decisions and underlying beliefs or orientations regarding the role of translation in the organizations under analysis. Although the textual data that she draws on is varied, the different resources are complementary. These include material from the Save the Children UK archives, the Oxfam GB archives. The ensuing discussions reveal that the three language orientations described by Ruíz (1984), i.e. language-as-resource (translation as a resource for effective messaging, organizational impact, and growth), language-as-right (translation to ensure accessibility and inclusion, representing a social justice approach), and language-as-problem (translation-as-risk) can all be found in the development of INGOs' translation management tools, although some of these orientations have exerted more influence than others. Evidence presented in the book reveals the following three points; Firstly, policy and other internal documents from INGOs tended to

acknowledge the importance of translation-as-resource for organizational growth and impact. Secondly, the orientation of translation as a tool for inclusion is present in some of the policy documents and other written outputs from translation staff, but again its implementation seems vague and is contradicted by the limited remit of INGOs' internal translation services. Finally, the orientation of (professional) translation as risk management seems to be the most dominant motivator to institutionalize translation services.

Language and Translation Policy in Amnesty International

As both an authoritative research institution on human rights and a global movement of human rights activists, Amnesty. encounters challenges in aiming to be a global organization with one message presented by many voices. Tessuer argues that it has been challenging for the organization to align the need for urgency and plurality, which is necessary for its local campaigning work, with the need to deliver a clear, well-researched message in an authoritative voice. She discusses the tension around these competing needs and the role that translation plays in communicating that message through a case study of the translation of quotations in Amnesty press releases.

The discussion illustrates that, concerns about the role of translation in Amnesty were also concerns about who could speak for Amnesty, who was losing power, and who would be allowed to speak in future. While some translators considered themselves as part of the category that would lose power and control, some attitudes and beliefs on translation and language from translators illustrated exactly why decentralization was needed in Amnesty if it truly wanted to be diverse, inclusive, and horizontal in its ways of working. Efforts to decentralize the organization and to expand translation services to more languages were received with much apprehension by staff in various locations. While some considered translation as a tool for risk-management, (to safeguard the organization from reputational loss or risks posed to human rights victims), others, such as local press officers saw translation as a means to an end, (a means to ensuring maximum organizational impact. Whatever the stance, there was a pressing need to adapt Amnesty's material, including its institutional voice, to the local level.

Managing Volunteer Translators

Tessuer interrogates the risks and consequences of relying on volunteers for translation in a set-up where translations are not subject to careful proof-reading, and what this means in light of social justice values. Through a case study of Urgent Actions (UAs), Tessuer examines into how Amnesty deals with the need for urgent translation in languages that fall outside the remit of its Language Resource Centre.

Amnesty is known for its 'letter writing' tactic in human rights campaigning which involves sending Urgent Actions to its global network of activists by letter, e-mail, SMS or tweets. Rapid translation plays a crucial role in spreading this information across the network of Amnesty activists, who speak a wide variety of languages. Tesseur illustrates how Amnesty International Flanders managed its translations of UAs into Dutch through a network of 80 volunteer translators. A look at the risk, ethics, and quality in volunteer translation demonstrates that, the translation management choices resulted in translations that contained a high level of inconsistencies and errors which affected the readability, clarity, and overall meaning of texts leading to human rights victims' stories not being accurately represented. Although staff recognized that the translations were low in quality in terms of inaccuracies and inconsistencies, they nevertheless defended the practice by arguing that, the translations were not a priority because they were perceived as low-risk due to their intended purpose and target audience. The study contributes additional insights to research on volunteer translation, ethics, and translation quality.

Language and Translation Ideologies in INGOs

Tesseur shifts the focus of attention away from the few INGOs that have internal, professional translation services to INGOs that have not developed an integrated approach to translation and interpreting. She questions why so many INGOs bypass translations as a suitable solution for interlingual communication and explores some of the language and translation ideologies that allow and legitimize the use of English as a lingua franca in an international sector that is heavily associated with social justice aims. Ideologically, she explores if staff conceive of translation as a necessary evil or rather as a helpful tool that could create more linguistically inclusive working practice arguing that, an individual's language and translation beliefs can have an influence on both practices and management although some actors have more agency or individual power than others when it comes to influencing language and translation practices and management. The two interviews analyzed give access to the underlying language and translation ideologies of two people in management positions in an INGO, who despite identifying similar language challenges considered entirely different solutions, including a very different view of the suitability of translation to overcome language barriers.

Ad Hoc and Informal Practices

Through case studies which touch on a range of different practices, contexts, and language needs in the work of INGOs, Tesseur explores the extent to which informal translation practices can serve as tools of empowerment while also reflecting on their downsides. The key challenges with informal translation practices are that while they may increase accessibility and dialogue, they often go hand in hand with an increase in potential risks to INGOs' program participants and staff including issues with privacy breaches or misunderstandings arising from inaccuracies in translation. Tes-

seur asserts that, finding solutions that can work as a tool for empowerment, and balance the need for accessibility, better dialogue, and ownership with minimal risk is central in developing approaches to translation and interpretation that adhere to INGOs' social justice values. The case study on COVID-19 illustrates that informal translation can lead to successful outcomes when they are part of a collaborative process. She concludes by declaring that, informal translation practices are, and will continue to be, an important part of INGOs' multilingual work, arguing that they are often better than no translation at all, and their absence would automatically lead to more exclusion. Nonetheless, the risks of relying on informal solutions should be carefully assessed in each individual case.

Ideas for a More Socially Just Approach to Language and Translation in INGOs

Drawing directly on her interaction with INGOs, Tesseur presents a menu of ideas or actions that INGOs could take to develop a more socially just approach to languages and translation. She focuses on actions that can be undertaken on two different levels of an organization: firstly, the development of an organization-wide language policy, and secondly, ideas that INGO staff can draw on to enhance their informal translation and interpreting provision. One of the major ideas advocated for is the need for a written policy statement. She argues that a written policy statement can be a helpful instrument to set out basic agreements and guidelines on the use of language and translation in an organization. Although creating a written policy does not automatically lead to policy implementation, nor does policy creation necessarily lead to policy visibility, nevertheless, policy development can help to set a baseline and offer clarity regarding who has responsibility for what.

Key Findings

The research date presented points to the fact that INGOs' internal growth and processes of decentralization have influenced their translation and interpreting needs. For some INGOs, this has led to changes in the way they manage translation and interpreting provision. The study emphasizes that the institutionalization of translation through developing language or translation policies and through establishing internal translation departments mainly serves UK head offices and prioritizes translation into former colonial languages.

The research data also illustrates that INGOs' choices of translation and interpreting provision depends on the target languages (strategic lingua francas vs. local languages), the materials for translation, and the target audiences (external communication, such as press releases or research reports vs. materials intended for internal networks and collaborators, or guidelines for staff and partner organizations).

While some organizations make use of the services of professional translators, the study reveals that ad hoc, informal practices constitute the bulk of translation and interpreting activity in INGOs. They are often relied on because they are more practical, affordable, or feasible.

The research also uncovers some of the underlying ideologies held by management staff around multilingualism, translation, the status of English, and people's ability to learn other languages. Some of these beliefs present a distinct Western viewpoint, in which there is little space for considering solutions and support for those living outside privileged contexts who find it challenging to work in English.

The data discussed in the various chapters illustrates the interaction between language and translation management and practices and related ideologies. It shows that while the institutionalization of translation and interpreting services was initially primarily led by an orientation of translation-as-resource for organizational impact and growth as well as risk management, there are some hopeful signs that INGOs are slowly starting to recognize the relevance of language and translation to debates on diversity and inclusion, shifting power dynamics, and decolonization.

CONCLUSION

Tesseur's book provides new insights into the topics of translation policy and institutional translation in the relatively underexplored area of INGOs, both from a present-day as well as a historical perspective. By documenting the state of the art in research on translation policies and practices in international non-governmental organizations through a wide range of case studies from several INGOs, the monograph allows a compelling comparison of attitudes towards translation in various organizations in varying contexts and highlights the virtues of integrating different types of expertise in the study of translation policy in various organizations. In this way, it contributes in shedding new light on the role of translation in the everyday interaction between IGNOs and multilingual populations.

Although the book touches on key issues regarding language and translation in INGOs, there is limited engagement with multilingual strategies in INGOs' direct interactions with local communities. It only pays attention to the institutionalization of translation services by INGOs that serve their head offices. There is need to discuss the linguistic relationship between local communities and INGO. The book also focuses predominantly on INGOs with head offices in the UK completely leaving out INGOs especially those in the global south. In addition, Tesseurs' ideas are framed from a Western perspective. There is thus need for more research and data from non-western contexts to complement the Eurocentric and Western bias. Nonetheless, the book offers rich and illustrative case studies and contributes to a growing

body of research in Translation Studies that draws attention to its role in contexts of unequal power dynamics, particularly humanitarian and development settings. It will be of great interest to scholars in translation and interpreting studies, development studies, and international relations.

DECLARATION OF COMPETITING INTEREST

None declared.

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