Collaborative Writing in Classroom Instruction: A Synthesis of Recent Research

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ABSTRACT

This study aims to present how collaborative writing as a pedagogical practice has developed over the last decade. We conducted a synthesis of published research that has investigated collaborative writing from a variety of perspectives, in first and second languages, and in diverse contexts internationally including students in primary, secondary schools, and universities. Three general claims, supported by evidence, emerged from our analyses of 68 empirical studies published in refereed journals from 2006-2016: (1) technology has facilitated collaborative writing tasks; (2) most students are motivated by an improvement in their writing competencies in collaborative writing tasks; and (3) collaborative writing is effective in improving accuracy of student writing and critical thinking. Pedagogical implications will be briefly discussed.

KEYWORDS: collaborative writing, first and second languages, primary schools, secondary schools, and universities

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Introduction

Collaborative writing refers to the process which provides participants the opportunity to explore, discuss, cooperate and develop learning capabilities (Dobao, 2012; Heidar, 2016; Noël & Robert, 2004). Vygotsky argued that "social interaction precedes development; consciousness and cognition are the end product of socialization and social behavior" (Heidar, 2016). The foundation of collaborative writing was built on this Vygotskian notion of having to cooperate with others by contributing ideas in order for quality learning and growth to take place (Heidar, 2016). With the advancement of technology, teaching writing to students has also evolved with time. Technology and writing have been fused together to further provide an opportunity for learning, interactive and cognitive development amongst students to take place (Heidar, 2016; Noël & Robert, 2004; Tar, Varga & Wiwczaroski, 2009). Thus, it would be useful to examine the evolution of collaborative writing over the past ten years, and hopefully discover on how it can be further developed in years to come in the hopes of enriching both teaching and learning experiences.

Some studies were conducted to examine the usage of technology with collaborative writing (Calvo et al., 2011; Erkens, Jaspers, Prangsma, & Kanselaar, 2005; Hadjerrouit, 2014; Li, 2015). These studies have suggested that technologically mediated tools, such as wikis and blogs, could be used as potentially powerful means to foster collaborative writing by drawing upon the interactions and contributions of the participants through the history function, in order to measure the value of using technology with collaborative writing tasks (Erkens, Jaspers, Prangsma, & Kanselaar, 2005; Gress, Fior, Hadwin, & Winne, 2010; Hadjerrouit, 2014; Li, 2015). Some studies were also conducted to measure the effect and development of collaborative writing and computer-supported collaborative writing on participants' performance (Dobao, 2012). In fact, most of the results have shown that the quality of work is better when completed in groups or pairs. The feedback received from students was generally positive, with most students feeling affirmative about collaborative writing tasks. Therefore, these research studies suggest that the design of the collaborative writing task is important in order to provide the maximum learning opportunity for the participants (Wang, 2009).

The focus of these earlier works was mostly on the impacts and effectiveness of collaborative writing on its participants rather than looking at how collaborative writing tasks could be further developed and enhanced with the help of technology. There was little exploration in using technology. Furthermore, with the continuing interest in this topic from diverse perspectives, it is useful for us to try to amalgamate the available empirical research and attempt to explicate the impacts and effectiveness of collaborative writing. In short, the purpose of this review paper is to extend the previous and current knowledge on this topic by uncovering how collaborative writing has developed over the past ten years.

This review paper on collaborative writing contributes to future research in helping teachers and policy makers to further enhance the capabilities of collaborative writing in the classrooms. For example, in Singapore, the usage of collaborative writing is aligned with the Information and Communication Technology (ICT) Masterplan 4 of the Ministry of Education, where the system hopes to encourage students to be self-directed learners with greater personalization of learning through the use of technology. Educators in any context will be able to discover the different aspects that could help collaborative writing to be part of the curriculum and teaching pedagogy all across the world.

This paper will begin with the methodology section, where an explanation of how the articles were identified, selected and collated in order to capture the development and pattern of collaborative writing over the past ten years. This paper will then elucidate the findings on the impacts and effectiveness of collaborative writing on its participants, as well as the use of technology together with collaborative writing. The last section suggests future directions of collaborative writing in terms of research and pedagogical practice.

Methodology

To guide our inquiry, selection and interpretations of research publications, we formulated a central research question: What are the effectiveness and impacts of collaborative writing on students throughout the last ten years? We conducted systematic searches of the computer databases in the university library to identify research published between 2006 and 2016. We used the Education Resources Information Center (ERIC) via the Ebsco host portal. Given the large number, we narrowed down the list by focusing on empirical studies published in SSCI journals. 15 SSCI journals publishing research on collaborative writing were selected. These journals include Journal of Second Language Writing, Journal of Computer Assisted Learning, Assessing Writing, Journal of English for Academic Purposes, English for Specific Purposes, Innovation in Language Learning and Teaching, Language Teaching Research, Language Awareness, British Journal of Educational Technology, System, Journal of English for Academic Purposes, Language Learning and Technology, Teaching in Higher Education, ELT Journal, and TESOL Quarterly.

When searching for articles, we used a series of keyword combinations. This could be illustrated in an example where in one of the combinations, the words "collaborative AND writing" were used. Another example would be "collaborative AND writing AND technology". Moreover, since we decided to search for studies on the impact and effectiveness of collaborative writing on student learning and development, the keyword "participants", "impacts", "effective", "effectiveness", "positive", "negative" and "students" were added to the list to form various combinations. By using these keywords, we hoped that the database of the university library including the databases of the 15 journals could narrow the search and disclose articles that were useful for this review paper. Hence, from the keyword search, 117 articles were found but only 68 were indicated for further in-depth qualitative analysis. These 68 articles were selected based on their topic, research method, as well as their relevancy in helping to further enhance the understanding of collaborative writing. Qualitative analysis was chosen as the research method because it enabled us to interpret data and categorizing them thematically, overcoming the limitations created by numerical data, and thus this approach could substantiate a more balanced argument (Boodhoo & Purmessur, 2009).

With the research question in mind (i.e., What are the effectiveness and impacts of collaborative writing on students throughout the last ten years), we narrowed the codes into relatively fewer categories that were able to answer our research question in some way. After the categories have been reviewed against the data corpus, themes were constructed at this level: categories were grouped and refined to become themes. After the themes have been reviewed against the data corpus, they were finalized. This constant comparison (against data) process was used to ensure that the analysis is grounded in the data.

Findings

The selected published research on collaborative writing were from sources that vary in contexts and educational levels, which include students in primary, secondary, undergraduate and graduate contexts. The published research also displayed a diverse range in tasks and abilities with writers writing in either their first (L1) or second languages (L2) (see Appendix A).

Claim 1: Technology has facilitated collaborative writing tasks

Technology, specifically the web, is a powerful tool that could help make learning more engaging. Therefore, educators have been encouraged to use web tools as part of their instruction. Studies on the usage of technology with collaborative writing task have provided extensive descriptions on the effectiveness in using technology to facilitate learning through collaborative writing tasks (Brodahl, Hadjerrouit, & Hansen, 2011; Calvo et al., 2011; Hadjerrouit, 2014; Kessler, Bikowski, & Boggs, 2012), extending on the previous knowledge of collaborative writing where it was used to facilitate collaborations through manual methods such as group discussions in classrooms. Due to the advancement in technology, there is an increase in the amount of collaborative writing research involving the use of technology over the past ten years. These studies on the usage of technology managed to describe in detail the process of collaborative writing, while acknowledging the challenges with technology in the collaborative writing process (Ballard & Ballard, 2013; Bikowski & Vithanage, 2016; Campbell & Pullinger, 2013; Chen, Xie & Looi, 2012; Iyer, 2013; Prinsen, Volman, Terwel, & van den Eeden, 2009).

Some studies demonstrated that technology has enhanced collaborative writing tasks through the usage of a software that combines "a word processor, a chat facility, access to a private notepad and online information sources" (Ballard & Ballard, 2013; Hafner, 2013; Zhou, Simpson & Domizi, 2012). With the readily available resources on the web, such as Google Docs and TitanPad, educators are able to design a collaborative writing task for teaching and learning purposes. Some studies that investigated the effectiveness of collaborative writing through the usage of wikis, blogs, online writing facilities have found that the quality of the students' products are better when working in groups and while using a technological tool to assist them with their tasks (Hadjerrouit, 2014; Li, 2015; Mcdonough & Sunitham, 2009; Miyazoe & Anderson, 2010; Warschauer, 2010).

When examining discussions in a wiki, researchers found that the online collaborative environment has helped to redefine students' ideas of ownership (Gress, Fior, Hadwin, & Winne, 2010; Li & Kim, 2016; Morton-Standish, 2014). Technological tools, such as wikis, could help build students' authorial presence as they allow for a large number of collaborators to contribute and work together, share ideas and clarify thoughts (Kessler, 2009; Onrubia & Engel, 2009; Wollscheid, Sjaastad, Tømte & Løver, 2016), resulting an increase in critical thinking throughout the collaborative writing process (Suwantarathip & Wichadee, 2014; Teow, 2014; Wheeler, Yeomans & Wheeler, 2008). This, however, is dependent on the task instructions as some studies highlighted that the usage of technology with collaborative writing could dampen the performance of the students. Due to the fast pace of technological development, information diffusion and digitization of learning (Kavaliauskienė & Kaminskienė, 2010; Teow, 2014; Trentin, 2009), almost every piece of information can be found online. Hence, it is crucial for collaborative writing participants to be able to use their critical thinking skills throughout the writing process (Kessler, Bikowski & Boggs, 2012; Campbell & Pullinger, 2013; Teow, 2014). They should not believe everything said by online

journal articles; they should view everything they learn critically. They should practise such critical thinking when doing reading on the web.

In summary, computer-supported collaborative writing studies have demonstrated that collaborative writing environment that incorporates critical thinking instruction has improved students' thinking skills and literacy. Students' online discussions will also be developed towards higher levels of interaction with debates and clarifications made throughout the writing process (Aydin & Yildiz, 2014; Kavaliauskienė, 2010; Mak & Coniam, 2008), suggesting that technology has facilitated collaborative writing tasks. Nonetheless, the task is only successful if there is an effective blend of adaptive instruction, which offers not only technology to be used as a platform for collaborative writing, but also opportunities for critical thinking-infused collaborative writing activities that can potentially foster both critical thinking skills and literacy outcomes (Chong, Tan, & Mardziah, 2011; King, 2015, Kuteeva, 2011; Yang, Gamble, Hung, & Lin, 2014).

Claim 2: Most students are motivated by an improvement in their writing competencies in collaborative writing tasks

Some studies over the past ten years have suggested that students are motivated by an improvement in their writing competencies in collaborative writing. Motivation, in this context, refers to student's affective behavior and reaction towards the improved quality of their product. In fact, the majority of the studies pointed out that students felt motivated after participating in collaborative writing because the products that were created surpassed their expectations (Dobao & Blum, 2013; Ong & Maarof, 2013; Chen, Xie, & Looi, 2012). Students who worked in collaborative groups also reported being more satisfied with their classes and with their performance (Ong & Maarof, 2013). Many students found that the interaction that they had with their peers, especially during feedback and editing, helped them see the importance of improving their pieces. This made them motivated to apply the same set of skills to their individual work (Dobao, 2012; Ong & Maarof, 2013).

Studies have also found that that the products of collaborative writing have demonstrated the recommended quality of work, making this another factor as to why students are more motivated after collaborative writing tasks. When working in groups, students generally produce shorter but better texts in terms of task fulfillment, grammatical accuracy, and complexity (Prinsen, Volman, Terwel, & van den Eeden, 2009; Shehadeh, 2011; Yeh, 2014), as collaboration gave students the opportunity to gather ideas and provide each other with feedback.

Studies have also found that students tend to be more positive and open to collaborative writing tasks as it could help them with language learning. This was indicated in a number of studies where students declared that collaborative writing was useful in helping them to improve their grammatical accuracy and vocabulary acquisition (Dobao, 2014; Prinsen, Volman, Terwel, & van den Eeden, 2009; Shehadeh, 2011; Yeh, 2014). In particular, peer feedback can improve the quantity and quality of peer talk, and increase student interaction and negotiation in the writing process. Students also thought that, while discussing and interacting with their group members and with the support and guidance from their teacher, they improved their English vocabulary, gained new ideas and perspectives, and enhanced their learning about text coherence. All of which led to improvement in their writing competencies, as indicated by students' assessed writing performance (Storch, 2005; Ong & Maarof, 2013).

In short, the above studies have shown that students are motivated by an improvement in their writing competencies in collaborative writing. When it comes to improving grammatical accuracy, students stated that it is easier to correct other people's errors than their own (Dobao, 2012; Yeh, 2014). Hence, providing students the opportunity to learn skills, such as the "critical editing eye", which in return is useful, beneficial and applicable for use in individual writings in the future.

Claim 3: Collaborative writing is effective in improving accuracy of student writing and critical thinking

Over the past ten years, some studies have documented the effectiveness of collaborative writing in applying linguistic knowledge, such as grammar, text coherence and cohesion, in writing (Chittooran, 2015; Dobao, 2012, 2014; Dowse & van Rensburg, 2015; Nixon & McClay, 2007; Sajedi, 2014). Some studies have also documented collaborative writing has helped improve students' writing quality in terms of content, organization, grammar and vocabulary (Dobao, 2012, 2014; Dowse & van Rensburg, 2015). Some studies found that there are no differences in terms of fluency and complexity, but the texts written in groups/pairs were significantly more accurate than those written individually (Nixon & McClay, 2007). The above studies suggest that collaborative writing helps improve students' work through the process of collaboration and interaction.

In addition, studies have also shown that collaborative writing have helped students improve in academic achievement and test scores, higher-level thinking skills, and critical thinking (Neumann & McDonough, 2015; Tar, Varga, & Wiwczaroski, 2009; Wong, Lin, Sung, & Lin, 2011). Specifically, studies found that collaboration with peers has been found to promote critical reflection and thinking among college students (Tar, Varga & Wiwczaroski, 2009). In fact, studies with secondary students found that engagement with peers encouraged thought provoking activities including honest dialoguing and questioning. This collaborative writing process known as the negotiation process promoted active reflection (Latawiec, Anderson, Ma, & Nguyen-Jahiel, 2016).

Collaborative writing has helped to foster language learning and writing conventions development (Silby & Watts, 2015; Suzuki, 2008, Wette, 2014). Through collaborative writing, students are "impelled to make decisions about the language needed to express their ideas, and thus to formulate the structure in which to express those ideas as they produce a text together" (Suzuki, 2008).

To sum up, collaborative writing and its interaction feature provide learners with opportunities to use language, and to reflect on their own language use (Nosratinia & Nikpanjeh, 2015; Suzuki, 2008). Through the act of writing collaboratively, learners engage in a dialogue that impels them to notice gaps in their L2 production and to test assumptions regarding language and literacy acquisition. All these can help improve accuracy of student writing and sharpen their critical thinking skills.

Discussion

The research synthesized above suggest that collaborative writing can be further facilitated through the use of technology; most students are motivated by an improvement in their writing competencies in collaborative writing tasks; and collaborative writing is effective in improving accuracy of student writing and critical thinking. Some studies have shown that the use of technological tools together with collaborative writing tasks has helped to enhance

student writing abilities. This finding can be considered consistent with Gan's (2015) insights that web-based writing tasks are important tools to enhance the educational experience of students and their collaborative writing curve. Collaborative writing with the help of technology has helped to foster critical thinking skills of the participants.

Findings have shown that collaborative writing may motivate students to develop their writing skills. However, the proficiency of the language plays a significant role in the success of collaborative writing on its participants (Wong, Chai, Aw, & King, 2015). This was demonstrated in studies where language teachers agree that the students' proficiency in the language of instruction is important in order for the students to be motivated during and after their collaborative writing tasks (Kožuh, et al., 2015; Wong, Chai, Aw, & King, 2015). In fact, research has shown that students tend to be more motivated when working in their first language as the language of instruction, compared to working with their second language (Shehadeh, 2011; Storch, 2005).

Some research may not support the argument that collaborative writing could help students to be motivated in developing their writing skills. For example, English as second language (ESL) students may face difficulties when writing collaboratively. This in turn may affect their level of motivation and success of the collaborative writing tasks (Dobao, 2012; Shehadeh, 2011). Their lack of proficiency might silence them and their contribution to the writing task at hand. This may offset the advantages of collaborative writing tasks as the tasks are aimed at helping students acquire the academic communicative competencies and skills that they need through interactions in order to achieve success in writing (Manathunga & Hernández-Leo, 2015; Prinsen, Volman, Terwel, & van den Eeden, 2009; Shehadeh, 2011).

In fact, some research studies suggest that students do not appreciate writing together. They are not motivated to participate in collaborative writing tasks because of continued disagreements and member incompatibility (Bremner, 2010; Meyer, 2014). Teamwork plays an important role in the success of collaborative writing. Most participants commented that it is difficult to work with people that they are not familiar with. This point is demonstrated in some studies where the products from the group of friends are of a better quality than the group of different familiarity levels (Meyer, 2014). On the other hand, research also shows that the success of collaborative writing is dependent on the responsibility that each student takes on (Spector et al., 2016). Despite being friends, some participants felt that there could be complacency when writing with friends, as people tended to be too comfortable and avoid responsibility causing others to take up more work and more responsibilities (Meyer, 2014).

Findings have also shown that both higher-proficiency learners and lower-proficiency learners benefit from collaborative writing experience (Rardin & Moan, 1971; Weinstein & Bearison, 1985). Research has shown that students with lower English proficiency managed to focus mostly on vocabulary and grammar while composing their texts; students with higher English proficiency focused more on cohesion, content, and rhetoric (Elola & Oskoz, 2010; Wang, 2009). However, when they are mixed into groups of different proficiency levels, students of the lower proficiency are able to manage and learn organizational skills from their peers with higher proficiency (Naghdipour, 2016; Yang, 2014; Yeh, 2014).

The above studies demonstrate the effectiveness of collaborative writing, as it affirms Vygotsky's notion of the zone of proximal development (ZPD) (Hanjani & Li, 2014; Heidar, 2016; Thompson, 2012; Vass, 2007; Yeh, 2014). ZPD is defined as the distance between the actual developmental level as determined by independent problem solving and the level of

potential development as determined through problem solving under adult guidance, or in collaboration with more capable peers. Through collaborative writing, students who are of lower proficiency may be able to develop the target skills with the help of their more capable peers. The scaffolding may suggest that collaborative writing is effective in helping to enrich cognitive development.

Studies also suggest that the number of students working at one time could affect their writing experience (Psaltis & Duveen, 2007). Particularly, students working in groups of four reached a higher percentage of correctness in their writings than students in pairs. Students working in pairs did better than those writing individually and the ones working in groups of three (Latawiec, Anderson, Ma, & Nguyen-Jahiel, 2016). This could be due to the level of interaction that occurred throughout the writing process (Psaltis & Duveen, 2007).

Nevertheless, some studies do not support the idea of measuring the level of correctness, as they believe that the concept of collaborative writing is to help one to become a better writer, and not to improve one's writing scores. These studies have highlighted that the level of proficiency plays a part. It is unfair to compare the results of students with different proficiencies but rather to mix them up and measure the improvement that they have made overall (Mcdonough & Sunitham, 2009; Noonan & Coral, 2013; Nosratinia & Nikpanjeh, 2015).

Conclusion

The present body of 68 studies suggested that the use of technology has facilitated the collaborative writing tasks as it has helped to redefine participants' ideas of ownership (Gress, Fior Hadwin & Winne, 2010; Li & Kim, 2016; Morton-Standish, 2014), as collaborative writing allows for a large number of participants to contribute and work together, sharing ideas and clarifying thoughts. This review paper could also be a start in providing an overview of the gaps in research studies and thus, could initiate future research in the area of collaborative writing. Studies have ventured into the use of technology and have suggested the effectiveness of using technology together with collaborative writing in improving students' interactions and motivation to write (Dobao, 2012; Ong & Maarof, 2013). This paper could help to extend the research on technology use with collaborative writing tasks by explicating its limitations and potential, particularly when used in primary or secondary classrooms, as it would be interesting to identify the dynamics in the use of technology and collaborative writing tasks with younger students. This paper may help educational institutions to inform their staff about academic knowledge on collaborative writing, so that it could be used in primary and secondary schools and university campuses as examples for the educators of tomorrow. It can help teachers to understand the purpose of collaborative writing, as it is crucial for them to acknowledge the potential in enhancing their students' cognitive development when using collaborative writing in their classrooms. It could have implications by affording pedagogical involvement (e.g., using instructional software such as Google Classroom and Peerceptiv) through a clearer understanding of collaborative writing for educators across the world.

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Appendix A Focus of analysis, participants, country of research, and language discussed in the studies.

Focus of analysis	Study	Number of participants	Participants / Other (specify)	Country of Research	Language (L1 = first language; L2 = Second language)
Use of Technology	Chen, Xie & Looi (2012)	22	Grade 2 students	Singapore	English (L1)
	Hadjerrouit (2014)	16	Undergraduates	Norway	English (L2)
	Kessler, Bikowski, & Boggs (2012)	38	Scholars	USA	English (L1)
	Calvo, et al. (2011)	207	Undergraduates	Australia	English (L1)
	Brodahl, Hadjerrouit, & Hansen (2011)	201	Undergraduates	Norway	English (L2)
	Campbell & Pullinger, 2013	2	Instructors	UK	English (L1)
	Wen, Chen & Looi (2012)	2	Instructors	Singapore	English (L1)
	Iyer (2013)	12	Undergraduates	Thailand	English (L2)
	Bikowski & Vithanage (2016)	59	Undergraduates	USA	English (L2)
	Prinsen, Volman, Terwel & van den Eeden (2009)	190	Primary school students	The Netherlands	Dutch (L1)
	Ballard & Ballard, (2013)	1	Graduate student	USA	English (L1)
	Zhou, Simpson & Domizi (2012)	35	Undergraduates	USA	English (L1)
	Hafner (2013)	1	Instructor	Hong Kong	English (L2)
	Warschauer (2010)	1	Instructor	USA	English (L1)
	Miyazoe & Anderson (2010)	61	Undergraduates	Japan	English (L2)
	Li (2015)	56	Undergraduates	Hong Kong	English (L2)
	Mcdonough & Sunitham (2009)	48	Undergraduates	Thailand	English (L2)
	Gress, Fior Hadwin & Winne (2010)	-	Review of 186 articles	Canada	English (L1)
	Morton-Standish (2014)	1	Instructor	Australia	English (L1)
	Li & Kim (2016)	29	Graduate students	USA	English (L1)
	Onrubia & Engel (2009)	1	Instructor	Spain	Spanish (L1)
		11	Students		
	Kessler (2009)	40	Undergraduates	USA	English (L2)
	Wollscheid, Sjaastad, Tømte & Løver (2016)	29	Primary School students; 5 teachers, 1 school leader	Norway	Norwegian (L1)
	Suwantarathip & Wichadee (2014)	80	Undergraduates	Thailand	Thai (L1)
	Wheeler, Yeomans & Wheeler (2008)	35	Undergraduates	UK	English (L1)
	Teow (2014)	1	Instructor	Malaysia	English (L2)
	Trentin (2008)	30	Undergraduates	Italy	Italian (L1)
	Kavaliauskienė & Kaminskienė (2010)	75	Undergraduates	Lithuania	English (L2)
	Mak & Coniam (2008)	4	Secondary School students	Hong Kong	English (L2)
	Aydin & Yildiz (2014)	34	Undergraduates	Turkey	English (L2)
	Kavaliauskienė (2010)	25	Undergraduates	Lithuania	English (L2)
	Chong, Tan & Mardziah (2011)	23	Secondary School students	Malaysia	English (L2)
	King (2015)	309	Undergraduates	Hong Kong	English (L2)

	Kuteeva (2011)	14	Undergraduates	Sweden	English (L2)
	Yang, Gamble, Hung & Lin (2014)	83	Undergraduates	Taiwan	English (L2)
Student Motivation	Dobao & Blum (2013)	147	Undergraduates	USA	Spanish (L2)
	Ong & Maarof (2013)	30	Junior College students	Malaysia	English (L2)
	Dobao (2012)	111	Undergraduates	USA	Spanish (L2)
	Storch (2005)	23	Undergraduates	Australia	English (L2)
	Shehadeh (2011)	38	Undergraduates	UAE	English (L2)
	Prinsen, Volman, Terwel & van den Eeden (2009)	190	Primary School students	The Netherlands	Dutch (L1)
	Yeh (2014)	54	Undergraduates	Taiwan	English (L2)
	Neumann & McDonough (2015)	19	Undergraduates	Canada	English (L2)
	Mendelowitz (2014)	1	Instructor	South Africa	English (L1)
	Mutwarasibo (2013)	34	Undergraduates	Rwanda	English (L2)
	Barton & Heiman (2012)	1	Instructor	USA	English (L1)
	Nosratinia & Nikpanjeh (2015)	60	Undergraduates	Iran	English (L2)
	Dobao (2014)	110	Undergraduates	USA	Spanish (L2)
	Vass, Littleton, Miell, & Jones (2008)	24	Primary school students	UK	English (L1)
Enrichment of Learning Experience	Dowse & van Rensburg (2015)	16	Postgraduate students	South Africa	English (L2)
	Sajedi (2014)	86	Undergraduates	Iran	L2
	Nixon & McClay (2007)	3	Instructor	Canada	English (L2)
	Bremner (2010)	-	8 Textbooks	Hong Kong	English (L1)
	Elola & Oskoz (2010)	9	Undergraduates	USA	Spanish (L2)
	Wang (2009)	96	Undergraduates	Singapore	English (L1)
	Naghdipour (2016)	9	Primary school students	Iran	English (L2)
	Yang (2014)	13	Undergraduates	Canada	English (L2)
	Hanjani & Li (2014)	10	Undergraduates	Iran	English (L2)
	Vass (2007)	24	Primary school students	New Zealand	English (L1)
	Wong, Lin, Sung & Lin (2011)	31	Elementary school students	Taiwan	Mandarin (L1)
	Tar, Varga & Wiwczaroski (2009)	–	Literature review	Hungary	English (L2)
	Latawiec, Anderson, Ma & Nguyen-Jahiel (2016)	180	Elementary school students	USA	English (L1)
	Silby & Watts (2015)	8	Elementary school students	UK	English (L1)
	Suzuki (2008)	24	Undergraduates	Japan	English (L2)
	Wette (2014)	7	Instructors	New Zealand	English (L1)
	Thompson & Wittek, (2016)	4	Secondary School students	UK	English (L1)
	Heidar (2016)	30	Language learners	Iran	English (L2)