

6-27-2019

Promoting L2 Idiomatic Competence among Chinese College Students via *WeChat*

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Promoting L2 Idiomatic Competence among Chinese College Students via *WeChat*

by

Zhengjie Li

A dissertation submitted in partial fulfillment
of the requirements for the degree of
Doctor of Philosophy
Department of Teaching & Learning
College of Education
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Date of Approval
March 25, 2019

Keywords: sociocultural theory, multimedia learning, computer/mobile assisted language learning, idiomatic competence, task-based approach, collaborative learning

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ACKNOWLEDGEMENTS

As Lao Tzu once said, “a journey of a thousand miles begins with a single step.” The very first step of writing this dissertation was bolstered with the help of my mentor, Dr. John I. Liontas, who has always been inspiring me to explore second language idiomaticity. With his mentorship, guidance, and support, I am able to write a final “period” on this dissertation.

I would also like to extend my sincere gratitude to the other three members on my dissertation committee, Dr. Sanghoon Park, Dr. Sara Smith, and Dr. Phil Smith for their invaluable advice and insightful feedback while I was taking this “a journey of a thousand miles” in the TESLA program at the University of South Florida. Dr. Park has been guiding me to understand how instructional technologies may maximize students’ learning as well as promote students’ second language development. Dr. Sara Smith played a pivotal role in leading me to utilize quantitative methods to explore second language motivation and to seek the relationship between bilingual education and executive functions. Dr. Phil Smith’s unconditional support not only empowered me academically to complete this Ph.D. program, but also shaped my identity as an ESOL/TESOL researcher. I am extremely grateful to all of my committee members for believing in me and spurring me to seek the truth and wisdom in second/foreign language education.

My sincere thanks also goes to Dr. Yi-Hsin Chen, who chaired my final oral dissertation defense. Further, I would like to thank all of my friends, colleagues, and families, both from the

United States (U.S.) and China, for their love and support during my five years in this Ph. D. program.

Most importantly, I am deeply indebted to my wife, Ke Cheng, who has been my source of strength throughout the ups and downs during my academic studies in the U.S. She is my angel who gives me a pair of wings that allow me to fly through the thunderstorm.

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ABSTRACT

Many second language (L2) scholars acknowledge that L2 idioms play a critical role in reading development as well as in communicative competence for L2 learners (Arnaud & Savignon, 1997; Barfield & Gyllstad, 2009; Conklin & Schmitt, 2008; Howarth, 1998; Lontas, 2017; Littlemore, Chen, Koester, & Barnden, 2011). Echoing the current trends of Computer Assisted Language Learning (CALL), much research has been done to underscore how L2 idiom learning can be infused with instructional technologies to promote L2 learners' idiomatic competence (see Luk & Ng, 1998; Nakata, 2011; Yang & Xie, 2013). However, what remains underexplored is the ways that L2 teachers and practitioners can advance L2 learners' idiomatic competence via multifarious mobile applications, especially the ones allowing L2 learners to access copious multimedia texts and visuals, exchange ideas and feedback, and maintain high motivation toward L2 idiom-oriented activities in an authentic and collaborative virtual learning environment. In addition, previous research focusing on L2 idiomaticity and CALL eludes L2 researchers regarding the question of what range of variation parameters of L2 idioms can be detected by the radar of mobile applications.

Based on Lontas' (1999) construct, Vivid Phrasal (VP) idiom, this study focuses on how social media applications can promote second language idiomatic competence among Chinese college students. It pursues three goals: (1) investigation of the effectiveness of a social media application, *WeChat*, (2) examination of the affordances of multimedia features on *WeChat*, and (3) exploration of college students' perceptions regarding the contributions of *WeChat*.

Specifically, the primary aim of this study is to investigate the effectiveness of adopting a social media application, *WeChat*, to promote idiomatic competence among the college students at a liberal arts college in China. The second aim is to examine the affordances of multimedia features on *WeChat* that affect idiomaticity training via the lens of Vygotskian sociocultural theory and Mayer's cognitive theory of multimedia learning. In particular, the training is anchored in a task-based methodology of idiomaticity teaching that takes into account the communicative competence prioritized in the curriculum of *Communicative English for Chinese Learners, Integrated Course One* and learners' interests as well as their active involvement. The third aim is to explore college students' perceptions regarding the contributions of *WeChat* to their English idiom learning and achievement. Such focus is particularly useful for ESL/EFL researchers and practitioners in that it provides significant insights into social media use for promoting L2 idiom learning as well as time-tested practices for future theorizing and research. The findings indicate that (1) *WeChat* afforded L2 learners opportunities to work collectively toward idiom-oriented tasks and activities with high motivation and (2) the multimedia features on *WeChat* empowered L2 learners to decode and comprehend L2 VP idioms more effectively, as well as achieve better memory retention of L2 VP idioms. It is hoped that the research findings presented herein will inform ESL/EFL researchers and practitioners about the conditions of optimal idiom learning supported by Computer-Assisted Language Learning technologies and Mobile-Assisted Language Learning (MALL) technologies in an explicit and systematic way, thereby helping English learners comprehend and produce VP idioms effectively and appropriately in both social and online environments.

CHAPTER ONE: INTRODUCTION

Background of Study

In the past, technologies seemed not to have too much intersection with humanities. But the success of Apple Corporation made people understand that “technology alone is not enough—it’s technology married with liberal arts, married with the humanities, that yields us the results that make our heart sing” (Lehrer, 2011). This “marriage” can also find its rising importance in the field of Computer Assisted Language Learning. To that end, this study is about using social media to promote second language (L2) idiomatic competence in a liberal arts college in China with a sociocultural approach. Liantas’ (1999) asserts that all languages in the world make frequent use of idiomatic expressions, most of which are socioculturally, historically, or politically based. Wulff (2010) states that idiomaticity “is best conceived of as a scalar and complex concept and that any multi-word expression can be placed on a collocation-idiom continuum according to its idiomaticity” (p. 14).

The development of idiomatic competence is essential to second language acquisition research or methodology because idiomatic competence “includes both linguistic (phonology, morphology, syntax, semantics) and pragmatic (nonlinguistic, paralinguistic, sociolinguistic/functional, discourse, personal/world, intra/intercultural) knowledge” (Liantas, 2015, p. 625). By extension, Liantas (1999) defines a term *idiomatic competence* which “the ability to understand and use idioms appropriately and accurately in a variety of sociocultural contexts, in a manner similar to that of native speakers, and with the least amount of mental

effort” (p. 441). Many technological applications for social interaction have brought attention to L2 acquisition. Yet scarcity of research upon how social media technologies and to what extent they can contribute to learners’ L2 idiomatic development has remained a major obstacle in the teaching and learning of L2 idiom learning in the classroom and beyond (Liontas, 2006; Monica-Ariana & Anamaria-Mirabela, 2014; Tabatabaei, 2012). As Liontas (2017) stresses, “understanding idiomaticity in CALL addresses this gap in an effort to foster a new kind of CALL knowledge concerning the reconstructive nature of idiomatic understanding and production in English” (p. 38). Today, many English as a second language (ESL) teachers at the college level in China report that they are not digitally “savvy” and may even feel marginalized in the schools because they are unable to access the current trend of incorporating various technologies to their L2 classes. Indeed, the promotion of L2 idiomatic competence via technological support in the academic curriculum is essential to college students’ academic development. However, more research is needed to investigate the effectiveness of social media enhanced instruction in the ESL idiom learning context.

Since social media technologies tend to highlight students’ perceptions and motivations, English learners (ELs) may find it beneficial to promote their L2 literacy development and become active participants in a tech-supported learning environment. While applications of Web 2.0 may help ELs develop their digital literacy and L2 communicative skills even further, doing so successfully, however, remains a major challenge for Chinese college students and professors alike. This study addresses these concerns and presents statistical analyses to promote L2 idiomatic competence among ELs whose L1 is Chinese. It then describes learners’ idiom learning process in a collaborative environment supported by *WeChat* and reports their impressions of the use of social media technologies in the ESL classroom. Theoretical

considerations about sociocultural theory and instructional technology are visited and practical applications are demonstrated.

Research Questions

The following three main research questions guided this study.

1. Can *WeChat*-Enhanced instruction promote L2 idiomatic competence among Chinese first-year college students?
2. Is there a difference in overall learning experiences between students who use *WeChat* for Vivid Phrasal (VP) idiom learning and those who do not? If so, what is the nature of these differences in the overall idiom learning experience between students who use *WeChat* and students who do not?
3. How do these students perceive the contribution of the mobile application, *WeChat*, to their English idiom learning and achievement?

Personal Perspective

My interest of learning idioms started during my high school Bible study group. Every Saturday, my friend and I, both having great passion in learning English, kept a routine of going to a local church in my hometown, Beihai City, China, and practicing our English with a pastor from Canada. The learning context was orchestrated in a format of Bible study that was facilitated by the Canadian pastor who led us to review a series of famous stories (verses) in the Bible. The more I read the Bible, the more I became fascinated with the stories in it, such as *Adam and Eve*, *Noah and the Ark*, *the Exodus*, *Jesus' Birth*, and *Peter Walking on Water* (Biblica, 2011). Indeed, I found understanding the idioms in the Bible was a great challenge to

me and my church friends. Most of the time, we had to rely on the aid from the Canadian pastor offering contextual support, equivalent verses in Chinese, animated pictures, or daily life examples to help us decipher these complex idioms, such as *eye for eye, tooth for tooth, fall from grace, nothing but skin and bones, pride comes before a fall*, and so on. Even while I was pursuing my undergraduate study in college, a lot of idioms from my English literature classes eluded me and demanded more time in decomposing them and learning them.

In Spring 2015 I took a class called, *Cultural Norms and Practices from Around the World* with Dr. John Liontas during my doctoral study of USF. In this class, I came to realize that idioms categorized as Post-Lexical Level (PLL) may or may not be comprehensible out of context, and perhaps even in context, because such PLL idioms do not match native-language idioms either lexically or pictorially (Liontas, 2002). In particular, Liontas (1999) explains that when a PPL idiom does not exist in the learner's L1 language, or even if it exists, but is embedded in lexical items that evoke a totally different thought or mental image. Such an idiom will make the learner “come to rely primarily on the semantic, syntactic, and pragmatic contextual cues, and draw upon his or her own native idiomatic knowledge and previous language and sociocultural experiences before assigning a definite meaning to this PLL idiom” (p. 188). For example, *pulling one's leg* is a PLL idiom as it does not literally mean the action of pulling someone's leg; rather it means to fool someone with a humorous account of something or to get someone to accept a ridiculous story as true.

Bearing this in mind, I endeavored to explore an effective idiom learning/teaching pedagogy by integrating Computer-Assisted Language Learning (CALL) with collaborative learning. Fortunately, my Ph.D. program in Technology in Teaching and Second Language Acquisition (TESLA) empowered me to think deeply about this topic of combining idiom

learning with CALL. In designing my study, I would like to study this topic via the lens of a sociocultural perspective and explore the connection between idiom learning and CALL. Against this backdrop, my study is aimed to find out which CALL or MALL technology is best positioned to support English idiom learning and increase students' motivation. The mobile application, *WeChat* particularly, is introduced to spearhead idiom learning because of its known affordances of collaboration, multimedia features, and accessibility (Shi, Luo, & He, 2017).

The digital age has been shaping the ways people communicate, allowing people to exchange ideas more efficiently and creatively regardless of distance and time, and this finds no exception in the field of second language teaching and learning. Driven by my interest how best to integrate CALL with L2 idiom learning, I reviewed many CALL studies, aiming to understand the critical perspectives that are manifested via the history, theory, pedagogy, and empirical research in second language acquisition couched within a bulk of computer-assisted or Web 2.0-supported applications or programs (see Barson, Frommer, & Schwartz, 1993; Brown, 2007; Chapelle, 2005; Egbert & Petrie, 2005; Kern, 2006; Munca, 2008; Rahimi & Fatemeh Hosseini, 2011; Richardson, 2006; Warschauer, 1996b; Warschauer & Kern, 2000). Nevertheless, little research has been conducted to investigate how social media can attribute to students' L2 idiomatic competence. For this reason, I conducted a *WeChat*-mediated idiom learning study at a liberal arts college in China where I completed my undergraduate study. By conducting this study, I explored the effect of *WeChat* in promoting students' L2 idiomatic competence derived from their learning achievements, perceptions, and motivation.

Purpose of Study

Beyond a shadow of a doubt, L2 idioms are considered the most challenging parts for L2 learners to acquire since many of them are extremely opaque to the extent that L2 learners may not decipher them based on literal meanings. This is mainly because L2 idioms are stemmed from critical factors such as cultures, histories, civilizations, or legends, requiring L2 learners to go beyond syntactic and semantic structures of a second language. This challenge among L2 learners can be even more evident when they are wrestling with the Post-Lexical Level (PLL) idioms, which are “those target idioms which lexically/pictorially do not match the domain idioms” (Liontas, 1999, p. 42). In other words, L2 learners may experience a formidable challenge when they encounter idioms that are not analyzable in terms of the semantic spectrum of a second language. Specifically, this study investigates how a social media application, *WeChat*, can contribute to the English idiomatic competence, in particular, the learning of English PLL idioms, among Chinese college students.

Research has consistently demonstrated the benefits of collaborative learning and computer-mediated communication (CMC) (e.g., Blin & Appel, 2011; Chao & Lo, 2009; Kessler, Bikowski, & Boggs, 2012; Li & Zhu, 2013; Martinsen & Miller, 2012; Strobl, 2014; Wang, 2015). Blake (2000) argued that doing tasks within the CMC medium seems to constitute ideal conditions for second language acquisition (SLA). Indeed, performing such tasks generates apperceived input that characterizes the awareness of new L2 information that is not yet part of the learners’ L2 repertoire (see also Gass, 1997). The apperceived input can then be used to modify and improve students’ vocabulary (Blake, 2000, p. 133). For example, collaborative learning has resulted in higher achievement and retention with greater transfer of knowledge from one situation to another than traditional individual learning (D. Johnson, R. Johnson, &

Holubec, 1994, p. 53). Conversely, Warschauer (1996a, 1997a, 1997b) proposed that CMC in language learning does bring new and different dimensions to how people communicate and interact with other people, especially within the area of CALL. More importantly, collaborative learning affords students opportunities to engage with each other in discussion, and helps them take responsibility for their own learning, and become better critical thinkers, a position also echoed in the works of Gokhale (1995) and Totten, Sills, Digby, and Russ (1991). Social media technologies have attracted the attention of researchers in ESL and EFL education as a means of optimizing collaborative learning and enhancing learners' motivations in language learning. For instance, Yen, Hou, and Chang (2015) noted that online role playing activity in EFL learning context supported by *Facebook* and *Skype* promoted students' collaborative learning and allowed learners to create language actively with low anxiety levels. Additionally, Wang and Vasquez (2014) found out that *Facebook* could be used as an alternative pedagogical space for L2 literacy practice outside of class amid a group of Chinese learners in an American university.

Social media (henceforth called SM), or Web 2.0 based applications, include online chat forums, wikis, blogs, and social networking sites. Collectively, they make knowledge sharing easy and unobtrusive for the individual (Mondahl & Razmerita, 2014). With the fast-paced technology development, those social media tools facilitate communication and support both synchronous and asynchronous online socialization, allowing users to connect with others in a multi-dimensional way. Furthermore, many students have taken social media tools as part of their daily routines. Many researchers and educators have already begun exploring how these social networking environments and tools can potentially support meaningful language use while also offering a variety of opportunities for interpretive and creative language use, cultural

exploration, and rapport building (Chapelle, 2007; Mills, 2011; Thorne, 2011; Wang & Vasquez, 2014; Yen, Hou & Chang, 2015).

Idiom learning integrated with digital social tools such as wikis, blogs, *Facebook*, *WeChat*, and *Twitter*, for example, in a second/foreign language class captures the current trend of language learning research. As such, it is grounded in a view of learning in which social interaction is considered essential for creating meaning and knowledge (Liontas, 2017). Through the act of collaboration students are exposed to valuable input from others, and provide effective linguistic feedback for themselves and peers (Vygotsky, 1962, 1978). Sengupta (2001) asserted that students are likely to actively engage in online collaborative activities due to the public nature of the information and sense of accountability. It is, thus, essential to figure out the intrinsic relationship between collaborative idiom learning and social media technologies.

Against the backdrop of this information, this study investigates the effectiveness of technology-based instruction in students' collaborative idiom learning, as opposed to other teaching approaches. In order to understand this effectiveness, students from a liberal arts college in China were involved in an experimental study. The study was expected to last approximately 8 weeks. It describes how idiom learning via social media may affect students' perceptions of English learning and provide insights for language practitioners in understanding the importance of social media technologies in the development of learners' L2 literacy development. Specifically, *WeChat*, considered to be the most popular social networking applications to date in China, was employed in this study primarily because students view themselves more motivated to learn in a tech-supported collaborative environment. I believe that a tech-enriched learning environment does indeed enhance students' motivation and self-regulation, referring to students' self-generated thoughts, feelings, and actions that are systematically designed to affect learning

of knowledge and skills (Zimmerman, 2000). It is hypothesized that students involved in collaborative idiom learning supported by *WeChat* will outperform the students who practice their collaborative idiom learning in a traditional oral English class. *WeChat* may well present itself as an advanced platform for students to collaborate with high efficiency and motivation in a constructed learning environment.

Theoretical Considerations

This study is informed by sociocultural perspectives attempting to capture the context, action, and motives of language events between individuals who are simultaneously social and cognitive. In the field of SLA, Vygotsky's sociocultural theory presents itself as an enlightening idea explaining the relation between thought and language. Vygotsky (1978) stressed the importance of speech for human cognitive growth. His sociocultural theory sheds light upon the learning process of second language learners. Specifically, sociocultural theory advocates that humans utilize tools to regulate the material world and their own mental activities. In a SLA context, semiotic tools such as languages and multimedia technologies are subjectively created and assist second language learners acquire information amid peers of a particular learning group. Subsequently, many Vygotskian scholars, such as Lantolf, Thorne, Johnson, Donato, Swain, and others, extended Vygotsky's sociocultural theory to SLA, having been endeavoring to figure out how second language learners acquire language when they are put in a dialogically collaborative and interactive environment. In other words, L2 learners' academic interaction is essential in their learning process of second language acquisition and cognitive development.

Mediation

I assert that mediation is fundamental to language learning. The Vygotskian perspective suggests that human communicates via the use of languages, mediating the mind that bridges the individual understanding of ourselves and particular contexts and situations within the world (Nunn, 2001). Vygotsky (1978) views language as a social event, a shared social activity through which individuals develop their personality within a community rather than language being an isolated asset. Fundamentally, Vygotsky considers tools and language as the evolving products of learner's cognitive system. People use historically developed cultural artifacts, language and technological tools, more specifically, to mediate relationships with themselves, others, objects, and the world.

In addition, Vygotsky considers that thought is separated from language, taking root when interaction gives way and turns into monologue. Through monologues, children tend to communicate with themselves, producing words and sentences that are eluding to others. For him, language regulates and facilitates not only the child's manipulation of objects but also his or her behavior. The main function of speech is to serve as a mediator between two planes: the interpersonal (between people) and the intrapersonal (within the individual), which are mediated by linguistic signs that are originated social contexts (Johnson, 2004). Vygotsky (1978) stated that "the internalization of cultural forms of behavior involves the reconstruction of psychological activity on the basis of sign operations" (p. 57).

Aljaafreh and Lantolf (1994) found out that effective error correction and language learning rely significantly upon mediation provided by other individuals contributing to a dialogically co-constructed learning environment. They believe mediation needs to be contingent and graduate so learners may learn how to regulate their own learning with their progression

through a task involving collaborative endeavors and appropriate guidance from the teacher. Lantolf (1994) further explains that “mediation, whether physical [for example, tools] or symbolic [for example, language], is understood to be the introduction of an auxiliary device into an activity that then links humans to the world of objects or to the world of mental behavior” (p. 418). He (2000) maintains that “[t]he most fundamental concept of sociocultural theory is that the human mind is mediated” (p. 1).

The Vygotskian perspective, linking society to the mind through mediation, makes human communication via the use of the mediation of language the central object of analysis instead of treating language as a system. For instance, using *Facebook* in an ESL writing course mediates students’ learning of English language through their reading, posting, and interacting in English even on a virtual platform. Thus, social media technologies can be cognitive tools to bridge students’ understanding of a target language and particular contexts and situations within the world.

The Zone of Proximal Development

Another key construct of sociocultural theory is Vygotsky’s (1978) zone of proximal development (ZPD). He believed that the site where the language is shared and internalized through mediation is ZPD, 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” (p. 86). Teachers aside, students can learn from their peers if placed in a collaborative environment. Willis (2005) asserted that teachers should “let learners deploy whatever language they already have, and look for ways of building on that, of improving and expanding on their

current language capabilities” (p. 15). That is to say, in a collaborative environment, students can not only acquire knowledge from a teacher, but benefit from peers’ jointly worked outcomes. While working together, learners pool their varied resources and provide mutual scaffolding for one another, and attain a level of performance higher than their individual level of competency (Donato, 1994; Ohta, 2000).

In a tech-supported learning environment, students are able to explore more concepts with the help of more expert others, having time for reflection in a potentially more relaxed environment in which to use the L2. In pair or group work, learners can support each other and co-construct knowledge and solve problems during their interaction. In the CALL context, this requires researchers to design instruction with social media technologies that promote communication with others in a relevant setting, through goal-oriented writing tasks; meanwhile, it calls for an inclusion of collaborative idiom learning tasks mediated by the social media technologies across time and space to accommodate cognitive and social processes. While engaging in the collaborative idiom learning tasks, a multi-directional ZPD will lead learners to exchange information and feedback from others who serve as facilitators offering scaffolding support.

Affordances

The word affordance is forged by the psychologist Gibson (1979) to make reference to a reciprocal relationship between an organism and a particular feature of its environment. Forrester (1999) defines affordance, in the context of language, as “immediately recognizable projections, predictions, and perceived consequences of making this (and not that) utterance at any given time” (p. 88). van Lier (2000) further explains that “an affordance is a particular

property of the environment that is relevant—for good or for ill—to an active, perceiving organism in that environment” (p. 252). In terms of second language learning, if the language learner is active and engaged, he or she will perceive linguistic affordances and use them for linguistic action. Taking an ecological perspective to view SLA, Van Lier argues that the learner is immersed in an environment resplendent with certain potential meanings. Apparently, this notion of affordance is akin to Vygotsky’s (1978) *Zone of Proximal Development*, as both concepts highlight the interplay between a learner’s capabilities and the learning environment—researchers are not merely analyzing the affordances of the environment or an individual learner’s discrete linguistic input or output, but rather the “active learner” (van Lier, 2000, p. 253) and his or her interactions within the learning context. van Lier also associates affordances with linguistic resources (can be combined with semiotic resources) by asserting “the context provides *affordances* (possibilities for action that yield opportunities for engagement and participation) that can stimulate intersubjectivity, joint attention, and various kinds of linguistic commentary” (van Lier, 2004, p. 81). Additionally, Lantolf and Thorne (2006) substantiate that individual development is both afforded and constrained by the ZPD. In other words, the accomplishment of a particular activity results from the capacity to profit from different kinds of interaction and scaffolding within the ZPDs.

In the field of instructional technology, affordance refers to how various technologies provide opportunities to learn, providing structures and possibilities for participation (Day & Lloyd, 2007). The selection of technologies for the learning experience will depend on the type of learning corresponded with, as well as the possibilities for action that online learning can provide. When aligned with L2 research, affordance is described as “the way in which technology may facilitate or constrain language learning” (Levy & Stockwell, 2006, p. 192). To

this end, great attention needs to be paid to the sociocultural affordances focusing on interactive opportunities afforded by a learning community that involves participants' L2 meaningful negotiations. Moreover, as Hutchby (2001) argues, there is a “complex interplay between the normative structures of conversational interaction and the communicative affordances offered by different forms of technology” (p. 13). The affordances of each technology revolutionizes the ways L2 learners interact, and “in Computer Mediated Communication the technology plays a major role not only in the choice of language used, but also in the types of messages that can be conveyed, the social relationships that can be formed, the psychological pressure that participants may feel, as well as the choice of tool in conducting the communication” (see Levy, 2006). In this study, a mobile application, *WeChat*, with its affordances that enable students to elevate peer engagement and promote cognitive development, is believed to provide pedagogical applications for SLA researchers to study L2 collaborative learning.

L2 Motivation

Understanding L2 motivation is pivotal in the L2 instructional process as teachers are expected to consider what types of designs and approaches may maximize L2 learners' motivation, both intrinsically and extrinsically. However, the construct, L2 motivation, can be profound and complex since L2 learners are from diverse cultural and linguistic backgrounds. Gardner and Lambert (1972) informed L2 researchers that there are two types of motivation in L2 learning: 1) Integrative motivation: “where the aim in language study is to learn more about the language group, or to meet more and different people;” 2) instrumental motivation: “where the reasons reflect the more utilitarian value of linguistic achievement” (p. 267). In other words, L2 learners with integrative motivation desire to master an L2 and sculpt themselves into active

members of the target language community whereas an instrumental motivation drives L2 learners to improve their L2 with the goal of seeking career advantages or touching on some pragmatic domains (promotion, college entrance, salary raise, etc.).

Despite a lack of an agreement on the definition of the term, motivation, Dörnyei (1996) pointed out that motivation theories, by and large, lead researchers and teachers to understand humans' learning behaviors pertinent to choices, identities, and cognition. In order to unravel the motivational characteristics that undergird L2 learning, Dörnyei (2005, 2009) developed an instrument, the *L2 Motivational Self System*, which comprises three major components: the *Ideal L2 Self*, the *Ought-to L2 Self*, and the *L2 Learning Experience*. Specifically, the Ideal L2 Self wrestles with an L2 learner's desirable self-image that delineates his or her ideal relationship with the target language in the future. By contrast, the Ought-to L2 Self reflects an L2 learner's real competence of the target language and portrays someone's beliefs toward this learner's duties, obligations, and responsibilities. The third component, the L2 Learning Experience, captures the "'executive' motives related to the immediate learning environment and experience (e.g., the impact of the teacher, the curriculum, the peer group, the experience of success" (Dörnyei, 2009, p. 47). Testing the effectiveness of this instrument, You and Dörnyei (2016) conducted a study to investigate the L2 motivation among English learners from secondary schools and universities in China. They found that English learners in China are primarily instrumentally motivated, having positive ideal self-images associated with English learning. In addition, with students' increasing attitudes in learning English, they felt more integratively motivated and invested more time and efforts in English learning. Interestingly, Liu and Thompson (2017) reported that the English majors of the participated institutions in China had higher motivation in the Ideal Self than the non-English majors. Of note, they maintained that

English learners' stronger-Ought-to Self was associated with their lower English proficiency, suggesting that external pressure like anxiety and stress stemming from social or parental expectations may lead these English learners to have such low English proficiency.

Indeed, much research has been done to investigate the L2 motivation among English learners in China (see Li, 2014; Liu & Thompson, 2017; Xu & Gao, 2014; You & Dörnyei, 2016; Zheng, 2013). However, research pertinent to how CALL and MALL environments may impact on English learners' motivation in China is underexplored. To this end, it is important to examine the effective practice environments afforded by CALL and MALL in this context; equally, an ecological approach should be adopted to allow English learners in China to have ample English input and output as well as procure a bulk of opportunities to interact with their peers and instructor(s) on a potential CALL or MALL platform.

Cognitive Theory of Multimedia Learning

In recent years, much attention has been paid to the field focusing on how instructional technology can transform education and promote students' digital literacy (Cope & Kalantzis, 2010; Dobson & Willinsky, 2009; Guitert & Romeu, 2009; Jewitt, 2006), and the crux of achieving digital literacy is to underscore the multimedia learning empowered by instructional technology. This field about effect of media upon learning emerged from a famous debate between Clark and Kozma several decades ago. Although Clark's (1983) claim that "media are mere vehicles that deliver instruction but do not influence student achievement any more than the truck that delivers our groceries causes changes in our nutrition" (p. 445) was favored by many scholars, the trend has been converging to Kozma's (1994) "for-media" direction emphasizing that technology does influence learning. Saliently, Web 2.0 applications, such as blogs, online

discussion boards, *Flickr*, *YouTube*, *MySpace*, *Facebook*, *WeChat*, and so on, and the associated digital literacy of these applications has been increasingly (re)defining people's ideologies and this phenomenon finds itself no exception in the ESL and EFL context. Such applications have been paramount and indispensable tools for many language students and teachers (McBride, 2009). Students are no longer passive recipients of the content; instead, they are often actively engaged in constructing it (Dippold, 2009; Lomicka & Lord, 2009). Thus, ESL and EFL practitioners are suggested to be familiar with this current trend and put more emphasis upon Web 2.0 tools in second or foreign language teaching.

Surprisingly, in ESL and EFL contexts, Web 2.0 tools prevail ubiquitously and afford students to huddle in collaborative language learning beyond walls of a classroom. Today, many people only consider social media as a term for social interactions online. However, if well managed, social media can be brought to educational settings and utilized for language learning activities. Wang and Vásquez (2012) explained that over the last 15 years, which has been a paradigm shift in the language learning/acquisition research, moving from a cognitive orientation to a social one, and this paradigm concurs with the main characteristics of Web 2.0 technologies. By applying effective social media tool(s) to a class, many activities designed in Web 2.0 technologies can be used as sociocultural tools to mediate students' L2 literacy development through interaction with peers and instructors.

It is against this backdrop that Web 2.0 has given a new definition of learning and literacy as the internet has enabled greater social interactivity, inviting social media platforms to promote learning. The fundamental hypothesis underlying the educational artifacts from Web 2.0 is related to the cognitive theory of multimedia learning, also referred to as multimedia principle, assuming that "people learn more deeply from words and pictures than from words alone"

(Mayer, 2001, p. 31). Thanks to today's technologies, multimedia principle is well embraced in many fields such as education, psychology, business, and neuroscience. Specifically, Mayer and Moreno (2003) introduced nine principles of multimedia learning that provide guidelines for instructional designers to know how to format the educational content in a way that maximizes cognitive absorption of information:

1. Off-loading: Move some essential processing from visual channel to auditory channel.
2. Segmenting: Allow time between successive bite-size segments.
3. Pretraining: Provide pretraining in names and characteristics of components.
4. Weeding: Eliminate interesting but extraneous materials to reduce processing of extraneous material.
5. Signaling: Provide cues for how to process the material to reduce processing of extraneous material.
6. Aligning: Place printed words near corresponding parts of graphics to reduce need for visual scanning.
7. Eliminating redundancy: Avoid presenting identical streams of printed and spoken words.
8. Synchronizing: Present narration and corresponding animation simultaneously to minimize need to hold representations in memory.
9. Individualizing: Make sure learners possess skill at holding mental representations. (p. 46)

The nine principles of multimedia learning lead researchers and educators to focus on ways of improving how the brain attends to, processes, and stores multimodal information that can be easily recalled and applied to a wide variety of situations. They are based upon the “Three

Assumptions about How the Mind Works in Multimedia Learning” (Mayer, 2001, p. 44), which assert that (1) humans process verbal and visual information in separate channels (*dual channel*); (2) these channels are limited in capacity; and (3) storage and retrieval of information are improved when learners engage in relatively more active rather than passive processing. In other words, Mayer informs researchers and educators that learners are only able to process a finite amount of information in the dual channel at a time and they can synchronize incoming relevant verbal and visual information while actively creating “mental representations” (Mayer & Moreno, 2003, p. 50) that can be held in their working memory.

In terms of the interplay between second language acquisition and instructional technology, educators need to be fully aware of these principles so they may well utilize various effective technologies to expand students’ working memory and help them transfer the acquired information to their long-term memory. On the one hand, because many young learners’ cognitive load is limited, it is essential to incorporate multimedia features such as audio, images, videos, and animations to motivate them to engage in the language learning process and interact with their peers. On the other hand, these multimedia features, if used appropriately and guided by the nine principles, will facilitate their understanding so the acquired information will be stored in their long-term memory. Reiser and Dempsey (2012) state that “working memory permits the learner to hold information briefly in mind to make further sense of it and to connect it with other information that is already in long-term memory” (p. 58). Especially in the reading and writing of English learning, young learners tend to have fairly low tolerance with heavily textual content due to their limited working memory. Therefore, it is essential to rely on some effective technological tools incorporating multimedia features that may optimize the learning process for students and ultimately reduce students’ cognitive load. Interestingly, this multimedia

principle is well resonated by Buckingham (2008) who argued that students are encouraged to produce their own multimodal texts in which they combine “written text, visual images, simple animation, [and] audio and video material” (p. 85). Thus, idiom learning in an ESL or EFL context should be further studied in terms of the integration of new social media applications which play a pivotal role with their educational artifacts in mediating L2 students’ reading and writing process.

Collaborative Learning

Collaborative learning is highly connected with a social constructivist view of learning, especially in second/foreign language classrooms. The roots of social constructivism are based on the work of Vygotsky’s (1978) sociocultural theory advocating that human development is inherently a socially situated activity. The more expert others are the key for a student’s knowledge acquisition process, providing the novice with the appropriate level of assistance and scaffolding his or her understanding so that the student can maximize his or her potential level. Swain (2000) raised a notion called collaborative dialogue that constructs linguistic knowledge in which what learners contribute becomes an object for reflection with the language they use (whether spoken or written) mediating a process of joint constructive interaction. This notion is in line with Donato’s (1988, 1994) proposed “collective scaffolding” illustrating how L2 learning took place via mutual scaffolding among L2 learners. He then argued that collective scaffolding involves an idea that “the speakers are at the same time individually novices and collectively experts, sources of new orientations for each other and guides through this complex linguistic problem solving” (Donato, 1994, p. 46). He emphasizes the “collective orientation to jointly constructed activity” (Donato, 2004, p. 287), which may enable students to accomplish

higher levels of performance than they might achieve by working on their own. In other words, this scaffolding can also occur among peers (multi-directional) when working in group/pair work (Donato, 1994; Storch, 2002).

In addition, from a sociocultural perspective, learners should be encouraged to get involved in activities which foster interaction and co-construction of knowledge. In terms of collaborative idiom learning which requires plural learners working in smaller groups to experience an active give-and-take of ideas upon the presented idioms. In the process of collaborative learning, not only will students obtain high motivation (Kowal & Swain, 1994; Swain & Lapkin, 1998), they will also be able to, consequently, develop analytical and critical reading and writing skills (Nystrand & Brandt, 1989). More importantly, according to Storch (2002), such collaboration in the learning process encourages students to value the joint responsibility over the production of the text as there is a sense of co-ownership involved that may contribute to students' decision making and their active L2 use in the classroom. Therefore, collaborative learning is a powerful method that embodies critical thinking, cooperation, Socratic learning community, and active participation towards an end product (Hernandez, Hoeksema, Kelm, ... Miller, 2008).

Why Teach Idioms

Raised in a country with a history over five thousand years, I have been always fascinated with Chinese language, especially the four-character Chinese idioms encompassing the Chinese culture of concentrated essence and delineating the beautiful ancient stories associated with heroes and romance. With my progressive growth in understanding western cultures and academic research in second language acquisition, I have been endeavoring to study English

idioms in part because studying English idioms allows me to obtain better sense of the iceberg of western cultures and in part because it gives me a chance to know about the linguistic and cognitive mechanisms underlying the learning/teaching of English language. Derrida's deconstructionism explains that in order to understand the meaning of a concept, people need to break the concept down into its separate parts, especially when this concept is different from how it was previously understood. Taking the word *apple* as an example, simply knowing *apple* is one kind of fruit is not adequate for learners who pursue idiomatic competence. In order to fully understand what *apple* is, learners also need to capture *apple*'s meaning in some English conventional idioms such as *the apple doesn't fall far from the tree* or *apple of my eye* as these idioms provide meanings for *apple* with both cultural and historical connotations. As Lontas (2009) puts it, "[b]ecause idioms are not based linguistically, but rather socioculturally, their study makes 'culture' more than merely a word, whether written with a small 'c' or a big 'C' (as 'culture' is often written in the literature of pedagogy)" (p. 7). Obviously, idiom learning is essential to L2 learners language development, and more importantly, it promotes L2 learners' better understanding of that language's history, heritage, and culture.

The beauty of idioms lies in its arising from the natural flow in authentic conversations. In the field of SLA, idiom learning is considered as the most important and complex area as people view idiomatic competence as a symbol of being native-like. Cowie, Mackin, and McCaig (1983) explains that "the accurate and appropriate use of English expressions which are in the broadest sense idiomatic is one distinguishing mark of a native command of the language and a reliable measure of the proficiency of foreign learners" (p. 10). Taking a similar position, Strutz (1996) advocates that "no one can be said to be really proficient in a language until he or she possesses an 'idiomatic' control of it" (p. 7). Fernando (1996) even argues that "[n]o

translator or language teacher can afford to ignore idioms or idiomaticity if a natural use of the target language is an aim” (p. 234). Clearly, as Liantas (2009) puts it, “[w]hile knowledge and correct usage of idioms are not absolutely necessary for one to communicate effectively, they are the marks of a competent speaker” (p. 2). Further, to help SLA researchers understand one overarching question—Why teach idioms, Liantas (2017) offers five answers advancing the rationale for integrating idioms across the entire L2 curriculum:

1. Why teach idioms? Because idioms help learners to encounter and understand the workings of natural human language; that is, they help them to gain a deeper knowledge of the creative expression of human thought and language development over time. (p. 9)
2. Why teach idioms? Because learners can go beyond the literal meaning of idioms and see the pivotal role that context plays in the understanding of idiomatic expressions. (p. 11)
3. Why teach idioms? Because requiring learners to produce idioms in ways that native speakers use them enhances learners’ mastery of them, facilitating the binding and mapping processes of idiom internalization. (p. 14)
4. Why teach idioms? Because idioms afford learners the opportunity to examine their own mental images associated with idiomatic phrases and the conceptual metaphors mediating their figurative meanings. (p. 16)
5. Why teach idioms? Because the study of idioms in the classroom can help the SLA profession to build a systematic program for the development of idiomatic competence in second language learners. (p. 16)

These five reasons clearly and systematically provide important insights for SLA researchers and practitioners to understand why idiom instruction should be integrated into the L2 curriculum, notwithstanding that the reasons are not sole and final. It is worth noting that L2 educators need to concentrate on L2 learners' development of idiomatic competence that "empowers learners to use language in socially responsive ways" (p. 2), and the study of idioms therefore should be realized and become a mainstay of the L2 curriculum.

Vivid Phrasal (VP) Idioms

Many English learners (ELs) often find idioms challenging to understand and learn because idioms tend to be considered a language for native or native-like English speakers who are able to produce appropriate forms of English language in line with pragmatic and culture. In the field of second language acquisition, there are a myriad of definitions for idioms. For this study, I particularly focus on Liontas' (1999) *vivid phrasal* (VP) idioms and implement VP idioms to English classes at a liberal arts college in China. Specifically, Liontas (2002) provides a list of VP idioms, such as *pulling one's leg*, *looking for a needle in a haystack*, *sitting on pins and needles*, *taking the bull by the horns*, *letting the cat out of the bag*, *give him an inch*, and *he'll take a mile*, and *a bird in the hand is worth two in the bush*, which can be defined as "an inseparable phrasal unit whose lexicalized, holistic meaning is not deducible from the individual meanings of its separate words" (p. 77). He then emphasizes that a VP idiom must exemplify the distinct characteristics below:

1. It is not a monomorphemic or polymorphemic expression such as *a pad*, *a flop*, *to splurge*, *to freeload*, *to rely on*, *to object to*, just as it must *not* be an ungrammatical

expression, connective prepositional phrase, an incorporating verb idiom, or a social formula expression.

2. It does *not* readily correlate with a given grammatical part of speech and more often than not requires a paraphrase longer than a word.

3. It is *not* decomposable; that is, its conventionalized figurative meaning cannot be readily derived from a linear compositional analysis of the familiar meanings of its separate words.

4. It is easily visualized in the mind of the learner by evoking a powerful mental image; due to its concrete, “picturesque” (i.e., pictorial) meaning, it is thus *vivid*.

5. It is a conventionalized complex multilexemic phrasal expression occurring *above word level* and usually of sentence length; hence it is *phrasal*.

6. It is polysemous and has both a common literal, referential meaning and an institutionalized figurative, metaphorical meaning, with the latter meaning usually not predictable nor logically deducible from the grammatical, syntactic, structural, and semantic character of its individual constituent elements. (p. 78)

Furthermore, Liontas explains that a vivid phrasal idiom “combines powerful visual imagery (literal, referential semantic meaning) with a memorable, striking expression (non-literal, metaphoric utterance meaning)” (p. 78). Liontas’ assertion helps us understand that each VP idiom can carry two interpretations: a literal, concrete one and an abstract, figurative one. In the field of second language acquisition, better understanding of VP idioms can be achieved through comprehension of Liontas’ notion of *Conceptual-Semantic Image (CSI) distance*. Generally, the CSI distance delineates “how close or how distant a target-language idiom is from its equivalent

native-language idiom both conceptually (i.e., in terms of the picture it evokes) and semantically (i.e., in terms of the literal meanings of its words)” (p. 78).

Amid VP idioms, there are three subcategories, which are *Lexical Level (LL) idioms*, *Semi-Lexical Level (SLL) idioms*, and *Post-Lexical Level (PLL) idioms*. Firstly, LL idioms denote target-language idioms that exhibit a one-to-one lexical and pictorial match with corresponding native-language idioms. For example, *knowledge is power* can find its equivalent idiom in Chinese, *知识就是力量*, which can be literally translated. Secondly, unlike LL idioms, SLL idioms are somewhere in the middle of this Lexical-Image Continuum so people may not find 100 percent one-to-one lexical and pictorial correspondence of LL idioms. This means that, according to Liontas (1999), people may or may not use all the same individual words as native-language idioms and may differ by only a few or even just one word. For instance, *practice makes perfect* can be associated with a four-character idiom in Chinese, *熟能生巧*, which literally conveys the information in English. Thirdly, PLL idioms are the ones of which target language idioms elude native-language idioms either lexically or pictorially. In other words, the target language idioms cannot match the native language idioms. A good example to illustrate PLL idioms is *Wolf Down*, which may be explained with a Chinese idiom, *狼吞虎咽*, literally meaning *eat one's food like wolves and tigers*.

Given the above three subcategories of VP idioms, it is evident that much effort may be spent upon learning PLL idioms and it is worth exploring how contexts, technologies, and collaboration can contribute to ELs' idiomatic competence. Firstly, Liontas (1999) clearly asserts that idiomatic competence is associated with one's ability to understand and use idioms appropriately and accurately in a variety of sociocultural contexts, which implies that meaningful and authentic contexts are key to developing L2 learners' idiomatic competence. Confronted

with PLL idioms, L2 learners must be provided with adequate context to process and comprehend the meaning of these idioms containing figurative or rhetorical dimensions. Secondly, idiomatic input can be best comprehended and interpreted by L2 learners when multifarious media resources supported by Web 2.0 technologies are available (Herrera & White, 2010; Tiersky & Chernoff, 1993; Van Lacker Sidtis, 2003; Verspoor & Lowie, 2003). From a methodological perspective, interactive multimedia environments may improve comprehension of culturally authentic texts and support diverse conditions for learning across various educational and cultural contexts (see Lontas, 2006, 2017). To better decipher PLL idioms, L2 learners can definitely rely on multimedia features such as audio, visuals, and videos when feeling perplexed about the literal meaning. Last but not least, as it is acknowledged by many researchers (Aljaafreh & Lantolf, 1994; Coughlin & Duff, 1996; Donato, 1994; Warschauer, 1997b, 2000), learning takes place when collaborative environment is permitted and collaborative learning is often facilitated by scaffolding. Among L2 learners, acquiring new knowledge can be better achieved with the support of dialogues, multimedia, and peer-interaction. According to Lontas (2017), “both in the classroom or in fully online or hybrid settings, mobile devices with integrated Wi-Fi capabilities can be used to enhance student-centered learning and group collaboration among students through communication applications” (p. 10). For example, many CALL or MALL tools such as *WeChat*, *Whatsapp*, and *Line* allow L2 learners to have asynchronous, semi-synchronous, and synchronous collaboration and optimize their interaction via various forms such as group chatting, video conferencing, and multimedia information sharing. With respect to PLL idioms, students can definitely utilize these technological tools to co-construct PLL idioms via dialogues, multimedia features, and asynchronous and synchronous collaboration.

Multimedia in SLA

Multimedia is considered a pivotal element in today's 21st century education that emphasizes digital literacy and information technology all over the world. Warschauer (2001) states that computer is an essential medium of literacy and language use, and more importantly, online communications and other forms of transnational media provide L2 learners with greater communicative opportunities. Warschauer further explains that "digital media are changing reading and writing practices, giving rise to a new set of literacies incorporating onscreen reading, online navigation and research, hypermedia interpretation and authoring, and many-to-many synchronous and asynchronous communication" (p. 49). Furthermore, Kern (2000) and Gonglewski and DuBravac (2006) consider communications in computer environments (e.g., via hypermedia, Web pages, or CMC) as an important component of multiliteracy. Generally, multimedia, including words, pictures, audio, videos, animations, etc, enables instruction to be delivered more effectively because various multimedia features meet the needs of 21st century learners who are of different learning styles. In other words, multimedia learning environment allows learners to "decide for themselves the type of information they prefer to access and the order in which they process different types or modes of information" (Plass, Chun, Mayer, & Leutner, 1998, p. 25). In addition, multimedia is well aligned with brain processing information and empowers learners to optimize their learning by exercising their brain's two channels—visual and auditory proposed by Baddeley's (1992) saying that the auditory channel deals with information that is heard, while the visual channel processes information that is seen. According to Mayer's (1997) generative theory of multimedia learning, learners are able to engage in three major process—selecting relevant information from what is presented, organizing the pieces of information into a coherent mental representation, and integrating the newly constructed

representation with others (p. 4). His generative theory is capitalized on the dual coding theory explicating (see Figure 1) that “these cognitive processes occur within two separate information processing systems: a visual system for processing visual knowledge and a verbal system for processing verbal knowledge” (p. 4). Specifically, Mayer (2009), with his empirical research, found out that learners, actively selecting and connecting pieces of visual and verbal knowledge, can obtain information more effectively from words and pictures than from words alone. In other words, learners may process information more effectively when multimedia features are provided as both channels, auditory and visual, can enhance synergy in handling information and therefore, reduce learners’ cognitive load (Sweller, 2005). For L2 learning, Hinkel (2011) points out that “while a picture may be effective for depicting a word that represents an object, for an advance organizer, a video with an audio narration may be preferable to aid the integration of information into an existing mental model of the subject matter” (p. 666).

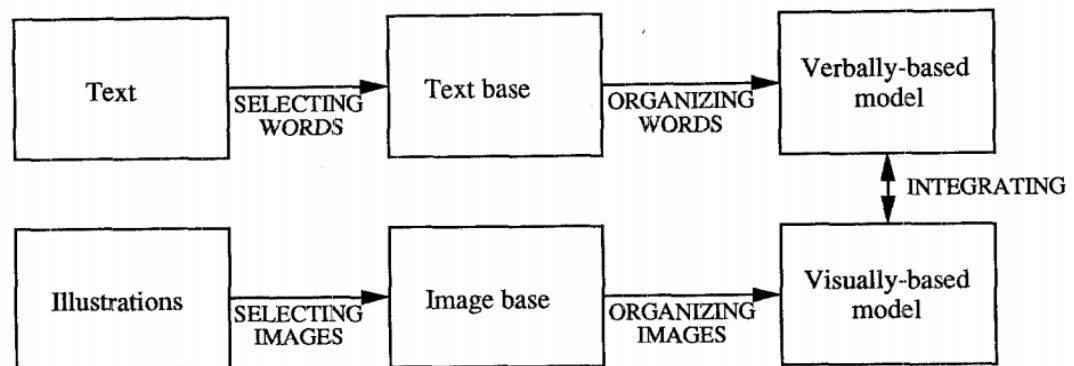


Figure 1. Generative Model of Multimedia Learning. Reprinted from “Multimedia learning: Are we asking the right questions?” by R. Mayer, 1997, *Educational Psychologist*, 32(1), 1–19.

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In SLA, computer assisted language learning (CALL) has capitalized on multimedia's effect. Generally, CALL is defined as "learners learning language in any context with, through, and around computer technologies" (Egbert & Petrie, 2005, p. 4), and CALL takes place in many different places besides education contexts. For Levy (1997), CALL is "the search for and study of applications of the computer in language teaching and learning" (p. 1). Levy and Hubbard (2006), furthermore, interpret CALL and take it to include technology-enhanced language learning, and information and communication technologies for language learning. Chapelle (1998), taking an interactionist perspective, presents seven hypotheses to CALL developers, making them be mindful of learners' cognitive processes by which language development is progressed via interaction with external resources. More importantly, these hypotheses emphasizing "the role of interaction, input salience, and production in acquisition of linguistic forms have proved useful for CALL developers in need of a basis for making detailed design decision about pedagogy and interface" (Chapelle, 2006, p. 62). In the meantime, Chapelle points out that learners may seek a maximized linguistic benefit via constant negotiations of meaning and thereby make sense of linguistic connections between form and meaning within these constant negotiations. These seven hypotheses are believed to be relevant for developing multimedia CALL:

1. The linguistic characteristics of target language input need to be made salient.
2. Learners should receive help in comprehending semantic and syntactic aspects of linguistic input.
3. Learners need to have opportunities to produce target language output.

4. Learners need to notice errors in their own output.
5. Learners need to correct their linguistic output.
6. Learners need to engage in target language interaction whose structure can be modified for negotiation of meaning.
7. Learners should engage in L2 tasks designed to maximize opportunities for good interaction. (Chapelle, 1998, pp. 23–25)

These hypotheses inform CALL developers and researchers that multimedia CALL should consider several linguistic conditions for learners, such as software facilitating language input, multimedia features supporting comprehension, and tasks maximizing opportunities for good interaction, especially the tasks allowing learners to engage in interaction that helps them to make essential connections between form and meaning.

These hypotheses are reflected in much SLA and CALL research. Many studies (Chun & Plass, 1996; Kost, Foss, & Lenzini, 1999; Yoshii & Flaitz, 2002) suggest that multimedia glosses or annotations (text definitions, visuals/graphics, videos, audio) are helpful for L2 vocabulary acquisition. For example, in a study by Borrás and Lafayette (1994), providing learners with opportunities to see and control subtitles helped them to better comprehend and produce the use of the target language in a multimedia environment. Guillory's (1998) study made a similar claim that keyword captions are an effective method for transmitting content in video materials, enhances multi-channel processing and encourages L2 learners to listen more and read less. These two studies showed that while L2 learners have the aural input, they tended to refer to the written text, which aids comprehension only as needed. In addition, Grace (1998), using a CALL software, found out that beginning-level L2 learners achieved greater retention of correct word meanings when L1 translation and multiple forms of annotation for vocabulary were provided.

Chun and Plass (1996) investigated a multimedia program, *CyberBuch*, and concluded that successful short-term recall and a possible hypermnesia effect resulted from visual and pictorial aids as well as text annotations in the process of L2 vocabulary learning. In a similar vein, Jones and Plass (2002) reported multiple forms of annotations including text, pictures, and narrations were essential to resolve miscomprehension and therefore enhance learners' understanding of L2 vocabulary. Sakar and Ercetin (2005) reported that when multimedia glosses were available, participants in their study inclined to rely on visual annotations more than textual or audio annotations. Abraham (2008), conducting a meta-analysis upon computer-mediated glosses in second language reading comprehension and vocabulary learning, concluded that computer-mediated text glosses provided lexical support on comprehending authentic L2 readings and learning vocabulary, especially being most effective for intermediate and advanced learners (p. 212). Table 1 summarizes these studies concentrating on multimedia glosses or annotations that are effective for L2 vocabulary acquisition.

Table 1. Examples of Multimedia Glosses or Annotations on L2 Vocabulary Acquisition

Studies	Type of Multimedia	Findings
Borras & Lafayette (1994)	Video input with L2 subtitles	Helping learners better comprehend and produce the use of the target language
Guillory (1998)	L2 Keyword captions	Being an effective method for transmitting content in video materials and enhancing multi-channel processing
Grace (1998)	L1 translation and multiple forms of annotation	Helping beginning-level L2 learners achieve greater retention of correct word meanings
Chun & Plass (1996)	Visual and pictorial aids as well as text annotations	Enabling learners to have a successful short-term recall and a possible hypermnesia effect
Jones & Plass (2002)	Multiple forms of annotations including text, pictures, and narrations	Helping learners resolve miscomprehension and therefore enhance learners' understanding of L2 vocabulary
Sakar & Ercetin (2005)	Visual annotations	Allowing learners to comprehend more effectively compared with textual or audio annotations
Abraham (2008)	Computer-mediated glosses	Providing lexical support on comprehending authentic L2 readings and learning vocabulary

In the L2 reading context, studies by Abraham (2007), Lomicka (1998), and Taylor (2006) reveal that multimedia glosses aided the L2 learners reading comprehension. Focusing on

multimedia annotations on L2 reading, Plass, Chun, Mayer, and Leutner (1998) found out that students were able to comprehend the story better when students had the options to look up both visual and verbal annotations, in part because students are inclined to be more responsive if they receive their preferred mode of annotation. The results were consistent with a generative theory of multimedia learning, assuming that “learners actively select relevant verbal and visual information, organize the information into coherent mental representations, and integrate these newly constructed visual and verbal representations with one another” (p. 25). Martinez-Lage (1997) pointed out that “[a]nnotated reading lessons that include appropriate reading and writing activities, along with supporting information, can teach readers to cope more effectively with the difficulties they typically encounter in deciphering a text” (p. 149). With the support from Web-based lessons and multimedia annotated texts, learners come to class with preparation and comment on the content and meaning of what they have read because they have a solid understanding of the assigned text. Lontas (2001) concluded that learners increase significantly their communicative competence when interactive technologies are integrated in language learning and teaching (p. 70). The review by Chun (2006) investigated how online glossing can aid the learning of L2 vocabulary. Specifically, Chun concluded that multimedia glosses (i.e., combinations of text, graphics, videos, audio) are essential to learners’ L2 vocabulary memorization, providing fast and easy access to the meanings of unknown words, freeing up working memory capacity, and compensating for insufficiently lower level processes, thus allowing learners to attend to higher level processes. Moreover, Park and Kim (2011) found out that hypertext and hypermedia resources, on the one hand, help learners to gain a better understanding of the online text. Conversely, learners prefer videos and pictures to traditional

textual resources, becoming active participants and readers in online reading activities. Table 2 illustrates some such studies with a focus of multimedia glosses or annotations on L2 reading.

Table 2. Examples of Multimedia Glosses or Annotations on L2 Reading

Studies	Type of Multimedia	Findings
Martinez-Lage (1997)	Multimedia annotated texts	Teaching learners to cope more effectively with the difficulties they typically encounter in deciphering a text and therefore allowing them to achieve a solid understanding
Plass, Chun, Mayer & Leutner (1998)	Multimedia annotations (both visual and verbal)	Helping learners understand the story better than learners looking up only visual or only verbal annotations
Liontas (2001)	Interactive technologies integrated in language learning and teaching (multimedia glosses or annotations)	Helping learners increase significantly their communicative competence
Chun (2006)	Multimedia glosses (i.e., combinations of text, graphics, videos, audio)	Being essential to learners' L2 vocabulary memorization, providing fast and easy access to the meanings of unknown words, freeing up working memory capacity, and compensating for insufficiently lower level processes, thus allowing learners to attend to higher level processes
Park & Kim (2011)	Hypertext and hypermedia resources	Helping learners to gain a better understanding of the online text as well as allowing them to become active participants and readers in online reading activities
Abraham (2007)	Pictorial (videos and images) and verbal (Spanish definitions and English translations) glosses/annotations	Enabling learners to comprehend authentic literary texts effectively

Chapelle (1998) also suggested criteria for development of multimedia CALL, attempting to illustrate how theoretically motivated principles of beneficial interaction can be translated into guidelines for instructional design:

1. Make key linguistic characteristics salient.
2. Offer modifications of linguistic input.
3. Provide opportunities for comprehensible output.
4. Provide opportunities for learners to notice their errors.
5. Provide opportunities for learners to correct their linguistic output.
6. Support modified interaction between the learner and the computer.
7. Provide opportunities for the learner to act as a participant in L2 tasks. (pp. 27-28)

Saliently, these seven features of instructional design inform researchers that language learning is achieved through meaningful and authentic texts (linguistic input), cooperative/collaborative learning (linguistic output), and well designed CALL activities (L2 tasks). As Chapelle (1998) advocated:

CALL developers need to consider how software can provide learners with opportunities believed to facilitate SLA. In other words, it is useful to view multimedia design from the perspective of the input it can provide to learners, the output it allows them to produce, the interactions they are able to engage in, and the L2 tasks it supports. Because CALL software can actually play a role in input and interaction, it is useful to consider it as a participant in L2 tasks. (p. 26)

Chapelle's hypotheses definitely provide significant insights for SLA researchers to further address issues of multimedia CALL and conduct more research on how L2 learning in CALL can be constructed and investigated in some current areas such as MALL, augmented

reality, virtual reality, and artificial intelligence. In sum, research of multimedia in SLA is still in an infant stage, and SLA researchers need to understand that “all approaches to SLA that theorize a role for input need to consider the way that technology changes linguistic input and how learners access to new forms of input might affect acquisition” (Chapelle, 2007, p. 107). It bears repeating that much research has shown that multimedia as part of CALL can significantly enhance L2 learning as it supports students with different learning styles, offers opportunities for interaction, and helps students to achieve better understanding of linguistic input.

Social Media Mediated Collaborative Idiom Learning and Learner’s Engagement

In this digital era, technology has been playing an essential role in providing many opportunities and solutions concerning the ESL or EFL context, given the fact that young learners are considered the “digital natives” who are living in a technology-saturated world and naturally responsive to everything digital (see Prensky, 2001). As Lontas (2017) stated, “both in the classroom or in fully online or hybrid settings, mobile devices with integrated Wi-Fi capabilities can be used to enhance student-centered learning and group collaboration among students through communication applications, interactive displays, and video features” (p. 37). And this new form of collaboration among students is intrinsically connected with the iterations of technology and further promotes positive interdependence, individual accountability, dynamic peer interaction, social skills and group processing. In the past 10 years, social media, considered as “internet revolution”, presents its potential power to facilitate L2 learning and allow knowledge transfer more effectively, and this potential power of social media to increase interactivity and collaboration to benefit learning was acknowledged early in many studies (e.g., Desilets & Paquet, 2005; Knobel & Lankshear, 2006; Richardson, 2006). It bears repeating that

Web 2.0 is the most frequently used term in relation to social media, but literally speaking, the word “social” should be emphasized more as social media involves social and cooperative interactivity reflecting user's' interest in leveraging the unique affordances of the technology. This facilitates students, teachers, and researchers working with each other for ESL or EFL purposes. When thinking about social media, people may associate it with many interactive and internet-based applications, built on the ideological and technological foundations of Web 2.0 (Kaplan & Haenlein, 2010), in both PC and mobile platforms such as Facebook (social networking), *Wikipedia* (wikis), *Blogspot* (blogs), *Twitter* (microblogs), *YouTube* (video sharing), *WeChat* (mobile chatting), *Flickr* (image sharing), *Reddit* (forum), allowing people to connect for purposes of “collaboration, contribution, and community” (Anderson, 2007, p. 14). In the academic world, social media has created new possibilities for digitally native students to engage, interact and collaborate in learning tasks that foster learning processes and the overall learning experience (Mondahl & Razmerita, 2014). More importantly, social media embodies the central idea of social-constructivism, advocating that knowledge construction is a social process that occurs through connectivity and collaboration with others.

Social media is a unique form among computer mediated communication (CMC) tools. Given the importance of interaction in SLA, Smith (2004) argued that online interlocutors engaging in meaning negotiations via CMC receive the same scaffolding and benefits afforded to interlocutors in face-to-face interactions (e.g., Blake, 2000; Blake & Zyzik, 2003; de la Fuente, 2003). Social media technologies offer both synchronous and asynchronous options for L2 collaborative idiom learning, proliferating in ELs' everyday L2 learning both inside and outside the classrooms. Using social media, students may work collaboratively on either a PC or a mobile platform, record their learning progress for further knowledge sharing, assessment,

reflection, and feedback from peers and instructors, and promote their self-efficacy and learning autonomy including “(a) the ability to engage in independent work (e.g., self-directed learning); and (b) the ability to use appropriate learning strategies, both inside and outside the classroom” (Long, 1996, p. 431). Apparently, this contextual collaboration seamlessly integrates content sharing, communication channels and collaboration tools into a unified user experience that enables new levels of productivity (Geyer, Silva Filho, Brownholtz, & Redmiles, 2008). Consequently, researchers need to understand the particular opportunities and implications arising from the social interactivity afforded by social media and figure out how social media can contribute to ELs’ L2 literacy development in a collaborative environment.

Motivation is another important factor in the collaborative idiom learning process supported by social media technologies. From a sociocultural theory perspective, Ford (1992) defined motivation as “the organized patterning of three psychological functions that serve to direct, energize, and regulate goal-directed activity: personal goals, emotional arousal process, and personal agency beliefs” (p. 3). Moreover, research indicates that social media technologies empower students to collaborate and communicate more effectively and efficiently, fueling peer discussion and interactions (Heafner & Friedman, 2008; Jackson, 2011; C. Liu, K. Liu, W. Chen, ...G. Chen, 2011). That is to say, the collaborative effort in the construction of meaning making required by the learners via social media technologies is able to stimulate interest and motivation in the idiom learning process. For example, Sullivan and Pratt’s (1996) study showed that students in the computer-assisted classroom demonstrated not only more interest in discussions, and, subsequently, more practice writing English, but they were also more focused on the task at hand than students in the oral classroom. (p. 500). In a similar vein, Kabilan, Ahmad, and Abidin (2010) found that students at a Malaysian university considered Facebook

functions as a useful online environment to learning English as it allowed them to practice using English, boosts their confidence in their English communication skills, increased their motivation to communicate in English, and brought about a more positive attitude toward learning English. Shihab (2008) reported that both teachers and students, involved in the ESL learning environment supported by Web 2.0 technologies, perceived the interaction and collaborations among them as enjoyable, which ultimately elevated their motivation and engagement.

Significance of Study

Idiom learning integrated CALL is an essential part in the second/foreign language curriculum, and should be further studied in order to promote students' L2 idiomatic competence. Social media technologies enable L2 learners to learn idioms collaboratively with high motivation and efficiency, creating a space beyond the more traditional classroom setting that can be used judiciously to facilitate learners' idiom learning processes and interactions. In the virtual collaborative environment, learners are able to interact with their peers and instructor(s) regardless of the restrictions of time and space. This study shows that *WeChat* can be an effective tool to create an inviting, interactive, and comfortable environment in the process of students L2 idiomatic development, aiming to fill the gap in the literature by providing an empirical study of comparing the *WeChat* mediated group with the group which is conducted in a traditional English learning/teaching setting. Guided by Vygotsky's sociocultural theory, this study also reveals that the affordances and mediational artifacts from *WeChat* allow L2 learners to actively interact with their peers and improve their communicative skills in a co-constructed learning environment. The results of this study provide both theoretical and pedagogical insights

for ESL and EFL researchers and practitioners to know how social media related applications can bring new opportunities for L2 learners' idiomatic development and explore CALL/MALL technologies in the field of second language acquisition from a sociocultural theory perspective.

Definition of Terms

To help readers understand the nomenclature employed herein, I clarify and define major key terms with reference to pertinent authors.

Collaborative learning: Smith and MacGregor (1992) stated that “collaborative learning activities vary widely, but most center on students’ exploration or application of the course material, not simply the teacher’s presentation or explication of it” (p. 1). Collaborative learning refers to a process of intellectual endeavors involving multiple learners co-performing tasks toward a common goal.

Computer-Assisted Language Learning (CALL): Levy (1997) succinctly but broadly defined CALL as “the search for and study of applications of the computer in language teaching and learning” (p. 1). Today, CALL is widely associated with and characterized by web-based distance learning, virtual learning environments, interactive whiteboards, computer-mediated communication, and mobile assisted language learning (Liontas, 2018).

Computer-Mediated Communication (CMC): Herring (1996) views CMC as “communication that takes place between human beings via the instrumentality of computers” (p. 1). Generally speaking, CMC includes two forms of communication: synchronous and asynchronous. Synchronous CMC enables participants to actively exchange information virtually (e. g., online chatting) in real time; whereas asynchronous CMC, including interactions such as

emails, discussion forums, bulletin boards, so on and so forth, makes participants delay communication.

Mobile-Assisted Language Learning (MALL): This is considered as a subset of both Mobile Learning (m-learning) and Computer-Assisted Language Learning (CALL). In general, MALL will be expected to utilize technologies such as mobile phones, MP3/MP4 players, PDAs and palmtop computers to support students' language learning (Kukulka-Hulme & Shield, 2007).

Second language: Second languages are languages learned within the context in which they are used by a significant proportion of the population. For example, immigrants to the U.S. who study English are learning it as a *second language*.

Foreign language: Foreign languages are languages learned in a context in which the targeted language is not spoken in the daily lives of most people. For example, students who learn English in China are learning it as a foreign language.

L2: This abbreviation is used throughout this paper to refer to any language which is not the first language (L1). It can refer to either a second or a foreign language.

English as a second language (ESL): This refers to a system of instruction that enables students who are not proficient in English—English learners (ELs)—to acquire academic proficiency in spoken and written English (Ovando & Combs, 2012, p. 10).

English as a foreign language (EFL): This term, EFL, is used for non-native English speakers learning English in a country where English is not commonly spoken, indicating that English would be of secondary importance (Wright, 2010).

Idiom: As defined by Liantas (2009), idiom is “a form of expression, grammatical construction, phrase, etc., peculiar to a language; a peculiarity of phraseology approved by the

usage of the language, and often having a significance other than its grammatical or logical one” (p. 2). For instance, an idiom can be an expression like *taking the bull by the horns*.

Idiomatic competence: This refers to “the ability to understand and use idioms appropriately and accurately in a variety of sociocultural contexts, in a manner similar to that of native speakers, and with the least amount of mental effort” (Liontas, 1999, p. 441). In this study, I believe the collaborative learning environment and multimedia features afforded by *WeChat* can aid the development of students’ English idiomatic competence.

Mediation: Lantolf (1994) explains that “mediation, whether physical (e. g., tools) or symbolic (e. g., language), is understood to be the introduction of an auxiliary device into an activity that then links humans to the world of objects or to the world of mental behavior” (p. 418). Ellis (2003) stated that the mediation of the cognitive functions occur via psychological or semiotic tools, such as numbers, symbols or language, cognitive resources, and physical tools or artifacts, such as tasks and technology, which may influence language development.

Multimedia learning: Generally, multimedia learning is associated with learning from words and pictures. In educational settings, Mayer (2009) argues that “people learn better from words and pictures than from words alone” (p. 4), and he defines multimedia instruction “as the presentation of material using both words and pictures, with the intention of promoting learning (p. 5).

Social media: Kaplan and Haenlein (2010) define social media as “a group of Internet-based applications that build on the ideological and technological foundations of Web 2.0, and that allow the creation and exchange of User Generated Content” (p. 61). More specifically, Boyd and Ellison (2007) define social network sites as web-based services that enable people to (1) construct a public or semi-public profile within a bounded system, (2) articulate a list of other

users with whom they share a connection, and (3) view and traverse their list of connections and those made by others within the system. For example, some popular social network sites are *MySpace, Facebook, Twitter, WeChat, Flickr, and Pinterest.*

Sociocultural theory: Drawing heavily from Vygotsky's sociocultural theory of mind, Lantolf (1994) stated that "the most fundamental concept of sociocultural theory is that the human mind is mediated" (p. 1). To better define the idea of learning, sociocultural theory maintains that "development does not proceed as the unfolding of inborn capacities, but as the transformation of innate capacities once they intertwine with socioculturally constructed mediational means" (Lantolf & Pavlenko, 1995, p. 109). That is to say, the key of human actions in situated cultural contexts is knowing how to appropriate new discourses associated with the way language literacy is intimately intertwined with institutions such as schools and social relationships.

Task-based approach: This teaching method was popularized by Prabhu (1987), who views a task as a piece of work which needs certain processes in order to arrive at a particular result with the teacher serving as the facilitator. In this study, the idiom learning process requires learners to achieve several tasks such as co-constructing meaning of an idiom, reading a dialogue with the target idiom, creating a skit by using the target idiom, and performing the skit with the target idiom while the instructor serves as a facilitator in the class.

WeChat: *WeChat* is a messaging and calling mobile app that allows people to easily connect with family and friends across countries, with main features such as texting, voice and video call, moments capturing, photo sharing, and games (Tencent Inc, 2014).

Summary

In this chapter, I introduced the background, research questions, my personal perspective, purpose of the study, theoretical considerations including major constructs such as Vygotsky's sociocultural theory, mediation, the zone of proximal development, affordances, cognitive theory of multimedia learning, collaborative learning, why teach idioms, vivid phrasal idioms, multimedia in SLA, and social media mediated collaborative idiom learning. Moreover, I highlighted the significance of the study and the definition of some key terms pertaining to this research.

In the background section, I explained the current trend of applying CALL to the field of L2 idiomaticity development as well as the gap of CALL's application in L2 idiom learning amid English learners of Chinese college students in China. Additionally, I explained how social media technologies, with a lens of Vygotsky's sociocultural theory, can impact students' L2 idiomatic competence among ELs whose L1 is Chinese and brought up a popular mobile application, *WeChat* which can create a collaborative environment for L2 idiom learning. Based on the background, I presented three research questions that guided me to explore the answers with systematic research design, methods, and analysis.

Then, I briefly shared my personal perspective of how and why I came into this research topic. As an EL myself, I introduced my idiom learning experiences, including both challenges and interest starting from a high school bible study group to a graduate course concerning cultural norms in Second Language Acquisition with Dr. John Liantas, which led me to design and conduct this research. Next, I discussed the purpose of this study and further introduced the gap of CALL and CMC's applications in L2 idiom learning. I argued that it is essential to

integrate social media technologies with L2 collaborative idiom learning, targeting a group of participants at a liberal arts college in China.

To provide theoretical considerations, I discussed Vygotsky's (1978) sociocultural theory and the concepts of mediation, the zone of proximal development, and affordances. Then, I addressed other theoretical frameworks, cognitive theory of multimedia theory and collaborative learning, which guides my research in L2 idiom learning supported by social media technologies.

Lastly, I highlighted the importance of idiom learning integrating with CALL in the second/foreign language learning and reiterated the potential applications of social media technologies to enable L2 learners to learn idioms collaboratively from a sociocultural perspective. Finally, I provided definitions pertaining to the key terms this research explores.

In Chapter Two, I will discuss relevant literature in aspects such as CALL and MALL, collaborative learning, L2 idiom learning in CALL and MALL, L2 collaborative learning and achievement via CALL and MALL, L2 collaborative learning and perception via CALL and MALL, and L2 collaborative learning and motivation, engagement, and attitudes via CALL and MALL. Then, I will introduce a mobile application, *WeChat* and elaborate how *WeChat* can serve as a mediated tool in L2 collaborative idiom learning. Next, I will address the pedagogical approach in regards to using *WeChat* to promote students' L2 idiomatic competence.

CHAPTER TWO: REVIEW OF LITERATURE

In this chapter, I first review the literature related to L2 idiom learning supported by CALL and MALL as well as CALL and MALL's affording collaborative learning in aspects such as achievement, perception, motivation, engagement, and attitude. Then, I introduce a popular mobile application, *WeChat* and explain how *WeChat* can afford students opportunities to promote L2 idiomatic competence in a collaborative learning environment. Lastly, I address the pedagogical approach-task-based approach, and explain the procedure of using task-based approach to teach English idioms among a group of Chinese students at a liberal arts college in China.

Mobile-Assisted Language Learning (MALL)

Sharples (2000, 2002), initially, raised the concept of mobile learning that is linked to the device and the potential for enabling lifelong learning. Mobile learning has been widely embraced because of the widespread of ownership of mobile and wireless devices meeting everyone's needs of communication, interaction, and entertainment with a concept of "anywhere, anytime" (Geddes, 2004). In other words, MALL enables language learners by offering an ideal solution to language learning barriers in terms of time and space (Miangah & Nezarat, 2012), enhancing their language skills via mobile apps or technologies that capitalize on a combination of flexibility, accessibility, and interactivity. On January 9, 2007, the founder and CEO of Apple, Steve Jobs successfully sold the idea of how iPhone could transform people's lives, and language

learning is also one dimension of this dynamic transformation in the 21st century. With the rise of smartphone fever, a great number of research has been published in the Mobile Assisted Language Learning (MALL) field. For that, it is easy to see both teachers and learners incline to integrate mobile technologies into everyday practices.

It is worth noting that MALL stands differently from computer-assisted language learning (CALL) as MALL highlights the “continuity or spontaneity of access and interaction across different contexts of use” (Kukulka-Hulme, 2009, p. 162), which is echoed with the statement of Klopfer, Squire, and Jenkins’ (2002) that mobile devices’ features include connectivity, context, sensitivity, individuality, portability, and social interactivity. Nonetheless, MALL shares with CALL an emphasis on the technology “assisted language learning” and today people may consider mobile devices as avatars of traditional computer desktops and laptops as majority of tech-functionalities can be implemented into a mobile system. More importantly, according to Kukulka and Shield (2007), MALL can not only facilitate language learning via the access of contextualized and authentic resources, but encourage students to work collaboratively and co-construct knowledge, which is essential to students’ development of problem-solving skills and self-efficacy in the long run. Many studies have touted the benefits of introducing MALL to an ESL/EFL context (Abdous & Facer, 2009; Alemi, Sarab, & Lari, 2012; Ally, Schafer, Cheung, McGreal, & Tin, 2007; Liontas, 2017; Papadima-Sophocleous, Georgiadou & Mallouris, 2012; Saran, Seferoglu, & Cagiltay, 2012; Shao, Crook, & Koleva, 2007; Yang & Chen, 2012). Others aimed to find out whether MALL can be applied to various settings in language learning and development and mobile technologies tend to have a positive impact on linguistic developments if applied and arranged properly (e.g., Collins, 2005;

Kukulska-Hulme, 2006; Kukulska-Hulme & Shield, 2008; Ogata, Yin, & Paredes, ... Ueda, 2006; Steel & Levy, 2013).

L2 Idiom Learning in CALL and MALL

Idiom learning does not come easy to L2 learners, but it may be worth knowing the secret remedy of learning idioms via the support of CALL and MALL. Vygotsky (1978) asserted that humans have the ability to utilize physical tools to make indirect connections and mediate their relationships and even regulate and control their behaviors via psychological and technical tools or artifacts. CALL, with an emphasis on L2 idiomaticity, is a key to students' linguistic development. A considerable amount of discussion is devoted to language learning in general and idiomaticity in particular so as to how best ensure successful technology integration in pedagogic constructs (Liontas, 2017). Alemi, Sarab, and Lari (2012) investigated the effectiveness of SMS (short message services) on Iranian university students' vocabulary learning and retention. Adopting an experimental research design, the authors conducted a trial involving 28 university students who received 10 words and example sentences twice a week via SMS. The experimental group taught via SMS was compared to the control group (N=17) learning 320 head words by using a dictionary. The result of the delayed post-test revealed that SMS had more significant effect on vocabulary retention compared to using a dictionary, and the experimental group outperformed the control group.

In addition, Yang and Xie (2013) used iPads to promote their teaching Chinese idioms to heritage learners consisting of 12 second-year Chinese learners. The Chinese learners, engaging in a self-regulated learning process focused on learning abstract and concrete idioms on the platform of iPads, enjoyed this mobile way of learning. The authors reported this was correlated

with the application of iPads in the class providing the textual and visual illustration that facilitated those heritage learners' idiom learning. iPads even empowered students to work collaboratively and present constructive feedback to each other in the process of learning those highly metaphorical idiomatic expressions. In sum, Yang and Xie's study shows that iPads played a positive role in the Chinese learners' idiom learning.

Luk and Ng (1998) reported that CALL made a lot of contributions to the learning Chinese idioms in a group of Hong Kong students who seldom used Chinese idioms. Interviews and surveys were adopted, producing positive responses that suggested computers (a program on computers called Visual Basic) can assist students in learning Chinese idioms more effectively than an idiom dictionary. Moreover, Wong, Chin, Tan, and Liu (2010) found out that, using a pilot study, MALL paradigms, grounded in the seamless learning model that encompass in-class formal learning and out-of-class informal setting, and personal and social learning spaces, were essential to students' proactive association of the contexts that they encounter in the real world with the learned Chinese idioms. Specifically, this study introduced the integration of a smartphone-based system, "Move, Idioms!", and incorporated this MALL-based system with built-in digital camera, Wi-Fi access, internet browser and Chinese text input into the L1 Chinese curriculum in a class of 40 primary school students where were asked to take pictures exemplifying L1 Chinese idioms. Based on the results from the data analysis, the authors argued that the students' ongoing, open-ended, personal-to-social meaning making process and artifacts have manifested some indicators of "seamless language learning" that gives rise to the potential of transforming language learning into an authentic learning experience.

In a similar study, Wong , Chen, and Jan (2012) further explored the MALL paradigms and presented an intervention study in "Move, Idioms", which is described as "a mobile-assisted

Chinese language learning approach that emphasizes contextualized learner content creation and meaning (sense) making with their daily encounters” (p. 411). Thirty-four 11-year-old students were asked to use smartphones to take photos of the real-life context related to Chinese idioms or conjunctions, made sentences with the idioms/conjunctions, and then shared them onto a wiki-space for peer reviews. In an effort to analyze the small-group face-to-face artifact co-creation processes in the “Move, Idioms!”, the authors adopted an artefact-oriented visualization approach for descriptive analysis. The authors maintained that artefact-oriented visualization approach brought up the potential to be applied to analyze the students’ personal, out-of-school learning experiences. Additionally, the authors suggest MALL may promote, if applied and controlled properly, “students’ abilities to autonomously identify and appropriate learning resources as their endeavours of individual and social meaning making” (p. 422).

In another EFL context concerning MALL’s application of L2 idiom learning, Kargozari and Tafazoli (2012) investigated the effect of integrating L2 idiom learning with mobile phones and extracted data, both quantitatively and qualitatively, to confirm this great impact of MALL that promoted EFL learners’ enthusiasm in wrestling with L2 idioms in the classroom and even beyond the realm of classroom walls. Similarly, Thornton and Houser (2005) polled 333 Japanese university students who used mobile phones to receive information about their classes and learn English idioms. One project called “*Learning on the Move and Vidioms*” was embraced well by those students and the test results showed that mobile devices such as phones and PDAs can be effective educational tools to deliver foreign language learning materials as the rich multimedia embedded upon those tools could capture students interest and create study opportunities. Table 3 summarizes the example studies of L2 idiom learning in CALL and MALL.

Table 3. Examples of L2 idiom learning in CALL and MALL

Studies	Type of CALL and MALL	Findings
Luk & Ng (1998)	Visual Basic (a computer program)	Assisting students in learning Chinese idioms more effectively than an idiom dictionary
Thornton & Houser (2005)	Mobile phones (phones and PDAs)	Being effective educational tools to deliver foreign language learning materials as the rich multimedia embedded upon those tools could capture students interest and create study opportunities
Wong, Chin, Tan & Liu (2010)	“Move, Idioms” (smartphone-based system)	Giving rise to the potential of transforming language learning into an authentic learning experience
Alemi, Sarab & Lari (2012)	SMS (short message services)	Having more significant effect on vocabulary retention compared to using a dictionary, and the experimental group (SMS) outperformed the control group
Kargozari & Tafazoli (2012)	Mobile phones	Promoting EFL learners’ enthusiasm in wrestling with L2 idioms in the classroom and even beyond the realm of classroom walls
Wong , Chen & Jan (2012)	“Move, Idioms” (smartphone-based system)	Promoting students’ abilities to autonomously identify and appropriate learning resources as their endeavours of individual and social meaning making
Yang & Xie (2013)	iPads	Facilitating Chinese idiom learning among heritage learners of Chinese by providing the textual and visual illustration and empowering them to work collaboratively and present constructive feedback

L2 Collaborative Learning and Achievement via CALL and MALL

Many studies have demonstrated instances where social media had a valuable role in facilitating the collaborative learning in terms of learners' achievement (Blin & Appel, 2011; Kessler, Bikowski, & Boggs, 2012; Liu & Wu, 2016; Strobl, 2014; Wang, 2014; Wang & Vasquez, 2014; Yen, Hou, & Chang, 2015). Liu and Wu (2016) found that LINE-based (a mobile chatting application) activities helped 40 college students in a Taiwanese university with their familiarization of English vocabulary and improved their English reading comprehension, which was shown via the comparison of students' pre- and post-test. Wang and Vasquez (2014) found that the experimental group students, who used Facebook, wrote in greater quantities (i.e., higher word counts) than the control group that did not use Facebook. In addition, Yen, Hou, and Chang (2015), employing a mixed method, found Facebook and Skype are effective in increasing writing and speaking skills of the students studying in a Taiwanese university. Kessler, Bikowski, and Boggs (2012) reported that the use of online collaborative writing technologies were flexible tools that enabled students to collectively edit their texts as they worked. Strobl (2014) found that writing with Google Docs promoted discussion among participants that deepened their understandings. Their findings suggest that technology-enhanced collaborative writing "stimulates recursive writing" (p. 13) and improves "content selection and organization" (p. 12). Furthermore, Wang (2014), employing a quasi-experimental design discovered that students who were engaged in the wiki collaborative learning environment outperformed those who participated in group writing tasks without the wiki. Overall, the studies mentioned indicate that social media can afford positive results in students' achievement during the L2 collaborative learning process.

L2 Collaborative Learning and Perception via CALL and MALL

L2 learners' perception toward collaborative learning supported by social media is another key area to investigate. Most of the participants indicated they had positive views of their L2 collaborative learning experiences (Chao & Lo, 2009; Lee, 2010; Wang, 2014). The students in Lee's study (2010) were particularly satisfied with writing assignments that were interesting, authentic, and related to their coursework, yet still offered some freedom regarding topic choice. Miller's study (2012) were somewhat less enthusiastic regarding the use of wikis for collaborative learning, with the research results indicating they "would [only] somewhat prefer to use a wiki for a future collaborative assignment" (p. 80). However, they did appreciate that wikis enabled them to write collaboratively and co-construct knowledge. Some of the participants in Martinsen and Miller (2012) as well as in Li and Zhu (2013) found that perceptions of collaborative learning experiences were influenced by intra-group dynamics and interactions. The results of Wang's investigation (2014) pointed out specific areas of student satisfaction, including affordances for interaction, receiving feedback from peers, development of collaboration and communication skills, and increased confidence in writing in the targeted genre. Wu (2015) reported that 93% of students agree that *WeChat* group chatting was helpful to their critical thinking and linguistic competence development.

L2 Collaborative Learning and Motivation, Engagement, and Attitudes via CALL and MALL

Social media technologies can not only increase students motivation in L2 collaborative learning, but advance learners' confidence and collaborative efforts. Some researchers (Chen, Wang, & Mao, 2017; Luo & Yang, 2016; Wu & Ding, 2017) found that the use of social media

technologies contributed to the motivation of L2 learners. Not surprisingly, the level of satisfaction and motivation is dependent on the topic and the content; more personal topics are engaging to students, allowing them to express themselves through writing (Ducate & Lomicka, 2008). Positive perceptions were also noted by Chao and Lo (2009) in their study of L2 writing with wikis. Higher levels of satisfaction are reported when content is relevant and authentic (Lee, 2010). Additionally, although teachers' and students' perspectives often differ, Fidaoui, Bahous, and Bacha (2010) reported that they tend to share perceptions of computer-assisted language learning, and identify the same motivational factors. It was noted that blogging increased students' interest, motivation, and confidence in writing (Noytim, 2010; Vurdien, 2011). Chen and Brown's (2012) study of collaborative learning through blogging found that seeing others' blogs created an atmosphere of friendly competition, thereby increasing motivation. It is important to note, however, that a minority of researchers have not found a significant difference in motivation between bloggers and non-bloggers (Chen, 2016).

***WeChat* as a Mediated Tool in L2 Collaborative Idiom Learning**

Under the concept of sociocultural theory, as a Web 2.0 technology, *WeChat* is believed to provide this collective scaffolding (Li, 2018; Luo & Yang, 2016; Wang, Fang, Han, & Chen, 2016), and can be an instrumental tool for teachers to help students enhance language skills (Wu, 2015). *Wechat*, with advanced features and functions, has become one of the most popular social applications, not only meeting the demand of social interactions for its users, but providing a new way to fulfill mobile learning that reconstructs an L2 learning environment. Instruction in traditional English classes in China, most of the time, is delivered with a teacher centered way only having students take notes and practice drills passively.

Conversely, *WeChat*, with its multifunctional features of mobile learning, is believed to raise students' awareness of participation in the process of communication so they can apply both their linguistic and communicative skills with other skills such as intercultural communicative competence multiliteracies (Beatty, 2003, 2010; Chapelle, 2005).

Students, according to Kramarski and Gutman (2006), may find themselves more motivated to learn in a tech-supported collaborative environment as the technology-enriched learning is designed to enhance students' self-regulation and motivation. Zhang (2016) implemented the *WeChat* platform to support the practice of flipped class in a Business English course in China. Zhang witnessed a success in using the *WeChat* platform to help students solve complicated tasks during independent learning as well as collaborative learning empowered by *WeChat*'s timeliness, interactivity, and extensiveness. In an exploratory study, Luo and Yang (2016) investigated the effectiveness of implementing *WeChat* in teaching Chinese as a Foreign language at a liberal arts college in the United States, and they concluded that using *WeChat* in the Chinese language courses benefited the learners in five ways: expansion of time in learning, linguistic gains, promotion of cultural learning, enhancement of learning motivation, and establishment of a supportive Chinese language learning community. Chen, Wang, and Mao (2017) analyzed the grouping feature on *WeChat* and found it useful in creating online English corners that promoted Chinese college students' communicative competence and stimulated their interest in using English in both real-life situations and extra-curricular activities. Wang (2017) proposed that *WeChat* be incorporated in oral English classes in China to help English learners with their pronunciation because it can contribute to the creation of a dynamic, positive, and self-directed learning environment for English learners in China. This is because *WeChat* best capitalizes on MALL system and allows language learners to enjoy multimedia interaction,

virtual communication, and digital flexibility. Similarly, Wu and Ding (2017) argued that the *WeChat* platform should be applied to the mobile learning in college English classes in China because of *WeChat*'s popularity, accessibility, efficiency, and mobility. Becoming an essential part of Chinese students' college life, the *WeChat* platform is abundant in multimodal resources pertaining to English learning, optimizing students' interactive communication with its useful features such as sending voice messages, sharing moment videos and pictures, supporting group chats and conferences, and exchanging information channels (short video clips, PPTs, websites, etc). They also asserted that *WeChat* can greatly arouse students' interests of participating in virtual activities, enhance the extensibility of the content in college English classroom(s), and make the students self-directed in English learning process.

In addition, Shi, Luo, and He (2017) reported that *WeChat* (experimental group), offering five advantages for education—multifunctionality, individuality, accessibility, interactivity, and affordability, improved students' English proficiency significantly compared with students in the control group, which shows that *WeChat* can be used as an effective MALL tool to create a virtual language immersion environment and motivate learners to be actively responsive in English learning. Sung and Poole (2017) examined the perceptions of the Chinese-English dyads using *WeChat* for weekly language learning. By intentionally mixing five English speaking students learning Mandarin Chinese as a foreign language and five Mandarin Chinese-speaking international students from China learning English as a second language, they created an opportunity for tandem language learning that advocates “face-to-face exchanges between two learners with different L1s, each trying to learn the other's language” (Chung, Graves, Wesche, & Barfurth, 2005, p. 52). The findings of their study implied that *WeChat* enabled the learners to comfortably chat and practice their target languages as well as have ample time to think before

replying to their partners and avoiding the awkwardness felt when meeting partners in person, providing an environment closer to a real communication environment than other computer-mediated communication tools. In a similar vein, Wang et al. (2016) evaluated the affordances of *WeChat* for two-way L2 language learning, involving one group from a third year Mandarin class at an Australian university and the other consisting of English learning students at a university in Taiwan. They discovered that *WeChat* supported learners' interaction that happened synchronously, semi-synchronously, and asynchronously with its facilitating multimodal environment. They also noted that the media richness of *WeChat* created a positive social environment for cognitive development achieved by learners' interactional modifications and their negotiations of meaning. Li (2018) investigated the affordances accessible to Chinese learners of American college students in *WeChat* communication during a summer study abroad program in Shanghai and he found out that *WeChat* allowed these American college students to, firstly, have a casual space with easy access to native speakers of Chinese and maintain authentic meaning-focused communication with native speakers of Chinese. Secondly, *WeChat* provided a virtual space enriched with multimodal resources such as video clips, memes, stickers, photos, and even code-switching elements (English and Chinese pinyin) for the Chinese learners to create a new identity penetrating into real Chinese cultures and multiliteracy development other than being merely Chinese language learners. Table 4 provides an overview of studies utilizing *WeChat* to promote L2 learning.

Table 4. Studies of Adopting WeChat to Support Students' L2 Development

Studies	Setting	Affordances of <i>WeChat</i>
Zhang (2016)	Business English course in a Chinese university	Helping students solve complicated tasks during independent learning as well as collaborative learning
Luo & Yang (2016)	Chinese class at a liberal arts college in the U. S.	Benefiting the learners in five ways: expansion of time in learning, linguistic gains, promotion of cultural learning, enhancement of learning motivation, and establishment of a supportive Chinese language learning community
Wang et al. (2016)	English learners from Taiwan and Chinese learners from Australia (both college level)	Supporting learners' interaction and creating a positive social environment for cognitive development
Chen, Wang, & Mao (2017)	English learners in a Chinese university	Promoting Chinese college students' communicative competence and stimulating their interest in using English in both real-life situations and extra-curricular activities
Wang (2017)	English learners in China	Helping improve students' English pronunciation and contributing to the creation of a dynamic, positive, and self-directed learning environment
Wu & Ding (2017)	College English learners in China	Optimizing students' interactive communication with its useful features, arousing their interest, and enhancing the extensibility of the content in college English classroom(s)
Shi, Luo, & He (2017)	College English learners in a Chinese university	Improving students' English proficiency significantly, creating a virtual language immersion environment, and motivating learners to be actively responsive in English learning
Sung & Poole (2017)	Chinese learners of American college students and international students studying in the U.S	Enabling the learners to comfortably chat and practice their target languages as well as have ample time to think before replying to their partners and avoid the awkwardness felt when meeting partners in person
Li (2018)	Chinese learners of American college students involving in a summer study abroad program in Shanghai	Providing a casual space with easy access to native speakers of Chinese and maintain authentic meaning-focused communication with native speakers of Chinese and promoting Chinese cultures and multiliteracy development

Apparently, unconstrained by time and space, *WeChat* provides new ways of language learning for students, allowing them to take the initiative and engage in activities catering to their individual needs. More importantly, with its advanced social communication features, such as multi-person simultaneous typing and talking and asynchronous voice/text messages, *WeChat* empowers instructors and learners to collaborate at ease and with flexibility. This shows that, indeed, *WeChat* can be a promising and powerful tool to support language learning. Being the most popular smartphone social media app in China and attracting more than 963 million people worldwide (Boxall, 2017), *WeChat*-Assisted English learning can be widely embraced by more instructors and students with positive attitudes. Given the fact that *WeChat* presents itself as an advanced platform for students to collaborate with high efficiency and motivation in a constructed learning environment, it could be argued that the students involved in collaborative idiom learning supported by *WeChat* would outperform the students who practice their collaborative idiom learning in a traditional English class.

Nonetheless, heretofore, little research has been conducted to fully study the essence of *WeChat* in L2 collaborative idiom learning context. To bridge this research gap, this study is hypothesized to shed light upon *WeChat*'s potential contribution to L2 collaborative idiom learning among a group of college students in China, investigating learners' satisfaction and perceptions upon *WeChat*-Assisted L2 collaborative idiom learning. Several implications are presented in the process of *WeChat*-Assisted language teaching and learning as well.

Task-Based Approach

Tasks have been defined as activities or actions that are carried out with an aim to processing and understanding language (Richards, Platt, & Webber, 1985). Prabhu (1987) and

Willis (1996) considered task as a goal-oriented activity that requires learners to use language to produce a tangible outcome. Prabhu (1987) viewed a task as a piece of work which needs certain processes in order to arrive at a particular result with the teacher serving as a facilitator.

Essentially, all definitions of a task state or imply that meaning should be the primary attention for learners (Skehan, 1998). Samuda and Bygate (2008) further defined a task as a “holistic activity which engages language use in order to achieve some nonlinguistic outcome while meeting a linguistic challenge, with the overall aim of promoting language learning through a process or product or both” (p. 69). Task-based learning activities are believed to provide methods to promote students’ language development as students are given opportunities to be engaged in different situations while using the language. More importantly, by participating in various real life situations, students may develop both their social skills and cognitive skills. In addition, in a CALL/MALL context, Chapelle (1998) suggests ways that CALL tasks can engage learners in interaction that helps them to make essential connections between form and meaning. Doughty and Long (2003) provide principles of task-based language learning that can guide decision making for task development in CALL:

1. Use tasks, not texts, as the unit of analysis.
2. Promote learning by doing.
3. Elaborate input (do not simplify, do not rely solely on “authentic” texts).
4. Provide rich (not impoverished) input.
5. Encourage inductive (chunk) learning.
6. Focus on form.
7. Provide negative feedback.
8. Respect “learner syllabi”/developmental processes.

9. Promote cooperative/collaborative learning.

10. Individualize instruction (according to communicative needs and psycholinguistically). (p. 52)

These principles also show that task-based language learning is an essentially social process requiring learners to engage with real-world authentic language use rather than one generated within the individual. More specifically, in regards to idiom learning, Liantas (2017) argues that “idiom activities and task-based projects requiring use and manipulation of different media will need to be suitable to learners’ age and intellectual capacity befitting their cognitive maturity” (p. 17). In this study, I propose learning English idioms on *WeChat* is in line with CALL/MALL context, engaging learners critically and dynamically in a collaborative learning environment and at the same time, exemplifying the purposes for which the acquired VP idioms are truly used in designed tasks such as problem solving, producing, and communicating needs and interests in the class. For instance, during the 8-week training, the major tasks in this course for the students with *WeChat* intervention from a liberal arts college are:

1. Presenting (by the instructor) the target VP idiom to the whole class.
2. Co-constructing the meaning of the given English idiom in small groups.
3. Looking for relevant information concerning the target VP idiom individually and sharing it to the assigned *WeChat* group by using the multimedia features on it (participants may choose to do this step at their own preferred area).
4. Practicing reading the target VP idiom as a group in a dialogue format on *WeChat* (participants may choose to do this step at their own preferred area).
5. Using the target VP idiom to create a new dialogue collaboratively and performing the dialogue for the whole class via the audio or video recording and sharing feature on

WeChat (participants may choose to do this step at their group-preferred area). The recorded dialogue needs to be shared on Class *WeChat* group by 8 P. M. within the same instruction day.

6. Providing feedback to the performing group via either text or voice feature on Class *WeChat* group by 11:59 P. M. within the same instruction day.

The outcomes above are guided by Nunan's (1989) dividing classroom tasks into pedagogical tasks and real-world tasks. Regarding the pedagogical tasks, students in this study are able to develop their ability to discern VP idioms, use helpful multimedia resources to understand VP idioms, and present VP idioms with a structured dialogue. Performing a creative dialogue with the target VP idiom and presenting authentic feedback on *WeChat* is considered a real-world task, allowing students to promote their communicative skills and knowledge in English.

Generally, Willis (1996) presented six main types of tasks, including listing, ordering and sorting, comparing, problem solving, sharing personal experiences and creative task. For example, in Samuda and Bygate's (2008) study, following a task-based approach, learners developed a digital story product via the use of collected images, topic investigation, revision of drafts, and final product. Systematically, learners were engaged constantly in language processes as they planned and organized the work and distributed tasks with their peers in this digital story product. The authors also asserted that a task has phases that may be broken down into several interrelated steps to make the overall task more manageable. Blin and Appel (2011) emphasized the pivotal role of artifacts used and created by L2 learners in mediating their collaborative learning practice in online, asynchronous, moment-by-moment interactions. In addition, Oskoz and Elola (2012), found that learners, through their interaction either in discussion boards or

chats, oriented and reoriented their jointly formed actions in relation to the objects and desired outcomes. Thus, I believe task-based approach can promote English idiomatic competence of the students in the *WeChat* mediated group, allowing them to share information, interact dialogically, negotiate meaning, and co-construct knowledge collaboratively toward a task of acquiring English idioms effectively. Overall, I hold a stance that the task-based approach can promote students' language development and in particular be integrated with learning VP idioms on *WeChat*.

Summary

In this chapter, I first discussed the importance of CALL and MALL to promote students' linguistic development as well as the benefits of introducing CALL and MALL to an ESL/EFL context. Guided by Vygotsky's sociocultural theory, I then introduced several studies related to L2 idiom learning in CALL and MALL. Studies that manifested the valuable role of social media in facilitating the collaborative learning in terms of learners' achievement, perception, motivation, engagement, and attitude were subsequently reviewed. Therefore, I introduce a popular social media application, *WeChat* and addressed the multimedia features of *WeChat* that support L2 collaborative idiom learning and enhance students' self-regulation and motivation at the same time.

In the following chapter, I will discuss the methodology used in this study, presenting the research design, setting, participants, research instruments, data collection methods, as well as issues pertaining to validity and trustworthiness.

CHAPTER THREE: RESEARCH METHODOLOGY

In this chapter, I introduce the methodological approaches that I employed in this study. I particularly address the research design, setting, participants, researcher's role, research instruments, data collection methods as well as issues concerning validity and trustworthiness. This study adopts Vygotsky's sociocultural theory as the theoretical framework to examine students' English idiomatic competence which is supported by a popular mobile application, *WeChat*, which optimizes students' collaborative learning with its multimedia features and students' accessibility to it. The participants involved in this study are students recruited from a liberal arts college in Northeastern China, taking a core course called Communicative English for Chinese Learners as English majors. Table 5 provides a holistic overview of the methodology of this study, with major information, such as research question, data type, task, instrument, and analysis.

Research Questions

In order to understand to what extent the mobile application, *WeChat* can impact L2 learners' idiomatic competence, I come up with three research questions:

1. Can *WeChat*-Enhanced instruction promote L2 idiomatic competence among Chinese first-year college students?

2. Is there a difference in overall learning experiences between students who use *WeChat* for VP idiom learning and those who do not? If so, what is the nature of these differences in the overall idiom learning experience between students who use *WeChat* and students who do not?

3. How do these students perceive the contribution of the mobile application, *WeChat*, to their English idiom learning and achievement?

Table 5. Overview of Methodology

	RQ	Data Type	Task	Instrument	Analysis
1.	RQ1	Quan	Test idiom learning – 24 VP idioms from 24 lessons	VP Idiom learning achievement test	Independent t-test (<i>SAS 9.4</i>)
2.	RQ2	Quan	Report overall learning experience in four aspects: motivation, attitude, collaboration, and learning experience	VP Idiom learning experience questionnaire	- Test reliability (<i>SPSS 22</i>), - Content validity (expert review), - Independent t-test (<i>SAS 9.4</i>)
3.	RQ3	Qual	State perceptions of using <i>WeChat</i> to learn English idioms (experimental section)	Semi-structured interview	Thematic analysis (<i>ATLAS. ti 8</i>)

Research Design

In order to achieve a holistic view to understand how *WeChat* can mediate students VP idiom learning, I adopted a mixed method design for my study. Creswell (2014) explains that Mixed methods research is an approach to inquiry involving collecting both quantitative and qualitative data, integrating the two forms of data, and using distinct designs that may

involve philosophical assumptions and theoretical frameworks. The core assumption of this form of inquiry is that the combination of qualitative and quantitative approaches provides a more complete understanding of a research problem than either approach alone (p. 32).

Furthermore, Green (2012) argues that a mixed methods research approach “offers dialogic opportunities to generate a better understanding of important social phenomena precisely because it legitimizes and respects multiple responses to these critical issues and invites dialogue among them” (p. 757). This implies that when one data resource is not adequate, researchers may integrate the data with a second method which enhances the primary method. In so doing, the validity of study will be increased. Green’s argument is resonated with Creswell and Plano Clark’s (2011) statement that the central premise of a mixed methods design is “that the use of quantitative and qualitative approaches, in combination, provides a better understanding of research problems than either approach alone” (p. 5). Notwithstanding the fact that additional time that might be expected, I believe using a mixed methods design can best yield the results of my study as well as elevate my confidence in the results and conclusions I present. Specifically, multiple data sources (i. e., tests, questionnaires, and interviews) are considered and orchestrated in this study.

Academic Setting: The Communicative English Course

This study took place at a liberal arts college in Northeastern China. Participants involved in this study were first-year English major students, taking a core course called Communicative English for Chinese Learners (will be addressed as CECL henceforth). The participants were incoming university English majors and likely did not have any intensive idiom learning

experience prior to this study, as the high school English curriculum in China is task-based and grammar oriented. I chose the CECL course as my research for two main reasons. To begin with, the CECL course was aimed to develop students' communicative competence, which is characterized by one's ability to use language effectively in unrehearsed, unstructured transactions with native speakers (Savignon, 1972). Essentially, communicative competence is related to students' VP idiom learning as Liantas (2009) argues that "idiomatic competence empowers learners to use language in socially responsive ways" (p. 2) and that "idioms are a frequently occurring element of everyday communication" (p. 7). Thus, students were encouraged to learn VP idioms in the CECL course because idioms possess extraordinary effectiveness and rhetorical power (p. 7). Next, as stated in the literature review, notwithstanding that there is much research done in showing how CALL/MALL can contribute to students' L2 idiom learning (Kargozari & Tafazoli, 2012; Luk & Ng, 1998; Thornton & Houser, 2005; Wong et al., 2010), little research has been conducted to determine the role that *WeChat* plays in the L2 collaborative idiom learning context. To this end, I believe it is important to investigate the affordance of *WeChat* in regards to the aspects in L2 idiom learning such as collaborative learning process, multimedia features, and multi-directional ZPD.

There were two sections of the CECL course taught by one female instructor (Amy) in the Spring semester of 2018. The instructor adopted a task-based approach leading students to achieve various tasks such as discussions, dialogues, role-play activities, and structured exercises. She valued the pivotal role of CALL/MALL in the CECL course and endeavored to embrace this proposed research project. Generally, students in both sections were required to come to class three times a week and each class lasted for 90 minutes. Mainly, the two sections were expected to provide intensive training focusing on speaking and listening skills. This CECL

course was considered as a core course for English major students in their freshman year and covered many daily discourse topics such as meeting people, discussing daily life, describing things, talking about people, and so on and so forth. This course consisted of five major assignments: vocabulary exercises, discussions, dialogue practices, role-play activities, and after-class worksheets.

Students in both sections of the CECL course received an intensive, 8-week idiom training module. Since this study concentrates on utilizing *WeChat* for students' English idiom learning, I planned to integrate *WeChat* into one of the two sections, the experimental section. *WeChat* played an essential role in two assignments: dialogue practices and role-play activities. Details of the integration are presented in the subsequent section of this chapter. The control section received a comparable 8-week idiom module that did not incorporate *WeChat*. Before the study started, initially, the participating students in both sections (experimental and control) took a pre-test designed by me. After the 8-week training, the participants in both sections took an immediate post-test to compare their learning achievement for the quantitative analysis. Then, both sections were required to take a questionnaire adapted from Liantas' (1999) dissertation to measure their overall idiom learning experience. Lastly, five voluntary participants were selected for a semi-structured interview constituting the qualitative data.

Course materials and instruction

Textbook. The textbook used in the CECL course was *Communicative English for Chinese Learners, Integrated Course One* (Li, 2012). This textbook, published by the Foreign Language Teaching and Research Press, was adopted by many key universities in China and applied to mostly English majors. This textbook was designed with an aim to promote

communicative competence of Chinese learners of English and to empower students with comprehensive English skills to tackle a variety of tasks in real life situations. Using a task-based approach, this textbook expected students to manage using English language effectively in various contexts pertaining to the core subjects such as English literature, English Film Appreciation, Introduction of English-speaking Countries, Teaching Methods in English Education, Foundation of Linguistics, and Business English for students majoring in English.

101 American English Idioms. The idiom learning material is entitled *101 American English Idioms* (Collins & Risso, 2007). This book is designed to provide a situation and a graphic illustration of American idioms (many belonging to VP idioms) to help nonnative speakers of English convey the feeling of the idiomatic expression and the circumstances under which it may be used. Liantas (1999) recommends this book as it “presents conversational exchanges and narrative texts in paragraph length and includes only one idiom per text” (p. 124). He further explains that “the texts are written with the natural tone of the target language in mind, and idioms are presented in a natural context to further clarify its actual meaning and use in everyday speech” (p. 124). More importantly, the illustrations embedded aid readers in deciphering the meaning of the idiomatic expressions effectively because the graphics allow them to depict the humor in the given idiom and contrast between the literal and actual meaning of the idiom presented in the corresponding text. *101 American English Idioms* is thus very compatible with the CECL course and intends to promote English idiomatic competence of the participants.

Participants

Participants in this study, having their first year study from a liberal arts college in Northeastern China, were 55 (N = 55) English-major undergraduate students enrolled in two sections (will be addressed as CECL 1 and CECL 2) of CECL in the Spring of 2018. Twenty-five were from the CECL 1 Section with two males and twenty-three females (N1 = 25; Male = 2, Female = 23). Thirty come from the CECL 2 Section with one male and twenty-nine females (N2 = 30; Male = 1, Female = 29). The participants received intensive English training by enrolling in a series of core courses such as Communicative English, Intensive English Reading, Translation between Chinese and English, Oral English, and English Film Appreciation during their first two years in the English department. Starting from their third year, the participants would choose either the English Education major or the Business English major. The participants' ages ranged from 18 years old to 20 years old. Their English proficiency levels were considered to be intermediate. They were recruited to the English program which required students to achieve 90 plus (150 full score) in the English Subject Test in the China's National College Entrance Exam.

Control Section (the CECL 1 Section). The control section consisted of 25 students (N1 = 25) who were taking a CECL course during their first year of undergraduate study at a liberal arts college in Northeastern China. Prior to this study, the CECL 1 Section had no intensive English idiom training nor any experience of learning English supported by instructional technologies. In the CECL class, the CECL 1 Section was using a textbook called Communicative English for Chinese Learners-Integrated Course One. The instructor adopted a student-centered approach to conduct various activities such as listening trainings, group discussions, dialogue readings, role-plays and worksheet practices in the class. Quizzes and the

final exam constituted the evaluation measuring students' learning achievement. The CECL 1 Section received the 8-week idiom learning training without any technology support.

Experimental Section (the CECL 2 Section). The experimental section had 30 students (N2 = 30) and it had the same setting (textbook, classroom activities, and teaching approach). However, in regards to the idiom learning activity, the CECL 2 Section received the 8-week training with an intervention, *WeChat*.

The Instructor and Task-based Approach. The instructor is a very experienced college level English teacher holding a Master of Arts in English Teaching degree. She had been teaching the CECL course for over 10 years, yet she seldom integrated her teaching with instructional technologies. Regardless of little experience of using technologies in her CECL class, she held a positive perspective about instructional technologies and she was willing to cooperate and participate in conducting this study. Mainly, in this study, the instructor played the role of facilitator and provided directives to guide students to go through a variety of tasks in VP idiom learning. In addition, the instructor maintained strong communication with me and followed specific guidelines and procedures to collect data such as participants' scores in pre- and post-tests, overall learning experiences reflected via a questionnaire, and perceptions of VP idiom learning on *WeChat* via interviews. Table 6 introduces the systematic steps of using the task-based approach to teach English idioms in the CECL 1 Section and the CECL 2 Section. The CECL 2 Section differs from the CECL 1 Section by having *WeChat* as a virtual platform for its participants to learn English idioms collaboratively. Specifically, instead of learning English idioms in a physical environment, participants in the CECL 2 Section were able to construct the meaning of the target VP idioms by utilizing the multimedia features on *WeChat*

and perform tasks such as, sharing relevant resources, creating dialogues, and providing feedback at their own preferred places.

Table 6. Comparison of Task-based Approach between CECL 1 and CECL 2

Steps	Control Section (CECL 1 Section)	Experimental Section (CECL 2 Section)
1	The instructor presenting the target VP idiom to the whole class	The instructor presenting the target VP idiom to the whole class
2	Co-constructing the meaning of the given English idiom in small groups.	Co-constructing the meaning of the given English idiom in small groups.
3	Looking for relevant information concerning the target VP idiom in small groups in the classroom.	Looking for relevant information concerning the target VP idiom individually and sharing it to the assigned <i>WeChat</i> group by using the multimedia features on it (participants may choose to do this step at their own preferred place).
4	Practicing reading the target VP idiom as a group in a dialogue format in the classroom.	Practicing reading the target VP idiom as a group in a dialogue format on <i>WeChat</i> (participants may choose to do this step at their own preferred place).
5	Using the target VP idiom to create a new dialogue collaboratively and performing the dialogue in front of the whole class.	Using the target VP idiom to create a new dialogue collaboratively and performing the dialogue for the whole class via the video recording and sharing feature on <i>WeChat</i> (participants may choose to do this step at their group-preferred place). The recorded dialogue needs to be shared on the Class <i>WeChat</i> group by 8 P. M. within the same instruction day.
6	Providing immediate feedback to the performing group.	Providing feedback to the performing group via either text or voice feature on the Class <i>WeChat</i> group by 11:59 P. M. within the same instruction day.

Researcher's Role

My academic expertise in cultural norms and idiomaticity and teaching experience with ELs helped me conduct this research and guided the instructor at the liberal arts college in China to distribute the tasks and collect the data carefully following the protocols. First, before this study started, I had regular meetings with the instructor and let her know that because I was a sociocultural scholar, sociocultural theory may tie in with both the design and the execution of this study and perhaps more so to the proposed task-based approach during the 8-week English idiom training. Second, I was a supervisor and observer and maintained good communication with the instructor via emails, providing clear information concerning the teaching procedures and data collection. Third, participating as an observer and a technical consultant, I kept notes of all ongoing information and reports from the instructor and offered suggestions and ideas to better execute the instruction and tasks accordingly.

Ideally, I wanted myself to be etic, conducting this research as an observer. As planned, I observed the experimental section's interactions on *WeChat* and obtained weekly reports from the instructor to know the control section's academic progress. During the data analysis process, despite my pursuing objectivity in interpreting the data, I might be biased due to my understanding in sociocultural theory and my strong beliefs in cognitive theory of multimedia learning, which may lead to a narrow and one-sided understanding of the collected data. In an attempt to reduce my biases, I gathered more information from the instructor to better understand the curriculum of the CECL course, the goals and objectives for the participants in the English department, and the overall challenges and concerns of the participants at the university. As the participants in this study were all second language learners, I sought advice from both qualitative researchers and SLA specialists to interpret the data in a deconstructive way as Derrida argues

that people “must see texts as unstable and open to infinite interpretation [metaphor; semiotics],” and he continues to argue that “the meaning of words is always constructed with reference to what they do not mean” (see Thorpe & Holt, 2008). Hence, I recognized my position as a second language specialist and worked with qualitative researchers, deconstructing the data and ultimately capturing all the dimensions of the meaning from the data.

Instruments

In this study, I employed three instruments with the aim to answer the three study research questions: a pre- and post-test, a questionnaire, and semi-structured interviews

Pre- and post-test

A pre- and post-test called *VP Idiom Learning Achievement Test* (see Appendix B) was used to test the participants’ learning achievement in both sections. Specifically, 30 multiple choice questions, with a total score of 30, were created to measure students’ idiomatic competence in the pre- and post-test. All the 30 multiple choice questions were designed based on the teaching material, *101 American English Idioms* (Collins & Risso, 2007). To ensure the inter-rater reliability of the pre- and post-test results from the two sections, two English instructors were recruited to grade the tests based on the provided answer keys.

Questionnaire

The questionnaire *Overall Idiom Learning Experience Questionnaire* (see Appendix C) in this study was adapted from Liontas’ (1999) dissertation in the field of L2 idiom learning. It was utilized to explore the overall idiom learning experience among the participants in both

sections. The instrument consisted of 20 items graded on a five-points Likert scale (from 1= completely disagree, to 5=completely agree) of participants' learning experience that students felt regarding four different aspects of idiom learning: motivation, attitude, collaboration, and learning experience. Two instructors from the liberal arts college were recruited to evaluate the questionnaire's content validity including the clarity, relevance, length, and format prior to its administration.

Interviews

Interviewing is the central resource via which contemporary social science (and society) engages with issues that concern it, giving "voice" to persons who may never have been heard before and offering privileged access to authentic experience, private worlds, and true selves (Atkinson & Silverman, 1997). While collecting data in various forms in qualitative research, the interview has been the mainstay and "gold standard" (Silverman, 2000, p. 291). In particular, semi-structured interviews "involve specifying the key themes of the interview that are, in turn, formulated as key questions" that are aligned with the researcher's interests in mind, allowing the researcher to have a deep involvement in the conversation with the interviewee(s) creatively (Gibson & Brown, 2009, p. 88). After the 8-week experiment, I selected five volunteer participants in the CECL 2 Section and conducted semi-structured interviews (see Appendix D) which consisted of eight guiding questions concerning the participants' perceptions about using *WeChat* to learn English idioms. Moreover, the interview aimed to reflect the participants perspectives, feelings, and suggestions in this 8-week idiom learning training supported by *WeChat*.

Data Collection

Prior to the proposal defense of this dissertation, I started the process of preparing materials for IRB on Human Subjects and got it approved by USF by justifying all the rationales and procedures required. After the IRB was granted, I had a meeting with the instructor from the liberal arts college in China, letting her know the systematic procedure of doing the experiment and collecting the data accordingly, with the three instruments mentioned above.

First, before starting this 8-week idiom learning experiment, the instructor was expected to ask participants from both the CECL 1 Section and the CECL 2 Section to take a pre-test, *VP Idiom Learning Achievement Test* (Appendix B). The test was proctored by the instructor via a face-to-face paper form, and then scanned and emailed to me for further analysis. With the aid of emails, both pre- and post-test results of the two sections were recorded and then analyzed by me after the participants took the same test (post-test) when the experiment was completed. To ensure the validity of the test results, the instructor proctored the pre- and post-test in her class at the college and maintained frequent communication with me in case of any unexpected situations.

Second, participants from both the CECL 1 Section and the CECL 2 Section, after the 8-week idiom learning training, were expected to take a questionnaire, *Overall Idiom Learning Experience Questionnaire* (see Appendix C), reporting their learning experience as well as other aspects, such as motivation, attitude, and collaboration. The questionnaire was also presented on *Qualtrics*. For convenience, the questionnaire was taken by the participants after they completed the post-test at the assigned computer lab proctored by the instructor.

Last, the participants in the CECL 2 Section were asked if they were willing to be

interviewed on the *Overall Idiom Learning Experience Questionnaire*. Five volunteers, having expressed an interest in participating in the interview, were randomly selected in the *Qualtrics* system. Agreeing upon a scheduled time for the interview (semi-structured with 8 questions, see Appendix D), these five volunteers were individually interviewed by the instructor at a designated place. To ensure the quality and safety of the data, the instructor interviewed the volunteers with the recording feature on both her smartphone and laptop. Having the instructor as the interviewer, I may reduce my subjectivity in the interview process. After completing all five interviews, the instructor sent over the data to me via email for final analysis.

Data Analysis

Basic descriptive statistics including mean, standard deviation, skewness, and kurtosis was reported. An independent t-test, with an alpha level of .05, was conducted via *SAS 9.4* to test the statistically significant idiomatic competence difference between the pre-tests for both sections. Students in both sections were expected to have little or no idiomatic background regarding these English idiomatic terms before they received any training. Statistically, there was no significant difference of idiomatic competence between the CECL 1 Section and the CECL 2 Section from the tests' results in the pre-test. After this 8-week training, a post-test was administered for both sections. An independent t-test was conducted again based on the post-tests' results in both sections. I assumed that the participants from the CECL 2 Section would score statistically higher than the CECL 1 Section in the post-test. In addition, the effect size of the CECL 2 Section was calculated to explore the effectiveness of promoting students' idiomatic competence via *WeChat*.

Moreover, after the 8-week training, the *Overall Idiom Learning Experience*

Questionnaire was administered by the instructor to the students from both the CECL 1 Section and the CECL 2 Section. The internal consistency reliability was deduced through calculating Cronbach's alpha from SPSS. Nunnally (1978) is often associated with the assertion that instruments used in basic research should have a reliability of .70 or higher (p. 245). As expected, the *Overall Idiom Learning Experience Questionnaire* instrument had an acceptable internal consistency reliability rate. The mean scores from two sections were calculated with the highest and lowest scores of 5 and 1. I hypothesized that the students from the CECL 2 Section would hold higher satisfaction of overall idiom learning experience than the students from the CECL 1 Section.

For social researchers, qualitative data analysis is a search for general statements about relationship and underlying themes (Marshall & Rossman, 2006, p. 154). Qualitative data analysis "involves coding the data, dividing the text into small units (phrases, sentences, or paragraphs), assigning a label to each unit, and then grouping the codes into themes" (Creswell & Plano, 2011, p. 208). In order to explore and understand the participants' perceptions in the CECL 2 Section, I needed to generalize themes from the interviews and determined the relationships between the codes in the categorized themes.

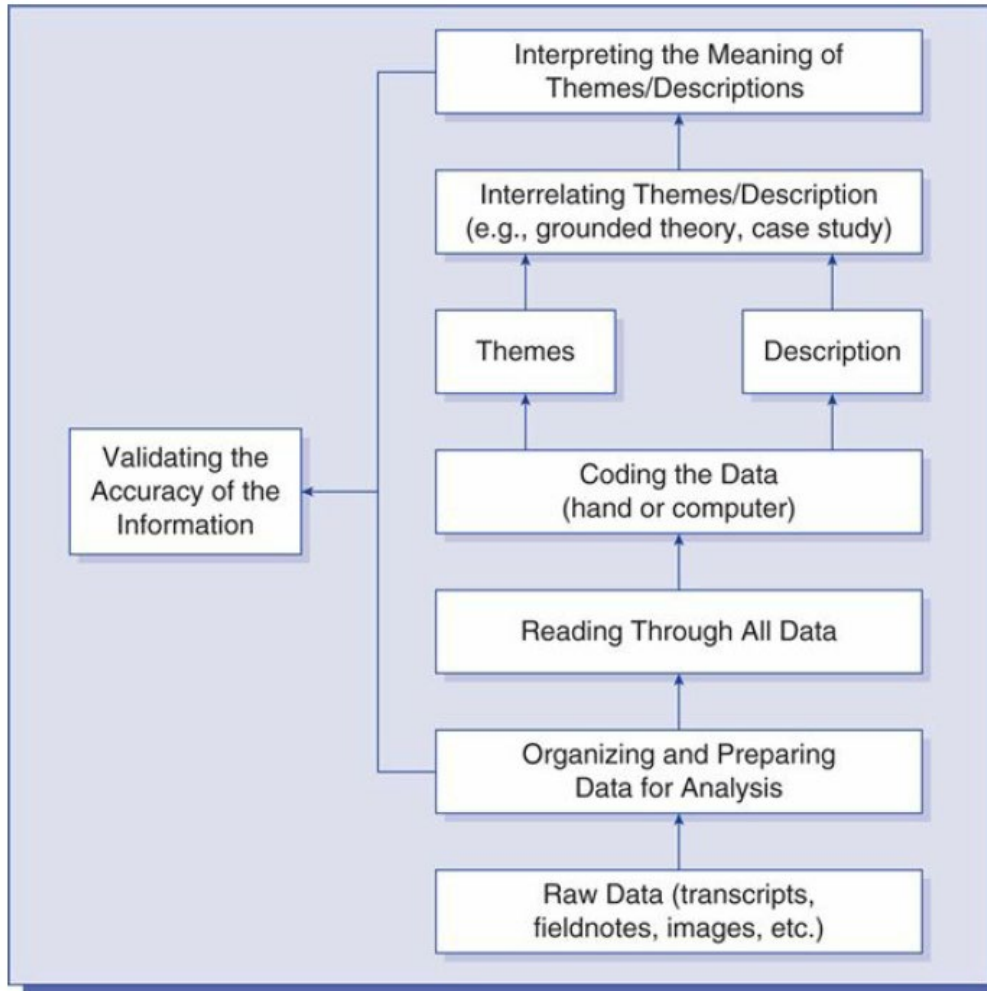


Figure 2. Overview of the data analysis process. Reprinted from *Research design: Qualitative, quantitative, and mixed methods approaches* (4th ed.) (p. 197), by J. W. Creswell, 2014, Thousand Oaks, CA: Sage. Copyright 2008 by Sage Publishing. Reprinted with permission (see Appendix E).

Following Creswell's (2014) *Overview of the Data Analysis Process* (Figure 2), I analyzed the data collected through the interviews in the following steps below:

1. I accessed the data of all the recorded interviews. The interviews were transcribed on *Google Docs* software that saved all the information automatically online. After each transcription was reviewed three times, the instructor at the liberal arts college in China

examined the accuracy of the transcribed data and confirmed the final transcriptions with me.

2. I started the coding process by aligning the key concepts from the interview questions with some pertinent pre-categories (themes) in the transcriptions.
3. I further interpreted the meaning of the categorized themes and related these themes to the key concepts concerning the CECL 2 Section participants' perceptions of using *WeChat* to learn VP idioms.
4. I finalized the interrelated themes (codes), created an abbreviation for each category, and alphabetized these codes.
5. I assembled the data material belonging to each category and transferred the data material to the qualitative data analysis software, *ATLAS.ti 8*, which USF is licensed to use in order to perform preliminary analysis.
6. I integrated all the data output into *ATLAS.ti 8* and made an interpretation of the findings.

Validity

Creswell and Plano Clark (2011) define validity in mixed methods research as “employing strategies that address potential issues in data collection, data analysis, and the interpretations that might compromise the merging or connecting of the quantitative and qualitative strands of the study and the conclusions drawn from the combination” (p. 239).

Guided by this definition, I implemented some strategies which are stated below to minimize any threats to the validity:

1. Before conducting this study, I had had extensive discussions with the instructor to

ensure that all the participants were able to get access to *WeChat* supported by their mobile devices in their daily life, especially the CECL 2 Section. Moreover, the participants enrolled in this research had similar idiomatic competence and were willing to have intensive idiom training as idiom learning was highly related to the course objectives. The similar background and English level of the participants made the data comparable and allowed me to analyze the collected data with fewer biases.

2. In order to ensure the validity of the findings for Research Question One and Research Question Two, after my own analysis and interpretation, I invited two statisticians in the Educational Measurement Department at USF to review the results and refine the interpretations of the results until we three reached a consensus on the appropriateness of the findings.
3. Lincoln and Guba (1985) explain that credibility is crucial to establish trustworthiness (validity) and that credibility is associated with confidence in the “truth” of the findings. I triangulated the data as Merriam (1998) asserts that triangulation can strengthen reliability as well as internal validity. Kunda (1992) also argues that triangulation offers a comprehensive understanding of the data sources and can be crucial for the richness of a research. Therefore, I collected the data via both questionnaire and interviews to examine participants’ attitudes and perceptions of using *WeChat* to learn English idioms.
4. Since both the instructor and I are native Mandarin speakers and consider English to be our L2, which is influenced by our Chinese culture and history, I invited one Ph. D. candidate whose L1 is English as an external auditor to review my codes and themes as well as my interpretation of the results from the interviews. In so doing, I would be less

biased and present the findings more objectively.

5. In regards to external validity, referring to the applicability or transferability to other contexts or subjects in research (Lincoln & Guba, 1985), the results of this study may not be generalizable to other schools in China. Nonetheless, I believe this research can definitely provide insights for ESL practitioners in China and guide them to implement *WeChat* in class activities that allow students to embrace more collaboration and to comprehend the target knowledge more effectively.

Summary

In this chapter, I first discussed the research methodology employed to examine the learning achievement in the control section and the experimental section, explored participants' overall idiom learning experience in the two sections, and investigated the participants' perceptions in the experimental section regarding learning VP idioms through *WeChat*. I then segued into the introduction about the research design, academic setting, participants, researcher's role, instruments, data collection and analysis, validity, and limitations. I explained why I chose to utilize a mixed method for the research design as well as provided details concerning the instruments and data analysis, clearly stating my role in conducting this study.

CHAPTER FOUR: RESULTS

The purpose of this study is to investigate how the mobile application, *WeChat*, can advance the English idiomatic competence of the first-year college students majoring in English at a liberal arts college in China. In this chapter, I present the analysis and findings pertaining to my three research questions. These findings are drawn from the analysis results on the *VP Idiom Learning Achievement Test* (Appendix B), the *Overall Idiom Learning Experience Questionnaire* (Appendix C), and the *Semi-structured Interview* (Appendix D). This chapter concludes with answers to the research questions posed in this study.

Informed by both Vygotsky's (1978) sociocultural theory and Mayer's (2001) cognitive theory of multimedia learning, this study seeks answers to three research questions:

1. Can *WeChat*-Enhanced instruction promote L2 idiomatic competence among Chinese first-year college students?
2. Is there a difference in overall learning experiences between students who use *WeChat* for VP idiom learning and those who do not? If so, what is the nature of these differences in the overall idiom learning experience between students who use *WeChat* and students who do not?
3. How do these students perceive the contribution of the mobile application, *WeChat*, to their English idiom learning and achievement?

Using a mixed methods design that allows researcher to obtain a richer and more contextual understanding of the phenomenon being researched (Creswell & Plano, 2011).

Accordingly, I employed three instruments to answer the study's research questions above: a pre-

and post-test, a questionnaire, and a semi-structured interview. In total, fifty-five students agreed to participate in this study and completed an eight-week idiom training. There were two sections among the fifty-five students, with thirty students in one section (CECL 1 Section) using a teacher-centered pedagogy to learn the target English idioms, and twenty-five students in the other section (CECL 2 Section) having *WeChat* as a virtual platform to receive this idiom training.

Prior to the eight-week training, students in both sections completed a pre-test called the *VP Idiom Learning Achievement Test* to demonstrate their idiomatic competence: “the ability to understand and use idioms appropriately and accurately in a variety of sociocultural contexts, in a manner similar to that of native speakers, and with the least amount of mental effort” (Liontas, 2015, p. 623). Then, after the eight-week idiom training, both sections, using a survey software *Qualtrics*, reported their learning experience by taking the *Overall Idiom Learning Experience Questionnaire* consisting of four subscales: motivation, attitude, collaboration, and experience. Having agreed to be interviewed in the questionnaire, five randomly selected participants in the CECL 2 Section collaborated with the instructor, Amy, to present their perceptions of using *WeChat* to acquire English idioms during the eight-week training via a semi-structured interview. To protect the privacy of the participants, the five voluntary participants are addressed with pseudonyms, Grace, Megan, Liz, Tiger, and May.

R1 Results

Can WeChat-Enhanced instruction promote L2 idiomatic competence among Chinese first-year college students?

Descriptive statistics including mean, standard deviation, skewness, and kurtosis are reported. Independent t-tests, with alpha level of .05, were conducted via *SAS 9.4* to test the statistically significant idiomatic competence difference between the pre-tests for both sections. After this eight-week training, a post-test was administered for both sections. Independent t-tests were conducted again based on the post-tests' results in both sections.

To evaluate the effect of *WeChat*, independent t-tests were conducted for both the CECL 1 Section and the CECL 2 Section before and after the CECL course. The mean and standard deviation of the pretest are 8 and 2.48 for the CECL 2 Section, and 7.72 and 2.15 for the CECL 1 Section. Skewness and kurtosis were examined for both sections. As shown in Table 7, the two sections' pre and post test scores are approximately normally distributed (skewness ranges from -1.10 to 0.19, and kurtosis is ranges from -1.07 to 2.79). The results indicate that these two sections of students did not statistically differ from each other prior to the CECL course, $t(53) = -0.45, p = 0.655$ (see details in Table 7). The t-value is -0.45 with 53 degree of freedom, and the associated p -value is 0.655, which is greater than the normal $\alpha=0.5$. This reveals that there is no statistically significant difference between the CECL 1 Section and CECL 2 Section. In other words, the two sections of students had equivalent idiomatic competence before taking the course.

For the post-test, the mean and standard deviation for the CECL 2 Section are 18.92 and 4.39, and for the CECL 1 Section are 14.67 and 2.93. In contrast to the pre-test, the p -value ($<.0001$) of the post-test is smaller than the alpha level ($=.05$), which reveals statistically significant mean difference between the CECL 1 Section and the CECL 2 Section after taking the course. That is, the post-test score of the CECL 2 Section is significantly higher than the CECL 1 Section. In addition, the dependent t-tests were used to assess the effectiveness of the

idiom training for both sections. The results (see details in Table 8) show that the idiom training course has a statistical significant impact on both sections. However, the effect size for the CECL 2 Section (Cohen's $d = 2.13$) is larger than the CECL 1 Section (Cohen's $d = 1.98$). Thus, *WeChat* as an intervention for promoting idiomatic competence allows participants in the CECL 2 Section to acquire the target VP idioms more successfully than the participants in the CECL 1 Section during the eight-week idiom training.

Table 7. Descriptive statistics and independent t-tests for the CECL 1 Section & the CECL 2 Section

Test	Section	Mean	SD	Skewness	Kurtosis	t Value	df	p-value
Pre-test	CECL 2	8.00	2.48	-1.10	2.79	-0.45	53	.655
	CECL 1	7.72	2.15	-0.02	-0.47			
Post-test	CECL 2	18.92	4.39	-0.03	-1.07	4.28	53	<.0001
	CECL 1	14.67	2.93	0.19	0.73			

Note. The number of students in the CECL 2 Section = 25; The number of students in the CECL 1 Section = 30.

Table 8. Dependent t-tests of pre- and post-test for the CECL 1 Section and the CECL 2 Section

Section	Mean Dif	SD	t Value	df	p-value	Effect size
CECL 2	11.2	5.26	10.44	24	<.0001	2.13
CECL 1	6.67	3.36	10.88	29	<.0001	1.98

Note. Dif = difference; SD = standard deviation, df = degree of freedom.

R2 Results

Is there a difference in overall learning experiences between students who use WeChat for VP idiom learning and those who do not? If so, what is the nature of these differences in overall idiom learning experience between students who use WeChat and students who do not?

After the eight-week training, the *Overall Idiom Learning Experience Questionnaire* was administered by the instructor to the students from both the CECL 1 Section and the CECL 2 Section. The internal consistency was assessed by calculating Cronbach's alpha via *SPSS statistics 24* and evaluated in compliance with the criteria (George & Mallery, 2003): $\alpha \geq .9$ is Excellent, $.9 > \alpha \geq .8$ is Good, $.8 > \alpha \geq .7$ is Acceptable, $.7 > \alpha \geq .6$ is Questionable, $.6 > \alpha \geq .5$ is Poor, and $\alpha \leq .5$ is Unacceptable.

Table 9 displays the internal consistency reliability of the four subscales, which delineates how well the items under each subscale measure the same construct or idea. Cronbach's alphas for the four subscales are consistently higher than 0.7, indicating the internal consistency reliability of the four subscales is acceptable. The total scores for each subscale were calculated to compare the overall learning satisfaction of the VP idiom training for the two sections. Although no statistically significant difference were shown between the two sections

in regards to the motivation, attitude, collaboration, and experience of the VP idiom learning, the mean of each subscale in the CECL 2 Section is consistently higher than the one in the CECL 1 Section (see details in Table 10). This shows participants in the CECL 2 Section had a slightly better idiom learning experience than the participants in the CECL 1 Section with respect to their motivation, attitude, collaboration, and experience after completing the eight-week idiom training.

Table 9. Reliability of four subscales

Subscale	N of item	α	95% CI of α
Motivation	5	.857	.785-.910
Attitude	5	.725	.587-.828
Collaboration	5	.820	.730-.887
Experience	5	.781	.671-.863

Note. N of item = number of item; α = Cronbach's alpha; CI = confidence interval.

Table 10. Independent t-test of four subscales for CECL 1 Section and CECL 2 Section

Subscale	Section	Mean	SD	Skewness	Kurtosis	t Value	df	p-value
Motivation	CECL 2	19.13	3.96	-0.33	-0.42	0.31	50	.76
	CECL 1	18.82	3.19	0.27	0.05			
Attitude	CECL 2	19.04	2.94	-0.58	1.26	0.97	50	.34
	CECL 1	18.28	2.69	0.38	-0.10			
Collaboration	CECL 2	19.39	3.01	-0.05	-1.27	1.14	49	.26
	CECL 1	18.42	2.99	0.09	-0.28			
Experience	CECL 2	17.74	2.75	-0.06	-0.94	0.03	49	.97
	CECL 1	17.71	2.78	0.94	0.88			

R3 Results

How do these students perceive the contribution of the mobile application, WeChat, to their English idiom learning and achievement?

In the *Overall Idiom Learning Experience Questionnaire*, twenty-two participants in the CECL 2 Section (N=25) expressed that they were willing to participate in the post-training interview. Having informed the instructor (Amy) at the liberal arts college that I had adopted a random sampling strategy for this study, which was expected to “substantially increase the

credibility of the results” (Patton, 2015, p. 270), I asked the instructor to randomly select five participants among the twenty-two potential participants who were able to be interviewed based on the instructor’s assigned schedule.

On a morning of the instructor’s working day in the 2018 spring semester, five voluntary participants (one male and four females) came to Amy’s office. Each interview lasted for approximately ten minutes and was semi-structured, with Amy’s facilitating ambiguous and fragmented answers. Since the questions for the interview were open-ended, Amy was able to encourage the participants to present their thoughts in depth. Following the discussed procedure for the interviews, Amy first let each participant review the consent form that they signed prior to the eight-week idiom training and expressed that this interview would be recorded but the interview would not be shared with others. Then, Amy used her iPhone to digitally record each interview and labeled each recorded interview with the participant’s student ID number. Next, Amy emailed the recorded interviews to me and I transcribed each interview accordingly. Last, ensuring the validity of the transcribed interviews and maximizing the transcription quality (Given, 2008, p. 885), I invited both a graduate student from the field of second language acquisition and Amy to review the transcripts of each interview.

Coding Procedure and Strategies

Following Creswell’s (2014) procedure for qualitative data analysis (see Figure 2), I firstly input the transcripts of the five interviews to a MS Word document and loaded this file into a Computer-Assisted Qualitative Data Analysis Software (CAQDAS) called *ATLAS.ti 8*, which, according to Saldana (2013), “can keep you abreast of the codes and their frequencies as analysis progresses” (p. 22). More importantly, CAQDAS programs with their indexing

functions like *ATLAS.ti 8* can allow researchers to “maintain a list of codes that [they] have created and provide space to define them” (p. 25) as well as “organize evolving and potentially complex coding systems” effectively (p. 31). Secondly, I read through the transcription and initiated the open coding process by using both descriptive and in Vivo codes. Employing descriptive codes allowed me to summarize my participants’ perceptions of using *WeChat* to learn English idioms while coding via in Vivo method (a word or short phrase in the original texts) helped me elicit “the data rooted in the participant’s own language” (p. 7), which I believe better captured my participants’ feelings toward VP idiom learning via *WeChat*.

Thirdly, I went through the transcripts of the five interviews again, and then I crafted nine themes based on the fifty codes (see Figure 4) I created in *ATLAS.ti 8* by referring to Braun and Clarke’s (2006) thematic analysis procedure (see Figure 3). According to Braun and Clarke, thematic analysis is “a method for identifying, analyzing and reporting patterns (themes) within data” (p. 79). That is, employing thematic analysis allow researchers to identify themes while they are investigating the interrelated codes. Specifically, I converted the fifty codes I created in *ATLAS.ti 8* into nine themes: (1) *WeChat*’s contribution to idiom learning, (2) multimedia mediation, (3) advantages of idiom learning via *WeChat*, (4) disadvantages of idiom learning via *WeChat*, (5) affordances of collaborative idiom learning via *WeChat*, (6) idiomatic and communicative competence, (7) feelings toward idiom learning via *WeChat*, (8) difficulties of idiom learning via *WeChat*, and (9) suggestions of idiom learning via *WeChat*. Intentionally, I created these nine themes to align with the essential ideas in my interview questions (see Appendix E).

Lastly, after integrating all fifty codes into nine themes, I wrote up interview-related summaries and presented my own interpretation of the research findings.

Phase	Description of the process
1. Familiarizing yourself with your data:	Transcribing data (if necessary), reading and re-reading the data, noting down initial ideas.
2. Generating initial codes:	Coding interesting features of the data in a systematic fashion across the entire data set, collating data relevant to each code.
3. Searching for themes:	Collating codes into potential themes, gathering all data relevant to each potential theme.
4. Reviewing themes:	Checking if the themes work in relation to the coded extracts (Level 1) and the entire data set (Level 2), generating a thematic 'map' of the analysis.
5. Defining and naming themes:	Ongoing analysis to refine the specifics of each theme, and the overall story the analysis tells, generating clear definitions and names for each theme.
6. Producing the report:	The final opportunity for analysis. Selection of vivid, compelling extract examples, final analysis of selected extracts, relating back of the analysis to the research question and literature, producing a scholarly report of the analysis.

Figure 3. Phases of thematic analysis. Reprinted from “Using thematic analysis in psychology,” by V. Braun & V. Clarke, *Qualitative Research in Psychology*, 3(2), 77-101. Copyright 2006 by Taylor & Francis Publishing. Reprinted with permission (see Appendix F)

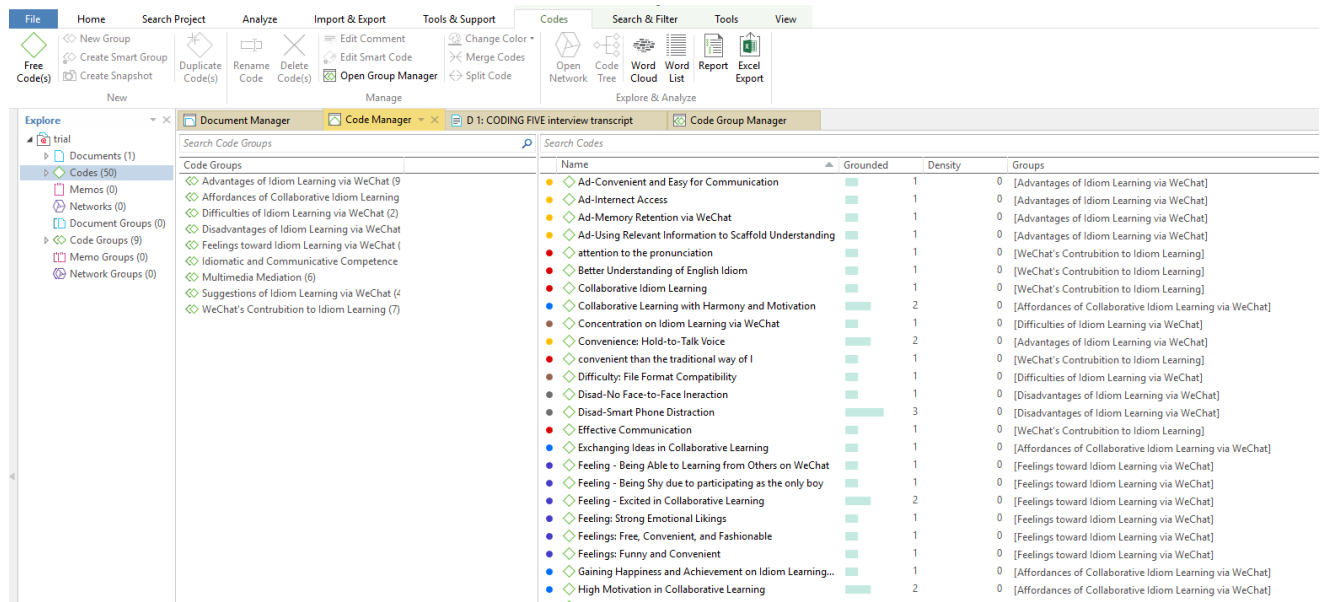


Figure 4. Interview coding on ATLAS.ti

Findings

Nine themes, which reflected the key inquiries among all the interview questions, emerged from the data analysis in *ATLAS.ti 8*. Overall, all the five participants noted that they had a positive learning experience of using *WeChat* to acquire English idioms and thereby encouraged their peers to utilize this mobile application to optimize their English-learning activities. Importantly, all of them appreciated the multimedia features on *WeChat*, such as hold-to-talk voice messaging, image sharing, voice/video recording, and voice/video conferencing, which greatly allowed them to engage in collaborative idiom learning actively and responsively as well as improve the memory retentions of the target VP idioms. Participants' perceptions of using *WeChat*, first, concur with the Vygotskian perspective asserting that “[many] forms of mediated activity are carried out externally rather than internally” (Wertsch, 1998, p. 51). In this study, *WeChat* functioned as a mediated tool that allowed the first-year Chinese students to connect their mental processes of acquiring English idioms with their peers' information sharing, which was supported by *WeChat*'s multimedia features. Second, *WeChat*'s multimedia features, according to Mayer's (2001) cognitive theory of multimedia learning, empowered students in the CECL 2 Section to better process the target VP idioms and relevant resources with students' dual channel that helped them synchronize incoming relevant verbal and visual information and expand their working memory.

***WeChat*'s Contribution to Idiom Learning**

When asked about how *WeChat* had contributed to the participants' English idiom learning, the participants expressed different positive thoughts of *WeChat*'s impacts on their eight-week training. One participant, Grace, reported that *WeChat* made her “speak idioms

more flexibly” and “pay more attention to the pronunciation.” She then explained that due to this flexible and comfortable virtual environment on *WeChat*, she was able to “talk with others” and “write dialogues together.” Obviously, Grace had a positive experience learning English idiom in this creative way compared to the mainstream English learning in Chinese colleges, which is designed to be teacher-centered, grammar-based, and test-focused. Grace’s perceptions echo Wang’s (2017) findings that *WeChat*’s interactivity and real-time communication help language learners with their pronunciation and enable them to be better self-directed in a flexible learning environment.

Using *WeChat* also allows students to achieve a better understanding of English idioms. One participant, Megan, shared that she achieved a better understanding of the target English idioms via *WeChat*. She stated that every time she communicated with her group members on *WeChat*, she was able to “have a deep impression.” This implies that because of the shared rich content and frequent communication on *WeChat*, students tend to contextualize the target VP idioms more effectively. Similarly, Wong, Chin, Tan, and Liu (2010) maintain that the understanding of Chinese idioms was reinforced as there was a contextualized personal-to-social meaning making process facilitated by MALL learning among forty 11-year-old primary school students from Singapore. Palpably, participants in the CECL 2 Section enjoyed this authentic learning experience on the *WeChat* platform, which tailored their personalized needs in the social meaning making process.

Liz could be connected with her group members and work in concert with them to decipher English idioms via *WeChat* regardless of time and space. She also pointed out this was a creative way of learning English idioms because of *WeChat*’s multimedia features, such as “cartoons, songs, pictures, and other [multimodal elements].” Interestingly, this is congruent

with Shi, Luo, and He's (2017) claim, also in conjunction with Peter's (2009) argument, that "[n]ow with the development of wireless network and mobile devices, it is possible to learn English anytime and anyplace" (p. 16). In addition, Liz's giving credits to *WeChat*'s multimedia features implies that lower-level English learners tend to appreciate a creative way of learning a second/foreign language supported by multimedia features. This is resonated with Li's (2018) study, which argues that multimodal linguistic and semiotic resources on *WeChat* can encourage lower-level language learners to take the initiative in L2 learning.

Yet another participant, Tiger, found it fascinating to learn English idioms by immersing himself in *WeChat*'s multimedia features, especially various emojis and memes, which he called eifs, 表情包 in Chinese. Saliently, the use of emojis and memes has been transforming the way people communicate in the social media world.

Another important contribution of applying *WeChat* to English idiom learning is that *WeChat* creates an authentic learning environment for students to communicate more effectively. May noted that she thinks *WeChat* made the English idiom learning "more real and vivid" and that "the interaction effect is stronger." Without a doubt, students tend to feel more confident and expressive when situated in an authentic learning environment, which has been noted in Wong, Chin, Tan, and Liu's (2010) study as well. They found that learners were prone to using MALL technologies for Chinese idiom learning as MALL technologies were viable solutions to "the blending of the language learners' learning environment into their real-life contexts" (p. 16). Thus, when selecting MALL technologies, ESL/EFL educators should definitely be aware of which learning platform that can create a sense of authenticity and effectiveness for L2 learners.

According to the reports from the five voluntary participants, we may see that the perceptions of *WeChat*'s contributions to their English idiom learning vary individually. In contrast to the mainstream English learning among Chinese college students, *WeChat* allowed participants in the CECL 2 Section to better collaborate and communicate with group members with high motivation, which helped them achieve a better understanding of the target English idioms as well as promote their English pronunciation in an authentic learning environment. Table 11 illustrates how the five participants perceive *WeChat*'s contribution to their English idiom learning during the eight-week training.

As structured, each table delineates a holistic overview related to the theme I created on *ATLAS.ti* 8. As such, each table comprises four components including, Name of the Participants, the summary of participants' responses couched within the assigned theme, Participants' Reflection, and Interpretation. For example, in Table 11, I first present the five participants pseudonyms listed as Grace, Megan, Liz, Tiger, and May, which can be seen in the first column. Then, in the second and third column, I insert the pivotal information from the extracted quotes from the five participants that are pertinent to the theme, *Participants' Perceptions of WeChat's Contribution to English Idiom Learning*. Last, I contemplate these codes derived the corresponding participants' quotes and provide my own interpretation in the last column guided by the theoretical frameworks and relevant literature. Systematically, readers may understand the dynamic coding process in which I elicited the critical responses from the five participants and transformed these responses into concise phrases that are related to the assigned theme. In the following analysis of the third research question, I will utilize the same structure for Table 12, Table 13, Table 14, Table 15, Table 16, Table 17, Table 18, and Table 19.

Table 11. Participants' Perceptions of WeChat's Contribution to English Idiom Learning

Name of the Participants	WeChat's Contribution to Idiom Learning	Participants' Reflection	Interpretation
Grace	Attention to the pronunciation & Learning idioms flexibly	(1) "pay more attention to the pronunciation." (2) "speak idioms more flexibly."	<i>WeChat</i> allowed her to promote her L2 speaking and learn English idioms flexibly
Megan	Better understanding of English idioms	"have a deep impression."	<i>WeChat</i> enabled her to comprehend the target English idioms in depth
Liz	Collaborative idiom learning	(1) "We work together easily" (2) "Don't be controlled by time" (3) "It provides an interesting and free way to learn it, such as cartoons, songs, and other multimedia"	<i>WeChat</i> let her work with group members in a creative way regardless of time and space
Tiger	Effective and convenient communication	"En...music...a dictionary express...eifs...videos, panel discussion and so on."	The use of emojis and memes on <i>WeChat</i> motivated him to communicate with group members
May	Idiom learning on <i>WeChat</i> allowing students to feel more real and vivid	(1) "en...more real and vivid. The interaction effect is stronger." (2) "And the effect is more stronger."	<i>WeChat</i> created an authentic learning environment for her to communicate more effectively in a seemingly authentic English learning environment

Multimedia Mediation

In contrast to the diversity of the participants' perceptions about *WeChat*'s contribution to their English idiom learning, surprisingly, they almost had a unanimous agreement on the support of *WeChat*'s multimedia features in the process of learning English idioms. They reported that multimedia features, such as hold-to-talk voice messaging, image sharing, voice/video recording, and voice/video conferencing, facilitated their understanding of each lesson's target English idiom and empowered them to work collaboratively notwithstanding the fact that they did not physically see each other.

For example, Grace noted that "the hold-to-talk voice messaging and the voice recording is more helpful," which directed her to be mindful of her grammar and pronunciation while learning VP idioms with her peers on *WeChat*. This is in part because students, as opposed to having only one chance to remember everything in class, can get access to the recorded data (e.g., dialogues, texts, visuals, and links) whenever they feel like reviewing them. More importantly, by reviewing these recorded data, students have opportunities to emulate their peers' outputs such as syntax and pronunciations on *WeChat* and thus improve their comprehensive English skills. In a similar vein, Avellaneda (2016) asserted that Web 2.0 technologies like Google Docs had positive impacts on learners' accuracy of language outputs because of the constant feedback they were able to obtain from their peers and instructors.

Equally, Megan expressed that she was able to "have a deep impression" of the target VP idioms due to the voice and video recording feature on *WeChat*. By asking follow-up questions, the instructor helped Megan further articulate that the voice and video recording feature allowed her to listen to the recorded data on *WeChat* afterwards until she was satisfied with her learning and understanding of the target VP idioms. Li (2018) also claimed that some

participants in his study maintained that they benefited from the valuable linguistic resources such as video clips, memes, stickers, photos, and moments shared on *WeChat*, which greatly enhanced their L2 proficiency.

For Liz, the video recording was the most helpful feature on *WeChat*. She maintained that the video recording feature helped her and her group “collect some results together” and “recreate something new out of it.” That is, Liz was able to utilize the recorded videos on *WeChat* as a linguistic repertoire that, as the instructor summarized, guided her to sort out the information, make sense of it, make use of it, and ultimately recreate something new. This is in line with Che’s (2017) findings that students were inclined to be responsive to appealing videos and took initiatives to complete the assigned tasks with initiatives.

Unlike other participants, Tiger had a penchant for communicating with his peers by using various emojis and memes in the chat box as he found them attractive and funny in the process of acquiring English idioms. In other words, he preferred to learn English idioms in a creative way supported by the *WeChat* platform. This conforms to Vygotsky’s (1987) semiotic mediation, which is dictated by the use of signs, in Tiger’s case, such as emojis and memes. In other words, semiotic medication appropriates and transforms humans’ psychological development.

Central to May’s reflection on the multimedia features on *WeChat* is the usefulness of the video conferencing. She pointed out that the video conferencing feature on *WeChat* “makes [it] more memorable because pictures can...stimulate [her] sense of visions.” That is to say, the video conferencing enabled her to remember the target VP idioms derived from the group meeting more efficaciously. What is more, whenever May prefers to think about the target VP idioms, she may visualize what happened in the video conference and thereby utilize the VP

idioms appropriately. This is in accordance with the assertion of the 2008 U.S. memory champion, Chester Santos (2015) that visualization is one of the best strategies to memorize abstract concepts like idioms in a foreign language.

To summarize, participants acknowledged that multimedia features on *WeChat* played a pivotal role in the process of learning the target English idioms, which corroborates Plass and Jones' (2005) multimedia learning model for using multimedia in support of language learning:

1. Multimedia Principle: "Students acquire language better from input enhanced by text and pictures than by text alone."
2. Individual Differences Principle: "Students acquire language better when they have the choice of visual versus verbal annotations..."
3. Advance Organizer Principle: Advance organizers in reading and listening activities aid language acquisition and those "presented in visual and verbal modes are more effective than those presented only in the verbal mode." (pp. 480-481)

Reviewing the recorded data contributed by all the group members, participants were able to improve their English proficiency such as grammar and pronunciation as well as achieve a better understanding of the English idioms by sorting out information and utilizing these English idioms in a constructive learning environment. Additionally, the visuals, derived from the multimedia features on *WeChat* and associated with the symbolic objects that mediate human activities (Lantolf & Thorne, 2006), aroused participants' interest in learning the English idioms. As a result, the visuals encouraged participants to take initiatives to utilize the target English idioms to perform dialogues, which might help them lodge these English idioms in their long-term memory store (Baddeley, Eysenck, & Anderson, 2009). As such, multimedia features on *WeChat* are believed to facilitate participants' processing the target English idioms cognitively and allow them to have better memory retention that is associated with the idiom storage in their long-term memory.

Table 12. WeChat's Multimedia Mediation

Name of the Participants	Multimedia Mediation	Participants' Reflection	Interpretation
Grace	Hold-to-talk voice messaging and voice recording	(1) "En...I think the hold-to-talk voice messaging and the voice recording is more helpful." (2) "In this way, we can pay attention to the grammar and pronunciation."	<i>WeChat</i> allowed her to get access to the recorded data (e.g., dialogues, texts, visuals, and links) whenever she felt like reviewing them. More importantly, by reviewing these recorded data, she had opportunities to emulate her peers' outputs such as syntax and pronunciation
Megan	Voice or video recording	"Voice or video recording...we can talk to each other and have a deep impression."	Listening to the recorded data on <i>WeChat</i> enabled her to comprehend the English idioms and improve her English proficiency
Liz	Video recording	(1) "I think video...video recording is most helpful;" (2) "because first we collect...some results together."	<i>WeChat</i> let her work with group members collaboratively and encouraged her to utilize the acquired English idioms creatively
Tiger	Emojis and videos	"En, yes, I think eifs and videos this way are very good to do it."	Emojis and memes on <i>WeChat</i> aroused his interest in communicating with group members
May	Video conferencing	(1) "en...the video conference can make me more memorable because pictures can...stimulate my sense of visions;" (2) "It's interesting."	Video conferencing on <i>WeChat</i> enabled her to remember the target VP idioms derived from the group meeting more efficaciously

Advantages of Idiom Learning via *WeChat*

By and large, when it comes to the question of how participants perceive the advantages of using *WeChat* to learn English idioms, some of the answers are reflected in their perceptions about *WeChat*'s contributions to English idiom learning in terms of convenience, comprehension, and collaborative learning. However, some participants also shared that learning English idioms on *WeChat* afforded them opportunities to receive constructive peer feedback and to maintain effective communication with their group members.

Having access to the internet, Grace was able to “search the message” conveniently while saving the voice recording data permanently on *WeChat*. Similarly, May reported that she enjoyed English idiom learning on *WeChat* because of the convenience she experienced, which allowed her to collaborate with her peers while staying at the dormitory. Their responses confirm the findings of Tolu's (2010) study. Specifically, Tolu's study concludes that synchronous communication tools like Elluminate Live enhanced building and sustaining an online community of inquiry because Elluminate Live allowed students to have convenient access to online discussion boards and recorded presentations. In other words, in this digital world, students are drawn to a learner-centered community empowered by computer-mediated communication tools (both synchronous and asynchronous) that provide a motivating, authentic, and interactive learning environment, which are believed to increase learner autonomy.

Megan mentioned that *WeChat* helped her to find useful resources to decipher the target VP idioms efficiently and effectively. She said, “en...I think the advantage is that you can find pictures, and rele...relevant on content.” Apparently, Megan relied on the useful resources shared on *WeChat* to decompose the vivid phrasal (VP) idioms introduced by the instructor

every class. According to Liantas (2002), a vivid phrasal idiom is not decomposable because “its conventionalized figurative meaning cannot be readily derived from a linear compositional analysis of the familiar meanings of its separate words” (p. 5). That is, L2 learners may not decipher VP idioms based on their literal meaning. Nor can they interpret these idioms on a word-by-word basis. Thus, it is essential for L2 learners to refer to relevant information that can scaffold their understanding of these idioms. For Megan, it was helpful to elicit and share relevant information such as pictures, animated stories, songs, or links about idiom origin on *WeChat* to better comprehend the target VP idioms. By the same token, Yang and Xie’s (2013) study corroborates this finding and concludes that the textual and visual illustrations shared on iPads facilitated the understanding of Chinese idioms as well as strengthened the memory among a group of Chinese heritage learners.

Without any time and space restrictions, Liz noted she felt relaxed in the process of learning English idioms on *WeChat*. Congruent with Liz’s feeling, Tiger also felt that learning idioms on *WeChat* was “so convenient and easy to communicate anytime and anywhere.” In addition, this way of learning English idioms helped Tiger remember the VP idioms effectively. Seemingly, this memory retention is pertinent to Chun’s (2006) assertion that multimedia glosses (i.e., combinations of text, graphics, videos, and audio) are essential to learners’ L2 vocabulary memorization by freeing up their working memory capacity, which, according to Diamond (2013), “[holding] information in mind and mentally working with it (e.g., relating one thing to another, using information to solve a problem)” (p. 137). The responses from Liz and Tiger may inform researchers that L2 learners are prone to a learning mode that allows them to get access to target knowledge with mobile devices in hand regardless of time and space.

Table 13. Advantages of Idiom Learning via WeChat

Name of the Participants	Advantages	Participants' Reflection	Interpretation
Grace	Internet access and voice recording	“The advantage is we can search the message by the internet. It’s more convenient than the traditional way of learning idioms. And we can keep the voice recording.”	In this digital world, students are drawn to a learner-centered community empowered by computer-mediated communication tools (both synchronous and asynchronous) that provide a motivating, authentic, and interactive learning environment, which are believed to increase learner autonomy
Megan	Using relevant information to scaffold understanding	“en... I think the advantage is that you can find pictures, and rele... relevant on content.”	<i>WeChat</i> helped her to find useful resources to decipher the target VP idioms efficiently and effectively
Liz	Learning idioms with relaxation and having no time and space restrictions	(1) “Ah...relaxable... so it’s a relaxed learning process;” (2) “Yes. And we needn’t get together in life...and we can chat whenever and wherever.”	L2 learners are prone to a learning mode that allows them to get access to target knowledge with mobile devices in hand regardless of time and space
Tiger	Memory retention and convenient communication regardless of time and space	(1) “en...I...it helps us remember...remember idioms.” (2) “En...advantage...I think is so convenient and easy to communicate anytime and anywhere.”	L2 learners are prone to a learning mode that allows them to get access to target knowledge with mobile devices in hand regardless of time and space
May	Convenience because of the hold-to-talk feature	“Convenience! We can...we can study at on the dormitory.”	In this digital world, students are drawn to a learner-centered community empowered by computer-mediated communication tools (both synchronous and asynchronous) that provide a motivating, authentic, and interactive learning environment, which are believed to increase learner autonomy

Overall, participants tended to agree that learning English idioms supported by the WeChat platform enabled them to maintain effective communication with their peers anytime and anyplace. More importantly, the useful resources shared on *WeChat* including visuals, songs, website links, and animations empowered them to better decipher VP idioms, which is in part related to Hubbard's (2017) underlying rationale stating that

- (1) Computer mediation changes the way that humans interact with one another and with language content in particular ways that are different from face-to-face or one-to-many encounters,
- (2) those changes can impact the second language use and acquisition process in non-obvious ways,
- (3) and pursuing research and development with a goal of understanding the nature of that impact can be more fruitful than just considering a particular technology at a particular time and place with a particular group. (p. 94)

Disadvantages of Idiom Learning via *WeChat*

Regarding the disadvantages of English idiom learning via *WeChat*, there are two types of disadvantages: smartphone distractions and a lack of instantaneous responses. Specifically, some common responses revealed that the participants might get distracted by their smartphones while working on the collaborative idiom learning. Some participants also noted that, in contrast to the face-to-face class environment that allows students to be on the same page in the VP idiom deciphering process and obtain instantaneous feedback, they were not as focused as in a traditional classroom when utilizing *WeChat* to learn English idioms.

The first disadvantage of learning English idioms on *WeChat* pertains to smartphone distractions. Grace, Liz, and May reported that, at times, they could not resist the temptation of playing mobile games on their smartphones. "En...the disadvantage is difficult to control ourselves play the phone. If we learn idioms by the traditional way, we might be more focused," Grace said. Having the same feeling, Liz expressed that "[i]t's easy for us to play

other games while we open the platform” while surfing the web to decipher the target VP idioms. Acknowledging the convenience bestowed by the internet access on *WeChat*, in the meantime, May was cognizant of the distractions from her mobile games. “WeChat learning is really convenient, but when we used the phone, we always want to play games,” she said. Interestingly, in Shi, Luo, and He’s (2017) study, despite the fact that *WeChat* promoted the English proficiency of a group of college students in China with its five notable advantages for education (i.e., multi-functionality, individuality, accessibility, interactivity, and affordability), some participants noted that smartphones could be distracting sometimes and would interfere with the activities conducted on *WeChat*.

The second disadvantage is related to a lack of instantaneous responses. For Megan, it was challenging to contact her group members and obtain their immediate feedback. “En... Yes... I think the disadvantage is that you can’t talk to each other face to face,” she said. This implies that it seems impossible to get immediate responses from group members on *WeChat* and thus expectations for instantaneous interactions can be hardly met.

Differing from the four participants, Tiger did not find any disadvantages of using *WeChat* to learn English idioms. He noted that, “I think our team finished well every...every time. So I didn’t find any shortcomings.” Tiger’s enjoyment here indicates he walked in concert with his peers in the process of learning English idioms on *WeChat*.

Table 14. Disadvantages of Idiom Learning via WeChat

Name of the Participants	Disadvantages	Participants' Reflection	Interpretation
Grace	Smartphone distraction	"En...the disadvantage is difficult to control ourselves play the phone. If we learn idioms by the traditional way, we might be more focused."	Smartphones could be distracting sometimes and would interfere with the activities conducted on <i>WeChat</i>
Megan	No face-to-face interactions and a lack of instantaneous responses	(1) "en... Yes... I think the disadvantage is that you can't talk to each other face to face;" (2) "You cannot contact people when you have problems."	It was challenging to contact her group members and obtain their immediate feedback
Liz	Smartphone distraction	"It's easy for us to play other games while we open the platform."	Smartphones could be distracting sometimes and would interfere with the activities conducted on <i>WeChat</i>
Tiger	No disadvantages	"I think our team finished well every...every time. So I didn't find any shortcomings."	He did not find any disadvantages of using <i>WeChat</i> to learn English idioms
May	Smartphone distraction	"but when we used the phone, we always want to play games."	Smartphones could be distracting sometimes and would interfere with the activities conducted on <i>WeChat</i>

Affordances of Collaborative Idiom Learning via *WeChat*

With respect to the collaborative learning on *WeChat*, participants shared diverse but positive perspectives about how they were able to work with group members to acquire the target VP idioms. These perspectives resonate with Naismith et al.'s (2004) forecast that

“innovative learning and teaching concepts that are suitable for mobile learning/teaching environments, including *situated learning, collaborative learning, constructivist learning, and informal and lifelong learning*” (as cited in Ma, 2017, p. 53). Specifically, under the frameworks of Vygotsky’s (1978) zone of proximal development and Donato’s (1994) collective scaffolding as well as Mayer’s (2001) cognitive theory of multimedia learning, the affordances of *WeChat* in supporting students’ collaborative idiom learning were revealed, including high motivation and achievement, effective information exchange, smooth communication, co-construction of meaning, and multimedia support.

One of the notable affordances of *WeChat* is to sustain a collaborative learning environment. Grace noted that *WeChat* allowed students to make progress in English idiom learning by having them exchange peer feedback. “Yes! It’s very useful! I think I made a lot of progress...through study idioms by the *WeChat*,” Grace reckoned. Grace’s response is in line with the findings of Chen’s (2016) research synthesis delving into technology-supported peer feedback in ESL/EFL writing classes. Chen, investigating ninety-five relevant studies published from 1990 to 2010, reported that students tended to benefit the most from the activities involving peer interactions if students were much endowed with peer feedback training prior to these activities. Regarding this eight-week English idiom training, each group in the CECL 2 Section had opportunities to provide feedback for their peers’ performances, such as pronunciation, grammar, dialogue, and translation. As Grace said, “En...sometime I will make a mistake and they will correct me.” Hence, ESL/EFL practitioners may adopt mobile applications like *WeChat* to forge a collaborative learning platform that optimizes students’ peer interactions in L2 idiom learning.

For Megan, it was helpful and interesting to co-construct meaning of the target English idioms by relying on the multimedia features on *WeChat*. “Because I think WeChat learning is very interesting. And...en...we can use speak...we can share some music, pictures, or funny stories,” Megan stated. Similarly, Liz expressed that she enjoyed the collaborative idiom learning because she was able to share information and results with her group members. This coincides with Kirschner, Kirschner, and Janssen’s (2014) assertion that “a multimedia collaborative environment [allows] for tasks of various complexities to be carried out and stimulates groups cognitive processes by providing tools for real-time group work (with synchronous sound, pictures, text, etc.)” (p. 548). That is, multimedia resources shared collectively may expand students’ working memory and thereby better help them process cognitively demanding concepts like L2 idioms.

In addition to the multimedia affordance that supported participants’ collaborative idiom learning on *WeChat*, Tiger and May maintained that they had a remarkable collaborative learning experience with their group members, working closely to perform the assigned tasks with good harmony and high motivation. “I think our team is in harmony...and very active,” Tiger stated. When asked about the perception of group interaction on *WeChat*, May said “[*WeChat*] helps me to get along with them...we always study after eight o’ clock [and] we always go to somebody’s dormitory and talk about the idioms together.” This sense of harmony and motivation is seemingly congruent with Zhang’s (2016) statement that college English teaching in China needs to incorporate *WeChat* platform as it expands students’ horizons and cultivates the harmonious relationship between teachers and students. In this light, it would be better to integrate L2 idiom teaching with CALL/MALL technologies that allow students to comfortably express themselves and harmoniously work with others toward same goals.

Overall, the social and communicative facets of *WeChat* affordances are well elucidated by the responses of the participants. Participants collective scaffolding undergirded by multimedia features on *WeChat* helped them better process and comprehend the target English idioms.

Table 15. Affordances of Collaborative Idiom Learning via WeChat

Name of the Participants	Affordances	Participants' Reflection	Interpretation
Grace	Co-constructing meaning and peer feedback	(1) "It's very useful! I think I made a lot of progress;" (2) "Sometime I will make a mistake and they will correct me."	<i>WeChat</i> sustained a collaborative learning environment and allowed her to have opportunities to offer and receive peer feedback
Megan	High motivation in collaborative learning and facilitation from multimedia features	(1) "Because I think WeChat learning is very interesting;" (2) "And...en...we can use speak...we can share some music, pictures, or funny stories."	It was helpful and interesting to co-construct meaning of the target VP idioms by relying on the multimedia features on <i>WeChat</i>
Liz	Co-constructing meaning	"En...sharing information and results."	It was helpful and interesting to co-construct meaning of the target VP idioms by relying on the multimedia features on <i>WeChat</i>
Tiger	Collaborative learning with harmony and motivation	"I think our team is in harmony...and very active."	<i>WeChat</i> afforded students opportunities to work collaboratively with good harmony and high motivation
May	Collaborative learning with harmony and motivation	"[<i>WeChat</i>] helps me to get along with them...we always study after eight o' clock [and] we always go to somebody's dormitory and talk about the idioms together."	<i>WeChat</i> afforded students opportunities to work collaboratively with good harmony and high motivation

Idiomatic and Communicative Competence

Regarding participants' idiomatic and communicative competence, all participants expressed that their communication skills were improved through the English idiom training on *WeChat*. Idiomatic competence is the lynchpin of communicative competence. According to Canale and Swain (1980), there are four major components in communicative competence: (1) grammatical competence, (2) sociolinguistic competence, (3) discourse competence, and (4) strategic competence. Contemplating the connection between idiomatic competence and communicative competence, people may see that idiomatic competence is highly associated with the sociolinguistic facet in communicative competence since idioms normally grapple with the social contexts of a language and underscore the pragmatic meaning of utterances. As Liontas (2015) explains, "Context-sensitive idiom communication heightens cultural consciousness and ensures social relevance through realistic, meaningful use" (p. 640). Thus, learning English idioms on *WeChat* allows participants to utilize the English language in an authentic, communicative, and contextualized environment, which is believed to promote their English idiomatic competence.

WeChat-mediated idiom learning experiences maximized participants interactions with their peers. Grace stated that "We often talk with others on the *WeChat*. And I never...I never talk to others so frequently." Apparently, the multimodal learning environment supported by *WeChat* encouraged her to take initiatives to exchange ideas with her peers and utilize the target English idioms in authentic and natural contexts. As for Liz, learning English idioms on *WeChat* enhanced her skills in communicating with others in English. "En...maybe in daily life, [I] can't express myself clearly. But in *WeChat*, I can speak it...and communicate with others," Liz said. In a similar vein, May noted that "*WeChat* is a medium connected us to the

internet. And using *WeChat* we can easily say some words. That word we can't say face-to-face." The responses from Grace, Liz, and May are consistent with Li's (2018) findings that *WeChat* platform enabled the Mandarin learners, who were college students in the U. S., to maintain authentic meaning-focused communication actively. Hence, VP idiom acquisition is attributed to the meaningful and authentic interactions on *WeChat*.

Idiomatic and communicative competence was dynamically driven and shaped by *WeChat*'s multimedia features. Unlike Grace, Liz, and May, Megan expressed that her communicative skills were fueled by the multimodal information exchange with her peers on *WeChat*. "I think we can share some music, pictures, or funny stories. That feel very happy to the audience," Megan stated. Megan's response agrees with Lontas' (2015) suggested principle that "multimodal idiom training supporting individual learner differences improves motivation to learn and increases productivity of idioms in natural contexts" (p. 641). Palpably, multimedia features on *WeChat* are essential to students' idiomatic competence.

Participants' communicative skills were entailed by their collaborative learning on *WeChat*. Stemmed from the teamwork, Tiger's communicative skills were improved tremendously. At the same time, Tiger obtained fun and happiness from learning English idioms on *WeChat*. "I gained happiness in our teamwork. And I gained strong sense of achievement," Tiger reported. Through the lens of Vygotskian (1978) sociocultural theory and Donato's (1988, 1994) mutual scaffolding among L2 learners, we may see that Tiger's sense of achievement and happiness in learning English idioms was strengthened by the "collective orientation to jointly constructed activity" (Donato, 2004, p. 287). Thus, in Tiger's case, English idiom learning supported by *WeChat* prompted a co-constructive learning environment

in which they were able to maintain effective communication and decipher the target English idioms collaboratively by using *WeChat*'s multimedia features.

As asserted by Liantas (2018), “at all times, students should be encouraged to learn how to apply idiomaticity in CALL” and “must be trained in the responsible and reasonable uses of multimedia communications” (p. 15) so that they can be connected both inside and outside of the classroom and attain higher achievements in L2 idiom learning. That is, participants’ L2 idiom learning is optimized by *WeChat*'s multimedia features, which afford them opportunities to share ideas, exchange multimodal information, and eventually develop their idiomatic competence.

Table 16. Idiomatic and Communicative Competence

Name of the Participants	Idiomatic and Communicative Competence	Participants’ Reflection	Interpretation
Grace	Effective communication	“We often talk with others on the <i>WeChat</i> . And I never...I never talk to others so frequently.”	The multimodal learning environment supported by <i>WeChat</i> encouraged her to take initiatives to exchange ideas with her peers and utilize the target VP idioms in authentic and natural contexts
Megan	Collaborative learning and facilitation from multimedia features	“I think we can share some music, pictures, or funny stories. That feel very happy to the audience.”	Multimedia features on <i>WeChat</i> are essential to students’ idiomatic competence
Liz	More willing to communicate on <i>WeChat</i>	“En...maybe in daily life, [I] can’t express myself clearly. But in <i>WeChat</i> , I can speak it...and communicate with others.”	The multimodal learning environment supported by <i>WeChat</i> encouraged her to take initiatives to exchange ideas with her peers and utilize the target VP idioms in authentic and natural contexts
Tiger	Gaining happiness and achievement on idiom learning via <i>WeChat</i>	“I gained happiness in our teamwork. And I gained strong sense of achievement.”	English idiom learning supported by <i>WeChat</i> prompted a co-constructive learning environment in which they were able to maintain effective communication and decipher the target English idioms collaboratively by using <i>WeChat</i> 's multimedia features
May	Collaborative learning with harmony and motivation	“ <i>WeChat</i> is a medium connected us to the internet. And using <i>WeChat</i> we can easily say some words. That word we can’t say face-to-face.”	The multimodal learning environment supported by <i>WeChat</i> encouraged her to take initiatives to exchange ideas with her peers and utilize the target VP idioms in authentic and natural contexts

Feelings toward Idiom Learning via *WeChat*

Participants had similar and positive feelings toward VP idiom learning via *WeChat*. These feelings are somehow analogous to their reports on *WeChat*'s contribution to their English idiom learning. Some participants reported that, compared to their previous English learning experiences, learning English idioms via *WeChat* was fun, convenient, and innovative. Others noted that they felt excited to work with their peers on a mobile application platform that allowed them to share interesting ideas and information concerning the target VP idioms.

Specifically, Grace mentioned that she had a fun experience using *WeChat* to learn English idioms due to the convenient features on *WeChat*. When asked about the feelings she had, Grace commented, "Funny and convenient!...because we use the phone every day and we often talk on the WeChat. And we can...en...share some music and interesting things."

Seemingly echoing Grace's comment, Liz shared that *WeChat* idiom learning was "easy, free, convenient, and fashionable," and she further added that she could chat with her group members "wherever and whenever," not being "controlled by time." As *WeChat*'s popularity grows rapidly, students may definitely utilize *WeChat*, with its multimedia features to share resources and conduct collaborative projects both inside and outside the class(es) at any time.

Feeling excited and passionate about this creative way of learning English, Megan, Tiger, and May had high engagement while collaborating with their group members by sharing multimodal resources. Facilitated by the instructor, Megan acknowledged that she had "strong emotional likings to this new way of learning [English]." Similarly, Tiger, having clear excitement about English idiom learning on *WeChat*, responded that "when I have some interesting ideas...en...and I shared with my team...so I am very excited." Derived from the collaborative learning experience, May's excitement was associable with her peers' sharing

information and feedback. “I can learn about most classmates, and listen to the [feedback],” May stated. Drawn from participants’ responses, we may understand that language learning is a socially mediated activity, and students’ satisfaction is in concert with *WeChat*’s multimedia features that enable them to get access to the collaborative learning environment anytime and anywhere.

Table 17. Feelings toward Idiom Learning via WeChat

Name of the Participants	Feelings toward Idiom Learning via WeChat	Participants’ Reflection	Interpretation
Grace	Funny and convenient	“Funny and convenient!...because we use the phone every day and we often talk on the WeChat. And we can...en...share some music and interesting things.”	Students may definitely utilize <i>WeChat</i> , with its multimedia features, to share resources and conduct collaborative projects both inside and outside the class(es) at any time
Megan	Strong emotional likings	“Strong emotional likings to this new way of learning [English].”	Language learning is a socially mediated activity, and students’ satisfaction is in concert with <i>WeChat</i> ’s multimedia features that enable them to get access to the collaborative learning environment anytime and anywhere
Liz	Free, convenient, and fashionable	(1) “Easy, free, convenient, and fashionable;” (2) “wherever and whenever,” not being “controlled by time.”	Students may definitely utilize <i>WeChat</i> , with its multimedia features, to share resources and conduct collaborative projects both inside and outside the class(es) at any time
Tiger	Feeling excited in collaborative learning	“When I have some interesting ideas...en...and I shared with my team...so I am very excited.”	Language learning is a socially mediated activity and students’ satisfaction is in concert with <i>WeChat</i> ’s multimedia features that enable them to get access to the collaborative learning environment anytime and anywhere
May	Feeling excited in collaborative learning	“I can learn about most classmates, and listen to the [feedback].”	Language learning is a socially mediated activity, and students’ satisfaction is in concert with <i>WeChat</i> ’s multimedia features that enable them to get access to the collaborative learning environment anytime and anywhere

Difficulties of Idiom Learning via *WeChat*

Although all the randomly selected participants had a pleasant journey in using *WeChat* to learn English idioms, they did experience some difficult moments such as being unable to obtain immediate responses, having technical issues with file formats, and feeling awkward to be the only boy. Such difficulties should get attention of ESL/EFL practitioners and may inform them to better implement CALL/MALL technologies to English teaching/learning contexts.

Some participants struggled with receiving immediate responses from their peers while using *WeChat* to perform idiom-oriented activities and tasks. Grace, Megan, and May reported that they were sometimes unable to obtain instantaneous responses or feedback when they attempted to interact with their group members. “Sometimes I want to learn idioms on the *WeChat*, but no one responded. It’s a little embarrassing,” Grace commented. Hoping to get immediate feedback from her peers, Megan shared that, “you cannot contact people when you have problems.” Illuminating the reasons for this lack of instant responses, May explained that, “Sometimes we can’t reply to others quickly.” This is in part because “[you] cannot...ah...get hold of the person like we do in real life through *WeChat*,” the instructor further clarified. Apparently, participants’ learning rhythm may be affected if their shared information on *WeChat* cannot be attended to in real time. These statements are consistent with Tolu’s (2010) conclusion that both asynchronous and synchronous communication tools may bemuse L2 learners since at times there will be a lack of immediate feedback caused by individual schedule issues, learning interest, and timely manners, which may even lead L2 learners to frustration and a loss of motivation.

There can be technical issues that may prompt confusions among participants. Liz’s English idiom learning on *WeChat* was hobbled by the file compatibility pertaining to the

operation system of smartphones (i.e., iPhones use the iOS system and most other brands employ the Android system). “Sometimes, I share some results from my mobile phones, en...[however]..., but others can’t open it,” Liz said. Despite the booming industry in mobile devices, there can be bugs or application compatibility issues between different smartphones. In Wang’s study (2014), apart from stating the positive impacts of mobile-assisted learning (e.g., social skills, quality of feedback, and perceived ability), some participants also shared some negative comments related to technical problems from some applications including *Facebook*, *LINE*, *WeChat*, *Skype*, and *Google Handouts*. These technical concerns, suggestively, should be addressed by having participants receive technical training prior to the study or by providing technical support from instructor(s) whenever needed.

For Tiger, there was a sense of awkwardness due to his being the only boy in the class. “I am only boy in my team...so we finish our voice work...[I] have some terrified,” Tiger stated. Because of the English-major demographics at the liberal arts college, male students tend to feel excluded when engaging in a conversation with their female classmates.

By and large, participants had some difficulties in the process of learning English idioms on *WeChat*, both communicatively and technically. Communicatively, a lack of real-time interaction and immediate feedback may affect the quality of participants collaboration with their peers as well as their motivation to learn English idioms on *WeChat*. In addition, unbalanced gender distribution at the liberal arts college may challenge the minority (i.e., in this case, Tiger is the only boy in the class) in contributing their inputs actively to collective group activities. Technically, different operating systems of smartphones sometimes may hinder participants’ information exchange presented in various files such as doc., PDF., PNG., ppt., GIF., PSD., etc.

Table 18. Difficulties of Idiom Learning via WeChat

Name of the Participants	Difficulties of Idiom Learning	Participants' Reflection	Interpretation
Grace	Lack of instantaneous responses	"Sometimes I want to learn idioms on the WeChat, but no one responded. It's a little embarrassing."	She struggled with receiving immediate responses from her peers while using WeChat to perform idiom-oriented activities and tasks
Megan	Lack of instantaneous responses	"You cannot contact people when you have problems."	She struggled with receiving immediate responses from her peers while using WeChat to perform idiom-oriented activities and tasks
Liz	File format compatibility	"Sometimes, I share some results from my mobile phones, en...[however]..., but others can't open it."	She experienced technical issues that bedeviled her communication with her peers on <i>WeChat</i>
Tiger	Being shy due to participating as the only boy	"I am only boy in my team...so we finish our voice work...[I] have some terrified."	Because of the English-major demographics at the liberal arts college, male students tend to feel excluded when engaging in a conversation with their female classmates
May	Lack of instantaneous responses	(1) "Sometimes we can't reply to others quickly;" (2) "[you] cannot...ah...get hold of the person like we do in real life through <i>WeChat</i> ,"	She struggled with receiving immediate responses from her peers while using WeChat to perform idiom-oriented activities and tasks

Suggestions of Idiom Learning via *WeChat*

Being retrospective about their learning experiences on *WeChat*, participants provided some constructive suggestions pertaining to learning English idioms via *WeChat* and expressed that this innovative way of learning English idioms could be introduced to other English

learners. Similar to some responses to the difficulties they experienced while learning English idioms via *WeChat*, some participants reported that students needed to enhance their inhibitory control (i.e., the ability to suppress a prepotent response in the face of cognitive conflict) (Carlson, 2005; Carlson & Moses, 2001) that shields their concentration from mobile games or other applications. Some also shared that collective efforts on *WeChat* was essential for their English idiom learning and thereby students should be more willing to actively engage in exchanging multimodal information and collaborating with their peers. To ensure this collaborative synergy, one participant suggested that each group set up a structured learning schedule that allows all group members to have efficacious communication on *WeChat*.

Some participants noted that strong self-discipline should be ameliorated so that irrelevant mobile games and applications will not crimp students' concentration when learning English idioms. When asked about the suggestions for introducing this *WeChat*-mediated method to other English learners, Grace expressed that, "[w]ell we should pay more attention on the *WeChat* in learning English idioms and we have to think about it instead of looking up on the internet." Being wary of the distraction from mobile games, Liz stated that "I think when we use it to learn idioms, we must control ourselves. Don't play games." These suggestions are in line with the challenges noted by Chou, Block, and Jesness (2012). They found that, despite the fact that iPads' allowed four 9th graders to actively engaged in geographical projects and to improve their digital literacy and citizenship, these students tended to be distracted by irrelevant apps and websites. Hence, it is pivotal to establish clear and strict protocols that may improve students' self-discipline, and involve appropriate supervisions and facilitation in students' collaborative idiom learning process.

Establishing rapport with a collaborative community requires a student's active participation in idiom-oriented activities. Without a doubt, central to the successfully learning English idioms, according to participants' previous responses, is a collaborative learning community on *WeChat* that enables them to exchange ideas and share multimodal information. As Megan said, "I suggest that they must study in groups, and so...they can exchange ideas." In addition, the sustainability of this collaborative learning community also requires students to actively participate in various activities and tasks related to the target VP idioms. "En... I think we must be improved...en...we improved by being more active," Tiger emphasized. Given that *WeChat* confers a virtual collaborative platform for the participants, the instructor can further encourage them to take initiatives to articulate their voices and exchange information with their peers.

Although *WeChat* permits a flexible and autonomous learning style for the participants, a structured learning schedule may help learners be on the same page and maintain their motivation in the collaborative idiom learning process. May, making the suggestion related to her previously seeing a lack of instantaneous responses while collaborating with her peers, stated that "En... make appointments on what time to study." In this situation, a structured learning schedule may galvanize learners into a robust discussion and sustainable collaboration via *WeChat*-mediated English idiom learning.

Taken together, we may understand that the interactive, multimedia supported, and autonomous learning environment on *WeChat* should be coupled with learners' strong self-discipline, clear learning protocols, and teacher(s) constant facilitation and supervision. More importantly, an active participation in various idiom-oriented activities might be attributed to a

structured learning schedule that sustains learners' motivation as well as primes their collective contributions in English idiom learning progress on *WeChat*.

Table 19. Suggestions of Idiom Learning via WeChat

Name of the Participants	Suggestions of Idiom Learning	Participants' Reflection	Interpretation
Grace	Improving self-control	"Well we should pay more attention on the WeChat in learning English idioms and we have to think about it instead of looking up on the internet."	Strong self-discipline should be ameliorated so that irrelevant mobile games and applications will not crimp students' concentration when learning English idioms
Megan	Learning idioms collaboratively in a group	"I suggest that they must study in groups, and so...they can exchange ideas."	Establishing rapport with a collaborative community requires a student' active participation in idiom-oriented activities.
Liz	Improving self-control	"I think when we use it to learn idioms, we must control ourselves. Don't play games."	Strong self-discipline should be ameliorated so that irrelevant mobile games and applications will not crimp students' concentration when learning English idioms
Tiger	Being more active and willing to learn from others	"En... I think we must be improved...en...we improved by being more active."	Establishing rapport with a collaborative community requires a student' active participation in idiom-oriented activities.
May	Scheduling time for collaborative learning on <i>WeChat</i>	"En... make appointments on what time to study."	A structured learning schedule may help learners be on the same page and maintain their motivation in the collaborative idiom learning process

Conclusion

In this chapter, the results that correspond to the three research questions were presented. Regarding the idiom learning achievement between the CECL 1 Section and the CECL 2 Section (RQ1), it was found that participants in the CECL 2 Section, in terms of the post-idiom learning test score, performed slightly better than the participants in the CECL 1 Section. Given that both sections had equivalent idiomatic competence prior to the eight-week training, calculating the effect size of both sections helped us understand that *WeChat* serves as an intervention to promote students' idiomatic competence was borne out.

With regard to the overall idiom learning experience between the participants who used *WeChat* and the participants who did not (RQ2), notwithstanding that there was no statistically significant differences between the two sections in each subscale, including motivation, attitude, collaboration, and experience of idiom learning, it was reported that the overall mean in each subscale of the CECL 2 Section was consistently higher than the one in the CECL 1 Section. In this light, we may conclude that the participants in the CECL 2 Section went through a more remarkable idiom learning experience conferred by the *WeChat* learning platform than the participants in the CECL 1 Section who were placed in a traditional face-to-face class setting.

Aiming to explore participants' perceptions of using *WeChat* to learn English idioms in the CECL 2 Section (R3), I randomly selected five participants and conducted semi-structured interviews. Using *ATLAS.ti 8*, I was able to create fifty codes that could reflect students' perceptions about learning English idioms via *WeChat* and then converted these fifty codes into nine themes. Last, I produced a report that summarizes the participants' perceptions as well as presents my own interpretations regarding their learning English idioms via *WeChat*.

CHAPTER FIVE: CONCLUSIONS AND IMPLICATIONS

This study aimed to explore the relationship between social media applications and L2 idiomatic competence among Chinese college students. A mobile application, *WeChat*, was adopted as an intervention to see whether or not students supported by *WeChat* can perform better in English idiom learning than the students who are placed in a traditional class setting learn English idioms without any technology mediation.

Specifically, the purpose of this study was threefold: (1) an examination of the effectiveness of a mobile application, *WeChat*, (2) an investigation of the affordances of multimedia features on *WeChat*, and (3) an exploration of college students' perceptions with respect to the contributions of *WeChat*. This study is informed by sociocultural theory (Lantolf & Thorne, 2006; Vygotsky, 1978) and Mayer's (2001) cognitive theory of multimedia learning. In addition, Liontas' (1999, 2002) framework of idiomatic competence and vivid phrasal (VP) idiom was employed to guide the task-based design in the class activities. Drawn from the purpose, there are three research questions:

This chapter contains three main sections: a conclusion and discussion of the findings regarding the three research questions, a synthesis of the theoretical implications and with respect to L2 idiomatic competence empowered by multimedia learning, and a summary of this study's limitations along with the potential derived future research in this regard.

Conclusion of Research Findings and Discussion

***WeChat*-enhanced instruction promoting English idiomatic competence.** The first research aimed to reveal the effectiveness of *WeChat* as an intervention to mediate the English idiom learning of participants in the CECL 2 Section. Prior to the eight-week training, a pre-test that consisted of multiple choice questions in a dialogue format was employed to test the idiomatic competence of the participants in both sections. The results showed that there was no statistically significant difference between the CECL 1 Section and the CECL 2 Section, indicating that students in the two sections had equivalent idiomatic competence. However, after conducting a post-test at the end of the eight-week training, I was able to find that the effect size for the CECL 2 Section was larger than the one in the CECL 1 Section. Based on the results, I conclude that *WeChat* supported the participants in the CECL 2 Section in the acquisition of English idioms more effectively than the participants in the CECL 1 Section who did not utilize any technological tools during the eight-week idiom training. Expressed differently, participants in the CECL 2 Section were able to memorize the target VP idioms more deeply and transfer them into a dialogue format more appropriately.

In the field of second language acquisition, Mayer's cognitive theory of multimedia learning explains that L2 information is believed to be better processed if the information consists of both visual and textual annotations. This is because, according to Mayer (2009), pictures and words going through a learner's brain from a multimedia presentation can enter the learner's sensory memory via the dual channels (visual and auditory). Within the learner's visual sensory memory, this type of visual register will result in visuospatial patterns in the learner's working memory as a visual perceptual representation of the picture. As such, using his or her working memory that temporally holds and manipulates knowledge in active

consciousness (Mayer, 2014, p. 68), this learner will process and comprehend the information consisted of pictures and words more effectively in his or her cognitive dual channels since the mental representation created from pictures and words will increase the learner's working memory capacity. Specifically, the learner's working memory is freed up with the help of multiple sensory registers allows him or her to gain deeper understanding of abstract concepts and even achieve insights into the nature of these concepts. As Plass and Jones (2005) explain, "the use of words and pictures [provides] meaningful input, [facilitates] meaningful interaction with the target language, and [elicits] meaningful output" (p. 469). Once the visual and auditory information is orchestrated in working memory, the learner can transfer it to long-term memory and store it there permanently. Hence, in designing activities for SLA, it is essential to incorporate both visual and auditory information to help L2 learners understand the target knowledge and thereby reinforce their memory.

Many studies have shown that multimodal information has a positive impact on L2 learners' vocabulary acquisition (Abraham, 2008; Borrás & Lafayette, 1994; Chun & Plass, 1996; Grace, 1998; Guillory, 1998; Jones & Plass, 2002; Kost, Foss, & Lenzini, 1999; Sakar & Ercetin, 2005; Sun & Dong, 2004). It can be inferred that the better performance of the participants in the CECL 2 Section is attributed to *WeChat*'s multimedia features allowing them to comprehend and memorize the target VP idioms effectively. The rationale of *WeChat*'s multimedia features including hold-to-talk voice messaging, image sharing, voice/video recording, web links inserting, and voice/video conferencing is grounded in Mayer's (2001) cognitive theory of multimedia learning, which can be synthesized that students tend to process information better from input enhanced by text and pictures than by text alone, and they utilize dual channels for visual/pictorial and auditory/verbal processing. Processing the shared

multimodal information pertaining to the target VP idioms on *WeChat* will not only allow the participants in the CECL 2 Section to activate their prior knowledge of these English idioms, but also free up their working memory capacity and eventually help them achieve greater retention of these English idioms.

In addition to the participants' enhanced memory retention of the target VP idioms, the better performance in the *VP Idiom Learning Achievement Test* (Appendix B) allows us to conjecture that the multimedia features on *WeChat* enabled the participants in the CECL 2 Section to have positive L2 transfers in an authentic dialogue format. This confirms Chapelle's (1998) seventh hypothesis when developing multimedia CALL, suggesting that "learners should engage in L2 tasks designed to maximize opportunities for good interaction" (p. 27). The *WeChat*'s multimedia features, such as hold-to-talk voice messaging, image sharing, voice/video recording, web links inserting, and voice/video conferencing, on the one hand, greatly enhanced the participants' comprehensible input as well as facilitated their understanding of these challenging English idioms. *WeChat*'s multimedia features maximized the participants' opportunities to perform dialogues with the target VP idioms and present peer feedback, which helped them memorize the acquired English idioms deeply and utilize them appropriately in authentic environments. These positive transfers reflected in the idiom learning test corroborate both the concept of ZDP (Vygotsky, 1978) and the cognitive theory of multimedia learning (Mayer, 2001). Therefore, when designing multimedia CALL/MALL, ESL/EFL teachers need to be mindful that the comprehensive input of target knowledge (Krashen, 1994), interaction and peer feedback, and an adoption of multimodal information to reduce cognitive load and facilitate comprehension of L2 learners should be underscored.

Reporting overall learning experiences. To answer the second research question pertaining to the difference of the overall idiom learning experiences between the CECL 1 Section and the CECL 2 Section, it is necessary to conduct an analysis of two sections' report about their learning satisfaction in terms of motivation, attitude, collaboration, and experience of the VP idiom learning. Aiming to delineate the difference, I compared the mean and standard deviation of each subscale of both sections. The results show that the mean of each subscale in the CECL 2 Section exceeds that in the CECL 1 Section consistently. This indicates participants in the CECL 2 Section achieved a slightly more remarkable learning experience than the ones in the CECL 1 Section when it came to generic learning details such as motivation, attitude, collaboration, and experience in the entire training period. The results are grounded in the theoretical framework as well as concur with the findings presented in relevant scholarly works.

Motivation. Based on the results, we may understand that *WeChat*-mediated English learning method greatly motivated the participants in the CECL 2 Section to study and utilize the target English idioms. Even though the mean difference between the two sections is 0.31, the CECL 2 Section got a mean rating 19.13 out of 25. When it comes to the analysis of each item under motivation subscale, the participants from the CECL 2 Section (mean=4.08) scored relatively higher than then participants from the CECL 1 Section (mean=3.76) on Item 1 (I think learning idioms is important in the CECL course) and 5 (I am motivated to finish the idiom learning training). These findings indicate that, on the one hand, the fundamental belief regarding the importance of learning English idioms took root in the participants' minds in the CECL 2 Section supported by *WeChat*. Participants were highly engaged in the *WeChat*-based idiom activities during the eight-week English idiom training.

This is resonated with the results from the qualitative data. All participants reported that they had high motivation in the collaborative idiom learning process on *WeChat*. In addition, this sense of high motivation in the CECL 2 Section is congruent with Luo and Yang's (2016) findings that the *WeChat* project in the Chinese language courses at a liberal arts college in the U. S. helped Chinese language learners enhance Chinese language learning motivation tremendously as well as promote their Chinese linguistic skills and understanding of Chinese culture. Similarly, Liu (2014) maintained that “[*WeChat*]-based training provides real [English] communication environment and simulated workplace for speaking and listening practice, enabling introverted students to enjoy the learning process and strengthen their creativity, motivation and critical thinking” (p. 2553). Hence, from the survey results in the motivation subscale, we may conclude that *WeChat*, as a mobile learning app, can trigger students' interest in collaborative idiom learning and enhance their motivation in carrying out the idiom-oriented activities.

Attitude. When viewing the survey results regarding participants' attitude toward using *WeChat* to learn English idioms, we know that participants in both sections enjoyed the eight-week idiom training, with a mean of 18.28 in the CECL 1 Section and a mean of 19.04 in the CECL 2 Section. Shown from the results in attitude subscale, participants from the CECL 2 Section scored higher on Item 1 (The idiom learning training challenged my knowledge of idioms), 2 (The instruction of the idiom learning training was easy to follow), and 3 (I am satisfied with what I learned) than the participants from the CECL 1 Section. However, there was not much difference on Item 4 (I find performing idioms in class is useful) and 5 (Explanations from my peers in co-constructing process to specific idioms is satisfactory). The results imply that *WeChat*-mediated learning experience expanded the horizon of the

participants in the CECL 2 Section both linguistically and technologically. Not only did they need to pursue the meaning of the target VP idioms, they also endeavored to find and share multimodal information from the digital world. Moreover, since participants in both sections were all involved in a co-constructing process, the mean difference might be resulted from the user friendly intervention, *WeChat* that allowed the participants in the CECL 2 Section to better collaborate with their peers and thus acquire the target VP idioms. In other words, collaborative learning tools like *WeChat* , with its multimedia features, facilitated their co-inquisitive process in understanding the target VP idioms and thereby afforded them to perform idiom-oriented tasks with a sense of ownership in the collaborative virtual community.

This sense of ownership and community afforded by *WeChat* can be explained by van Lier's (2000) ecological perspective, which says "the learner is immersed in an environment full of potential of meanings" and "[t]hese meanings become available gradually as the learner acts and interacts within and with this environment" (p. 246). In this light, the learning attitude in the CECL 2 Section stems from the meaning-making activities pertinent to the target VP idioms as well as students interaction with the multimodal information shared by their peers on the *WeChat*'s ecological platform. Thanks to the *WeChat*'s ecological platform, Li (2018) reported that the multimodal linguistic and semiotic resources available in *WeChat* afforded beginning-level Chinese language learners opportunities to improve Chinese writing as well as acquire new and colloquial vocabulary. Surveying 25 sophomores' attitudes toward *WeChat*-assisted learning from a foreign language university in China, Shi, Luo, and He (2017) found that *WeChat* group students actively interacted with their peers and effectively used text, voice messages, and pictures to scaffold their English-oriented activities focusing on vocabulary, grammar, listening, speaking, and writing. As evidenced by the results from the survey,

WeChat-mediated learning method increased students' interest in English idiom learning; in the meantime, it maximized opportunities for them to utilize multimodal information to decipher the meaning of the target VP idioms co-constructively.

Collaboration. Regarding the collaborative idiom learning process, both sections reported that group collaboration, such as co-constructing target English idioms, performing idioms, and trying different ways to present target VP idioms including skits, dialogues, and games, is essential to their English idiom learning progress. Nonetheless, the overall mean score of the CECL 2 Section (with a score of 19.39) in this subscale, collaboration, is 0.97 higher than the score of the CECL 1 Section (with a score of 18.42). Taking a closer look at each item in the collaboration subscale, both sections scored the same in Item 3 (3.5 out of 5) (I learn idioms best when they are accompanied by a variety of group activities). This result reveals that participants in both sections are more inclined to learn English idioms in a collaborative learning environment and thus hold positive attitude toward group activities. However, there is a big difference of the mean score when it comes to Item 1 (Collaborative pair and group activities should be encouraged, whenever interpretation difficulties arise with texts containing idioms) with a score of 3.46 in the CECL 1 Section and a score of 4.00 in the CECL 2 Section. This mean score difference indicates that *WeChat* afforded participants in the CECL 2 Section to better co-construct the meaning of the target VP idioms, especially the ones they could not interpret solely based on the texts.

Tying in the results with an ecological and sociocultural perspective (Lantolf & Thorne, 2006; van Lier, 2004), we may conclude that students' understanding of the target VP idioms can be mediated more effectively by the multimedia features on *WeChat* such as sharing images and videos, having audio/video conferences, and presenting multimodal links; moreover, the

ecological learning environment afforded by *WeChat* optimizes group activities and facilitates students' bi-directional communication with high motivation. In addition, the results also corroborate Kirschner, Kirschner, and Janssen's (2014) assertion that a multimedia collaborative environment stimulates groups cognitive process by providing multimodal information and thereby allows learners to carry out challenging tasks. In this study, this multimedia collaborative environment is able to contextualize the target VP idioms via students' collectively shared multimodal information and sustains their engagement in the idiom-oriented activities. More importantly, according to F. Kirschner, Paas, and P. Kirschner (2010), there will be a collective working memory derived from students' collaborative learning and it can overcome individual working memory limitations and thereby expand the group's reservoir of cognitive capacity (as cited in Kirschner, Kirschner, & Janssen, 2014). This implies that when participants in the CECL 2 Section performed group activities, there appeared to be a group reservoir that reduced their individual cognitive load and led the participants to process the shared information more effectively.

Congruent with these affordances found in this study, the findings from Wang, Fang, Han, and Chen's (2016) study reveal that *WeChat* supported an inquiry community and facilitated a multimodal environment where students of Mandarin Chinese from China and students of English from Australia were able to interact synchronously, semi-synchronously, and asynchronously via text, audio, and video conferencing. Affording L2 learners to communicate and work with native speakers, Li (2018) reported that Mandarin learners from a U.S. college utilized *WeChat* to maintain effective communication with native Mandarin speakers in a chat group and even work with local officials like Chinese policemen. In a professional teaching context, Qi and Wang (2018) shared that *WeChat* could be used for

professional Chinese language teachers in an Australian university to build a teacher community of practice through reflective journals and maintain a focus group discussion by sharing expertise and knowledge pertaining to the flipped classroom model. Taken together, *WeChat*, with its multimedia features that allow learners to share semiotic resources, affords learners opportunities to work on challenging idiom-oriented activities with expanded cognitive capacity and decipher English idioms effectively.

Learning experience. In terms of the English idiom learning experience during the eight-week training, the mean scores of the two sections are quite similar, with the CECL 2 Section rating 17.74 and the CECL 1 Section rating 17.71, indicating the participants in the CECL 2 Section had slightly better learning experience than the participants in the CECL 1 Section. However, Item 4 (Verbal (textual or audio) and visual (graphic, photographic, or video-graphic) information helped activate my knowledge of idioms) presents a mean difference with the CECL 2 Section scoring 3.58 and the CECL 1 Section scoring 3.46, which might be attributed to the multimedia support from WeChat in the CECL 2 Section. Given the fact that the CECL 1 Section was also able to obtain graphical and auditory support from the multimedia classroom that facilitated the instructional activities and peer interaction, we may understand that the multimedia features embedded into *WeChat* better allowed the participants in the CECL 2 Section to retrieve relevant information from their long-term memory and thereby make connections with the target VP idioms.

The retrieval and connection making process from learners' long-term memory afforded by *WeChat*'s multimedia features is related to Mayer's (2009, 2014) active learning that involves three cognitive processes: selecting relevant material, organizing selected material, and integrating selected material with existing knowledge. In particular, the process of integrating

selected material with existing knowledge requires learners to build connections between incoming material and relevant portions of prior knowledge. In the English idiom training, participants in the CECL 2 Section found it more helpful to utilize *WeChat* to help them activate their prior knowledge of the target VP idioms by seeing the multimodal information shared by their peers. Then, they would orchestrate the structural relations of the multimodal information and transfer these relations to their working memory to decipher the meaning of the target VP idioms.

Perceptions of the contribution of *WeChat*. While investigating the perceptions of the contribution of the mobile application, *WeChat*, I created nine themes derived from the interview data collected, and then I synthesized them into three categories based on the overlapping themes. These three notable categories include multimedia mediation, peer interaction and feedback, and learning accessibility and autonomy, which reflect participants' pleasant journey of using *WeChat* to learn English idioms.

First, there appears to be a multimedia mediation process in participants' English idiom learning on *WeChat*. In other words, the participants in the CECL 2 Section highly relied on the multimedia features on *WeChat* to decipher the target VP idioms. This finding confirms to Mayer's (2001) cognitive theory of multimedia learning advocating that students tend to process information consisted of both words and pictures as opposed to the information containing words alone. This is mainly because learners are able to process information with their dual channels—learners have separate channels synergically helping them sort and comprehend verbal and visual materials (Paivio, 1986, 2001). In this study, participants utilized the multimedia features such as hold-to-talk voice messaging, image sharing, voice/video recording, and voice/video conferencing on *WeChat* to maintain effective communication and

help each team member collectively decipher the target VP idioms. The multimodal information shared on *WeChat* afforded participants ample opportunities to expand their working memory and thereby reduce their cognitive load in processing the abstract English idioms. Eventually, this optimized memory retention will allow participants to store the acquired English idioms in their repository.

Second, despite the fact that students' learning styles vary, *WeChat* ascertains its affordance in creating a collaborative learning community where students can have peer interactions and exchange feedback on assigned activities and tasks. That is, the *WeChat*-mediated learning platform empowered the participants in the CECL 2 Section to be highly productive in exchanging multimodal information and in co-constructing the meaning of the target English idioms collectively. This is in line with Vygotskian theory stating that students' cognitive development is influenced and transformed by socially situated activities. It is even clear, stemmed from participants' responses, *WeChat* allowed the participants in the CECL 2 Section to obtain a multi-directional ZPD—they shared relevant information and exchanged feedback to help each other's understanding of the target VP idioms. This sense of the multi-directional ZPD is congruent with Donato's (1994) collective scaffolding, which argues that "the speakers are at the same time individually novices and collectively experts, sources of new orientations for each other and guides through this complex linguistic problem solving" (p. 46). In this study, there was not necessarily a "more knowledgeable other" who could provide more help for their peers in studying the target VP idioms; instead, all the members in a group were highly bonded and obligated to mutually scaffold each other's understanding by sharing idiom-oriented resources and offering constructive feedback.

Third, due to the accessibility of English idiom learning on *WeChat*, the participants expressed that their learning autonomy was greatly promoted. Many participants reported that learning English idioms via *WeChat* enabled them to access the interactive, authentic, and multimodal learning environment regardless of time and space, which tremendously elevated their learning autonomy. In other words, these participants were more inclined to actively engage in the *WeChat* learning platform and harness their own learning with a high degree of flexibility and convenience. Working at their own pace and setting their own goals galvanized them to articulate their voices freely, critically, and creatively. However, some participants also noted that professional technical support, a structured learning schedule, and teacher(s) facilitation and supervision, to some extent, might make their collaborative idiom learning more robust and sustainable.

Theoretical Implications

This study offers several theoretical implications to research on the development of L2 idiomatic competence. To begin with, this study allows us to understand that second language acquisition is optimized by a collaborative learning environment that is itself grounded in Vygotsky's sociocultural theory. Furthermore, this study informs us that a learning environment with multimedia support affords a fun and collaborative virtual space for L2 learners to maintain effective communication, as well as comprehend abstract concepts like L2 VP idioms, and perform tasks and activities pertaining to these abstract concepts. Importantly, the collective efficacy that emerged in the *WeChat*-mediated idiom learning promotes L2 learners' (meta)linguistic competence as well as learning autonomy.

First, the results from participants' VP idiom learning achievement tests and overall idiom learning experience questionnaires in both sections reveal that constructs such as ZPD, scaffolding, and ecological perspective are essential to L2 learners' language development (Lantolf & Thorne, 2006; Vygotsky, 1978; van Lier, 2000). Said another way, since language learning is socially situated, L2 learners should be placed in a learning environment that uses constant and meaningful scaffolding from peers and instructor(s). Importantly, according to van Lier (2000), because "[e]cological educators see language and learning as relationship among learners and between learners and the environment" (p. 258), L2 learners need to be provided with ample opportunities for them to co-negotiate meaning and receive constructive feedback in a multimodal environment. Thus, this study confirms that all agents (L2 learners) involved in this study experienced the multi-directional ZPD effects afforded by *WeChat*, which greatly contributed to their English idiomatic competence and high engagement in the collaborative learning environment.

Second, this study allows ESL/EFL researchers to understand that a multimedia learning environment will not only enable L2 learners to comprehend and memorize challenging concepts effectively, but also sustain their motivation to collaborate with their peers when grappling with various activities and tasks related to these challenging concepts. Specifically, participants in the CECL 2 Section were situated in a multimodal learning environment that enabled them to better decipher the target VP idioms. This type of multimedia learning experience conforms to Mayer's (2001) cognitive theory of multimedia learning, which explains that students tend to use their dual channels for visual/pictorial and auditory/verbal processing. Students rely on both words and pictures to accomplish a good understanding of target knowledge. Participants' VP idiom learning achievement tests showed better memory

retention, which implies that the multimodal information shared on *WeChat* empowered those participants to comprehend and utilize the target VP idioms in an authentic dialogue-based environment. Thus, multiple representations such as pictures, videos, animations, and moments coupled with texts on *WeChat* played a significant role in improving students' understanding of L2 VP idioms.

Last, according to the interviews conducted, students reported that they felt more motivated and relaxed to express themselves in English and collaborate with their peers to perform idiom-oriented tasks and activities. In addition, students shared that they were able to be responsible for their own learning and provide appropriate feedback to their peers. These results suggest that L2 learning on *WeChat* not only grapples with students' cognitive development, but also touches on the established social relationship between students and their peers (Storch, 2002). Using *WeChat* to support students' L2 idiom learning aligns with the ecological approach (van Lier, 2000). This involvement of both cognitive and social processes helps students contextualize and comprehend the target VP idioms.

More importantly, there seemed to be a sense of collective efficacy derived from *WeChat*-mediated idiom learning that elevated students' motivation and learning autonomy. Bandura (2000) explains that "collective efficacy fosters groups' motivational commitment to their missions, resilience to adversity, and performance to accomplishments" (p. 75). Wang and Lin (2007) concluded that collective efficacy positively impacted the discussion behaviors and group performance of college students from Taiwan who were required to use a networked portfolio system to discuss and prepared a final report that focused on educational psychology. In this study, the collective efficacy means that collaborative idiom learning was supported by group members' motivational commitment and joint-expertise when performing the idiom-

oriented tasks and activities. In order to co-construct knowledge and contribute to the learning community, each participant in the CECL 2 Section learned how to regulate their own thinking and shared multimodal information and to provide constructive feedback for their peers in a collectively shared repertoire supported by *WeChat*.

Limitations

While conducting this study and analyzing the results, I was able to find four limitations including the unbalanced demographics and a small sample size of participants, the uncontrolled idiom tasks in both sections, participants' inability to report on their perceptions of using *WeChat* to learn English idioms, and the hermeneutic interpretation of the results.

First, in China, most of students majoring in English identify as female, which resulted in an unbalanced participant demographics. In the two CECL sections, there was only one male student out of 55 participants involved. In addition, since the instructor Amy was only teaching two classes (55 students in total) during the semester in which I conducted this study, the sample size is rather small. As such, this study may not be generalizable to other ESL/EFL contexts. In order to improve the statistical rigor in measuring students' learning achievement and reporting their overall idiom learning experience, a study that enrolls more participants over a longer period of time should be considered.

Second, this study only concentrated on one comprehensive task, idiom learning, and sometimes the learning environments in both sections were not fully regulated due to the instructor's lack of experience in completing this type of experimental study. The experimental design would be refined if the instructor could provide systematic scaffolding, such as Aljaafreh and Lantolf (1994)'s regulatory scale, making the intervention graduated and contingent from

an implicit level to an explicit level. Moreover, the instructor may create more cognitively and linguistically challenging tasks to engage his or her students, such as presenting an impromptu speech using the target VP idiom, contextualizing the target VP idiom in real-life situations, and implementing the target idiom into their academic English writing appropriately.

Third, since English is the participants' second language, in the interview process, the instructor noticed that participants had a hard time in expressing their ideas and thoughts pertaining to their perceptions of incorporating *WeChat* into their English classes. Participants should be allowed to utilize both Mandarin and English, or even code-switching strategies, to share their feelings in the interview. Then, the interview might yield more robust and sound results.

Finally, a hermeneutic issue may complicate this study. Due to my personal bilingual competence in both Mandarin and English, as well as my own experiences of using *WeChat* to explore English learning and teaching, my interpretation of the results generated might be somehow subjective. In other words, ESL/EFL researchers and educators with different SLA and instructional technology backgrounds might utilize other approaches to interpret the data and arrive at different conclusions from this study.

Future Research

This study investigated how mobile-assisted collaborative learning can advance students L2 idiomatic competence compared to a traditional face-to-face teaching environment. The results of the study verified the hypothesis that *WeChat* can be introduced to an ESL/EFL teaching/learning context and *WeChat* can better promote students L2 idiomatic competence given the fact that *WeChat* afforded students opportunities to maintain effective

communication, work on challenging tasks collectively, and obtain a better understanding and memory retention of English idioms empowered by the multimedia features. This study also follows and supports Liontas' (2017) suggestion that

[u]nderstanding idiomacy in CALL can be achieved not because of the computer (or mobile device), but because the computer can make that which needs to be learned more palatable and viable in a variety of ways, thereby achieving greater effectiveness and efficiency while concomitantly defying conventional modes of language teaching and learning. (p. 23)

More importantly, this study confirms Vygotsky's (1978) idea of semiotic mediation that human thinking and activities are mediated by signs and semiotic resources (the use of artificial stimuli and tools). In an L2 learning and teaching context, this semiotic mediation means "those supportive behaviors by which one partner in a semiotically mediated interactive situation can help another achieve higher levels of competence and regulation" (de Guerrero & Villamil, 1994, p. 56). In this study, the semiotic modalities in *WeChat* were the multimodal information shared by all the students, which contributed to their high engagement in collaborative idiom learning, an effective and efficient L2 idiom deciphering process, and a consolidated memory retention and recall of the acquired English idioms. Notwithstanding the fact that this study fills up much gap in the literature of CALL/MALL's impact on L2 idiomatic competence, future research may capitalize on the areas discussed below.

Since the role of instructor(s) is always an importance facet in ESL/EFL teaching and learning, further research needs to investigate the relationship between instructor(s)' facilitation and students' learning outcome via CALL/MALL. According to Aljaafreh and Lantolf (1994), the appropriate implementation of ZPD is essential to L2 students' learning achievements.

Thus, the role of teacher is fundamentally pivotal in students' learning process, which can be also considered the social stimuli mediating students' mental activities. This study shows that *WeChat* galvanized students to embrace the peer interactions and feedback of English idiom learning, but it eclipsed the interactions between the instructor and the participants in the CECL 2 Section, eluding the question of what specific role the instructor played in the *WeChat*-mediated learning process. To this end, for future research, ESL/EFL researchers may explore the teacher-student interactions on MALL supported L2 learning. In particular, ESL/EFL researchers may study the difference of ZPD between peer-peer interactions and teacher-student interactions and elucidate what types of scaffolding strategies may benefit L2 learners' idiomatic competence.

Next, it is worth exploring how students interact with each other on the *WeChat* platform by extracting the group conversation data on students' *WeChat* and analyzing these data accordingly. In this study, despite the fact that I was able to reflect students' learning achievements and perceptions in the CECL 2 Section, I did not have a chance to study their *WeChat*-based interactions containing copious multimodal data. Thus, it will be fruitful if researchers can implement their studies into students' authentic interactions on *WeChat* and utilize discourse analysis to capture key areas such as peer feedback, shared multimodal resources, and students' participation quality. In so doing, researchers will be informed what factors and affordances can better motivate L2 learners to take initiatives in idiom learning and how instructor(s) can better intervene in their learning process on *WeChat* and provide effective scaffolding to advance their L2 idiomatic competence.

Last, this study is grounded in Mayer's cognitive theory of multimedia learning that informs educators that learners tend to achieve a better understanding of target knowledge by

processing information with texts and pictures instead of texts alone. However, during the *WeChat*-mediated learning experiment, several participants reported that they got distracted by some irrelevant multimodal information and therefore wasted much time exploring non-idiom related subjects on their smartphones. As such, it is important to train students and help them to foster metacognition in multimedia learning. According to Mayer (2011), metacognition in multimedia learning grapples with the learner's awareness and control of cognitive processing during learning. That is, a learner needs to be cognizant of how to filter and select useful information metacognitively to cope with a particular learning task. Hence, future directions in L2 learning integrated with MALL/CALL should be aligned with studies focusing on developing students' metacognitive abilities in a MALL/CALL-supported L2 learning environment and shedding light upon how instructor(s) can help L2 learners be self-regulated and take responsibility for harnessing their own cognitive processing in a virtual environment, which is endowed with immeasurable multimodal information.

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APPENDICES

Appendix A: Mayer's (1997) Permission of Using His Figure, A Generative Model of Multimedia Learning

Citing the Generative Model of Multimedia Learning for My Dissertation Inbox x

Z L <zhengjieli@mail.usf.edu>
to rich.mayer

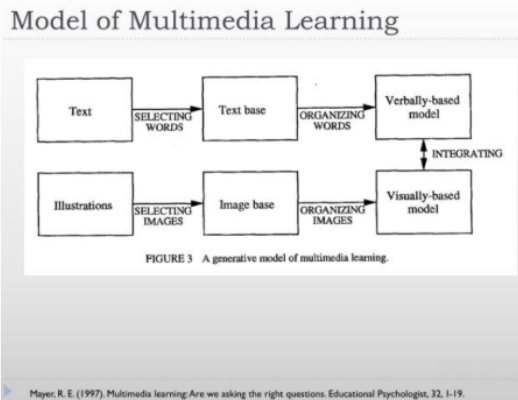
Jan 5, 2019, 4:07 AM ☆ ↶ ⋮


Dear Dr. Mayer,

Trust you had a wonderful holiday. My name is Zhengjie Li and I am currently a doctoral candidate at the University of South Florida. Since my major grapples with second language acquisition and instructional technology, I am using many theories from your works.

Currently, I am conducting my dissertation focusing on using utilizing mobile applications to advance L2 idiomatic competence. I am wondering whether or not I can include the picture below in my dissertation to articulate how L2 learners can better decipher English idioms with multimedia support from mobile applications.

Appreciatively,
Zhengjie Li
ESOL Instructor and Writing Consultant
University of South Florida



 **mayer** <mayer@ucsb.edu>
to me

Jan 5, 2019, 10:44 AM ☆ ↶ ⋮

Yes, you have my permission to use the figure in your dissertation. Best wishes for your research, Rich Mayer

Appendix B: VP Idiom Learning Achievement Test (content adapted from Collins & Risso, 2007)

Please read each dialogue carefully, and then choose the idiom that suits the contextual meaning in the dialogues below:

1.	<p>- How come the front door is open? Didn't you close it before we went shopping?</p> <p>- I'm sure I did. I can't understand it.</p> <p>- Frankly, I _____.</p> <p>- Me, too. I'm convinced that something is definitely wrong here.</p> <p>- We'd better call the police.</p> <p>A. smell a rat</p> <p>B. smell a cat</p> <p>C. smell a dog</p> <p>D. smell a pig</p>
----	--

2.	<p>- Mike, the lines for the rock festival are going to be miles long! If you expect to get tickets for you and Ann, remember that old saying, "_____."</p> <p>- I guess you're right. Ann is looking forward to the concert, and I'd hate to disappoint her. I'll get up real early to get a place at the head of the line. That way I'll get the tickets I want, for sure!</p> <p>A. The early cat catches the rat.</p> <p>B. The early bird catches the worm.</p> <p>C. The early duck catches the bread.</p> <p>D. The early squirrel catches the nuts.</p>
----	---

3.	<p>-How did you find out that Jill was engaged? I got the information from a very reliable source.</p> <p>-You mean Jill told you so herself?</p> <p>-That's right. I got it _____!</p> <p>A. straight from the horse's mouth</p> <p>B. straight from the dog's mouth</p> <p>C. straight from the bird's beak</p> <p>D. straight from the cow's mouth</p>
----	---

4.	<p>- That's it, Greg! You'd better not come in after midnight again tonight!</p> <p>- I know, dad. You don't have _____! I told you that I'd make it home around 11:30. I don't intend to be late!</p> <p>- Well, you've said that before and in your come at 2:30 in the morning. You can't blame me for getting angry and scolding you. I've got good reason.</p> <p>A. to jump down my mouth</p> <p>B. to jump down my nose</p>
----	--

	<p>C. to jump down my throat D. to jump down my back</p>
--	--

5.	<p>- How did you enjoy your vacation to Europe last summer? - It was marvelous. I'll never forget the time we had when we were in Rome. There was no end to things to see and do. - And how was the night life? - Great! We _____ the first three nights we were there. - Didn't that get to be pretty expensive? - I guess so, but we were so excited by all that the city had to offer that we went out carousing without thinking about the cost.</p> <p>A. painted the town pink B. painted the town white C. painted the town gold D. painted the town red</p>
----	---

6.	<p>- Children! Would you please stop making so much noise! And for heaven's sake, pick up your clothes and toys! It's hard enough trying to keep this house clean without your throwing your things all over the place! - Clara, I know that the children _____, but you should try not to let it upset you so much. - Listen, Jim. I can't help it. The children bother me and make me very angry when they're so noisy and messy.</p> <p>A. get in your eyes B. get in your nose C. get in your ears D. get in your hair</p>
----	--

7.	<p>- Come on, Connie! Tell us what you think about our little ride down the rapidly yesterday. - Well, uh... - Wasn't it exciting? - I, uh... - What's the matter? _____? - If you must know, I'm keeping quiet because I was scared out of my wits!</p> <p>A. Snake got your tongue B. Cat got your tongue C. Cat got your mouth D. Snake got your mouth</p>
----	---

8.	<p>- Why were you teasing Sonia about her new hairdo? She really took offense at what you said.</p>
----	---

	<p>- I didn't mean to offend her. I was simply making a _____ remark when I said that it was too elaborate for a girl of her young, tender age.</p> <p>- Well, she thought you were serious. She had no idea that you were just saying that as a joke.</p> <p>- I'm really sorry. I suppose I owe her an apology.</p> <p>A. tongue-in-face B. tongue-in-cheek C. tongue-in-mouth D. tongue-in-teeth</p>
--	--

9.	<p>- Did you know that Harry was going to take Kathy on a Caribbean cruise?</p> <p>- Yes, I did. He was planning on surprising her with the tickets for their anniversary, but someone _____.</p> <p>- What a shame! That was supposed to have been a surprise.</p> <p>- Yes, it's too bad that someone told her about the trip beforehand and ruined Harry's surprise.</p> <p>-That's OK. Her enthusiasm was not dampened in the least.</p> <p>A. spilled the peas B. spilled the peanuts C. spilled the beans D. spilled the corn</p>
----	--

10.	<p>- Let's go to the movies, agreed?</p> <p>- Sure. And what'll we do after that?</p> <p>- Oh, I don't know. Let's _____.</p> <p>- Well, I would like to have a more definite plan of action.</p> <p>- Don't be like that. It's always more fun not knowing what to expect and deciding what to do as we go along.</p> <p>A. play it by mouth B. play it by tongue C. play it by teeth D. play it by ear</p>
-----	---

11.	<p>- Hey, Al. I was invited to be a judge for the Miss America Beauty Pageant!</p> <p>- Oh, really? Come on, you're _____!</p> <p>- No, honestly. Do you really think that I'm trying to fool you with a ridiculous story?</p> <p>- Well, you've told me foolish stories before.</p> <p>- I can assure you that this one is for real.</p> <p>A. pulling my leg B. pulling my arm C. pulling my back D. pulling my knee</p>
-----	---

12.	<p>- How come they're asking me to act as their guide through the jungle?</p> <p>- Evidently they think you're the only one who can lead them to the lost temple.</p> <p>- That jungle has danger lurking around every corner. Why should I _____ for them? They didn't pay me for my services.</p> <p>- They know that you would be taking a great risk and could possibly get hurt, but you're the only one with enough knowledge to take them to their destination. I'm sure you'll be amply rewarded.</p> <p>A. stick my neck out</p> <p>B. stick my head out</p> <p>C. stick my back out</p> <p>D. stick my heart out</p>
13.	<p>- Hey, Bea. Can you help me out? I don't seem to be able to button up the back of my dress.</p> <p>- Sure. Let's see if I can do it for you.</p> <p>- I guess I'm _____ because I'm so nervous. I'm already late for my date.</p> <p>- Well, I suppose that being so nervous would make you clumsy and awkward. But don't worry. I'm sure your date will wait.</p> <p>A. all thumbs</p> <p>B. all nails</p> <p>C. all toes</p> <p>D. all fingers</p>
14.	<p>- Wow! What a great set of drums!</p> <p>- Yeah, they're great, but I can't play on them when my folks are at home. They say I _____ with all the loud banging.</p> <p>- I get the same thing at home. My folks tell me that I annoy them and get them really angry whenever I turn up the volume on my stereo.</p> <p>A. drive them up a door</p> <p>B. drive them up a roof</p> <p>C. drive them up a window</p> <p>D. drive them up a wall</p>
15.	<p>- Mary, you always take such a long time to put on your makeup. Come on, _____!</p> <p>- I'll be finished in a minute. Be patient.</p> <p>- You've got to hurry or else we won't arrive on time to see the last show.</p> <p>A. shake a leg</p> <p>B. shake a hand</p> <p>C. shake an arm</p> <p>D. shake a head</p>

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16.	<p>- We've been working on this sales report for some time now. Don't you think we should take a break for some dinner?</p> <p>- Now that you mention it, I am kind of hungry. Let's put the report _____ awhile and grab a bite to eat.</p> <p>- That's fine. I'd be happy to stop working on it and set it aside until we get some food.</p> <p>- Great! Let's lock up and go.</p> <p>A. on snow B. on ice C. on water D. on heat</p>
-----	---

17.	<p>-Listen, Kim. We're going to be really busy with moving tomorrow, and we've got to get an early start.</p> <p>- I guess you're right. We'll need all the rest we can get.</p> <p>- What do you say we _____ now?</p> <p>- Agreed. Let's go to bed and get a good night's sleep. It's going to be a long day.</p> <p>A. hit the pillow B. hit the bench C. hit the sofa D. hit the hay</p>
-----	--

18.	<p>- I heard that poor Jud landed up in jail.</p> <p>- Yeah. His so-called girlfriend _____ and claimed the reward on him.</p> <p>- I can't understand that. I thought she was devoted to him.</p> <p>- She couldn't have been very devoted to him if she betrayed him and informed the police about his hiding place.</p> <p>- That just goes to show you what people will do for money.</p> <p>A. sold him down the river B. sold him down the sea C. sold him down the lake D. sold him across the ocean</p>
-----	---

19.	<p>- What are you going to be doing this afternoon?</p> <p>- Oh, I don't have anything in particular in mind.</p> <p>- Why don't you come over to my place? We can listen to some records and _____.</p> <p>-That sounds OK to me. I'd like to relax listening to music and visit and chat informally until my folks get back from shopping.</p> <p>A. shoot the wind B. shoot the breeze C. shoot the rain</p>
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	D. shoot the snow
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20.	<p>- Say, Jill. I thought that John was going to help you do the dishes tonight.</p> <p>- So did I. But he _____.</p> <p>- Where did he go?</p> <p>- Well, he got a call from some of pals at work to go bowling, and he left me alone to do all this work without any help at all!</p> <p>A. left me high and wet</p> <p>B. left me low and dry</p> <p>C. left me high and dry</p> <p>D. left me low and wet</p>
-----	---

21.	<p>- Hi, John. What's new?</p> <p>- Oh, nothing too much with me, but you ought to see Alfredo's new car. It'll _____!</p> <p>- So, he finally got that Italian sports car he's been dreaming about.</p> <p>- He sure did! When you see all the custom features that it has, you'll get so enthused and excited you won't know what to do!</p> <p>- Boy, I can hardly wait to go for a ride in it!</p> <p>A. knock your shoes off</p> <p>B. knock your shirts off</p> <p>C. knock your socks off</p> <p>D. knock your pants off</p>
-----	---

22.	<p>- We were discussing ethnic tradition and custom with Fred the other day, and he showed just how little he knew about other cultures.</p> <p>- What do you mean?</p> <p>- Well, he said that as far as he could tell, there wasn't much difference in behavior and temperament between the English and the Hispanics.</p> <p>- It's plain to see that he was _____!</p> <p>- True, but Fred thinks he's an authority on everything. It was difficult to convince him that he was talking ignorantly. He's got a reputation for making foolish, inaccurate statements.</p> <p>A. talking through his hat</p> <p>B. talking through his bat</p> <p>C. talking through his nat</p> <p>D. talking through his mat</p>
-----	--

23.	<p>- Can you do anything about repairing this TV set?</p> <p>- I'm not much of an electrician, but I'll _____.</p> <p>- Many thanks. I'd be most appreciative.</p> <p>- OK. I'll try my hardest to fix it, but I'm not promising that I'll succeed.</p>
-----	---

- At this point, I'll take all the help I can get.
A. give it my best bullet
B. give it my best gun
C. give it my best shot
D. give it my best ball

24. - Hey, Bea. I need some help stacking these boxes. Would you please give me a hand?
- OK. And I need some help tidying up the house. How about your helping me out after that?
- OK. If you _____.
- I know you don't like doing housework, but I'll help you with the boxes if you promise to return the favor.
- No problem. I'll even do the windows.
A. scratch my back, I'll scratch yours
B. scratch my head, I'll scratch yours
C. scratch my neck, I'll scratch yours
D. scratch my chest, I'll scratch yours

25. - Is it true that Don got into some trouble at work last week?
- Yes, he did. He was reproached for not turning in his sales reports, but his secretary _____.
- What was she able to do?
- She helped him out a great deal by admitting that she had misplaced the reports that he gave her to be typed.
- So, it was her fault, not his.
- Right.
A. went to hat for him
B. went to nat for him
C. went to mat for him
D. went to bat for him

26. - I happened to bump into Doug at lunch yesterday afternoon.
- What's new with Doug these days?
- He wasn't doing so well. For one thing, he told me he _____ at the races.
- Doug has always liked to bet on the horses. I'm not surprised that he lost a great deal of money.
-Yeah. At this rate he'll never have a penny to his name!
A. lost his hat
B. lost his jacket
C. lost his belt
D. lost his shirt

27.	<p>- Can you help me hook up my new stereo equipment? I'm having quite a bit of trouble with all these connections.</p> <p>- Sure. That's _____ for me.</p> <p>- Well, with all your experience in electronics, I have no doubt that it will be very easy for you to do.</p> <p>- No problem. Glad to help you.</p> <p>A. chicken soup B. duck soup C. corn soup D. potato soup</p>
-----	---

28.	<p>- Do you remember Andre and Jack?</p> <p>- Yes, I do. Weren't they working together on some kind of a novel?</p> <p>- That's right. It was finally published and I understand that _____ both domestically and abroad.</p> <p>- That's great news! They're both talented and hardworking. It's good to hear that the book was so successful and attracted such a great deal of attention.</p> <p>A. it made quite a splash B. it made quite a flash C. it made quite a spray D. it made quite a spit</p>
-----	---

29.	<p>- We've been waiting for three months to get delivery on our car, and people who put in their order after us have already gotten theirs.</p> <p>- Well, _____. Why don't you try giving the dealer a little something extra to move things along?</p> <p>- I know full well that money has the power to influence people, but I refuse to pay extra for a service that is owed to me as a client.</p> <p>A. silver talks B. gold talks C. money talks D. coin talks</p>
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30.	<p>- Chris, why don't you finish eating that third helping of dessert?</p> <p>- I guess my _____ when I said I wanted more.</p> <p>- I'm not surprised. The same thing happens to me. Sometimes, when I'm really hungry, I'll take more food than I can possibly eat.</p> <p>A. mouth was bigger than my stomach B. eyes were bigger than my stomach C. mouth was bigger than my belly D. eyes were bigger than my belly</p>
-----	--

Answer Keys

1. A	16. B
2. B	17. D
3. A	18. A
4. C	19. B
5. D	20. C
6. D	21. C
7. B	22. A
8. B	23. C
9. C	24. A
10. D	25. D
11. A	26. D
12. A	27. B
13. A	28. A
14. D	29. C
15. A	30. B

Appendix C: Post Idiom Learning Questionnaire

Post Idiom Learning Questionnaire
(adapted from Liontas' unpublished dissertation, 1999)

Thank you very much for participating in my dissertation study. I would like to know your thoughts on the overall learning experience of English idioms. Read each statement carefully, think about it for a few seconds, and use the scale range of 1 to 5 to indicate the extent to which you agree or disagree with each of the following statements.

1=**Strongly disagree** 2=**Disagree** 3=**Neutral** 4=**Agree** 5= **Strongly agree**

Motivation

1. I think learning idioms is important in the CECL course.
2. I want idioms to be part of the CECL course.
3. I like to study idioms on a regular basis.
4. I think idioms are useful in everyday communication.
5. I am motivated to finish the idiom learning training.

Attitude

1. The idiom learning training challenged my knowledge of idioms.
2. The instruction of the idiom learning training was easy to follow.
3. I am satisfied with what I learned.
4. I find performing idioms in class is useful.
5. Explanations from my peers in co-constructing process to specific idioms is satisfactory.

Collaboration

1. Collaborative pair and group activities should be encouraged, whenever interpretation difficulties arise with texts containing idioms.
2. I like to discuss the meaning of idioms with my group members in co-constructing process.
3. I learn idioms best when they are accompanied by a variety of group activities.
4. It is useful to me to perform idioms with my group members in class.
5. If I had to perform an idiom, it would be nice to try different ways to do it: skits, dialogues, games, etc, in small groups.

Learning Experience

1. Authentic illustrations and real texts accompanied the study of idioms.
2. Illustrations and graphics supported the study of idioms.
3. Incorporating idiom graphics and illustrations was a critical part of the instructional activities employed.
4. Verbal (textual or audio) and visual (graphic, photographic, or video-graphic) information helped activate my knowledge of idioms.
5. The ways idioms were presented in the class supported my learning style(s).

Appendix D: Semi-structured Interview

Semi-structured Interview:

1. In what ways did *WeChat* contribute to your English idiom learning?
2. Did the multimedia features such as hold-to-talk voice messaging, image sharing, voice/video recording, and voice/video conferencing help you in the process of learning English idioms? If yes, in what ways specifically? If not, why not?
3. What do you see as advantages and disadvantages of learning idioms using *WeChat* as compared to the traditional way of learning idioms?
4. Did your group interactions such as co-constructing meaning, sharing relevant learning resources, practicing dialogues, and presenting recorded skits support your idiom learning experiences? Did you enjoy the collaborative idiom learning experiences on *WeChat*? Why or why not?
5. Did the use of *WeChat* help you learn idioms and thereby develop your communicative skills?
6. What are some of the feelings you experienced while learning idioms on *WeChat*?
7. Did you experience any difficulties using *WeChat*? If yes, what were some of those difficulties?
8. What suggestions would you give to other students wishing to incorporate *WeChat* in learning English idioms?

Appendix E: Sage Publishing's Permission of Using Creswell's (2014) Figure, Data Analysis in Qualitative Research

Citing a Work from Sage Publications Inbox x

Z L <zhengjeli@mail.usf.edu>
to permissions

Tue, Jan 22, 7:43 PM ☆ ↶ ⋮

Dear Sage Publisher,

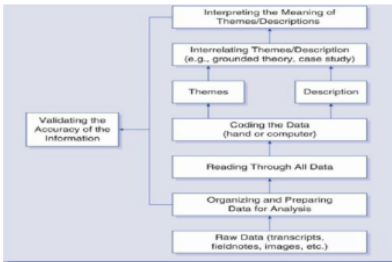
Trust you had a wonderful holiday. My name is Zhengjie Li and I am currently a doctoral candidate at the University of South Florida.

Currently, I am conducting my dissertation focusing on utilizing mobile applications to advance L2 idiomatic competence. For the Methods part, I adopted the mixed methods from John Creswell's book published by Sage:

Creswell, J. W. (2014). *Research design: Qualitative, quantitative, and mixed methods approaches* (4th ed.). Thousand Oaks, CA: Sage.

As I am analyzing my data, I found it very helpful to follow the data analysis process in your book. I am wondering whether or not I can cite and include the picture below in my dissertation.

Appreciatively,
Zhengjie Li
ESOL Instructor and Writing Consultant
University of South Florida



permissions (US) <permissions@sagepub.com>
to me

Wed, Jan 23, 9:15 AM ☆ ↶ ⋮

Dear Zhengjie Li,

Thank you for your request. I am pleased to report we can grant your request without a fee as part of your thesis or dissertation.

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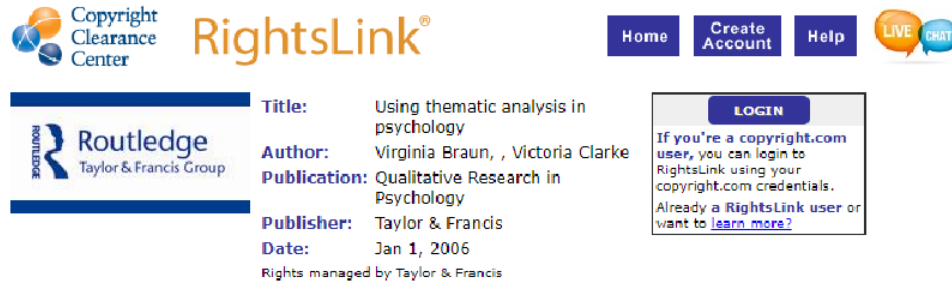
Zhengjie Li <zhengjeli@mail.usf.edu>
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Wed, Jan 23, 12:45 PM ☆ ↶ ⋮

Thanks a lot,
Mary!

发自我的 iPhone

Appendix F: Taylor & Francis' Permission of Using Braun and Clarke's (2006) Figure, Phases of Thematic Analysis



The screenshot shows the Copyright Clearance Center RightsLink interface. At the top, there are navigation buttons for Home, Create Account, Help, and a LIVE CHAT icon. The main content area displays the following information:

- Title:** Using thematic analysis in psychology
- Author:** Virginia Braun, , Victoria Clarke
- Publication:** Qualitative Research in Psychology
- Publisher:** Taylor & Francis
- Date:** Jan 1, 2006

Below this information, it states "Rights managed by Taylor & Francis". A "LOGIN" button is visible, with a tooltip that reads: "If you're a copyright.com user, you can login to RightsLink using your copyright.com credentials. Already a RightsLink user or want to learn more?". The Routledge Taylor & Francis Group logo is also present.

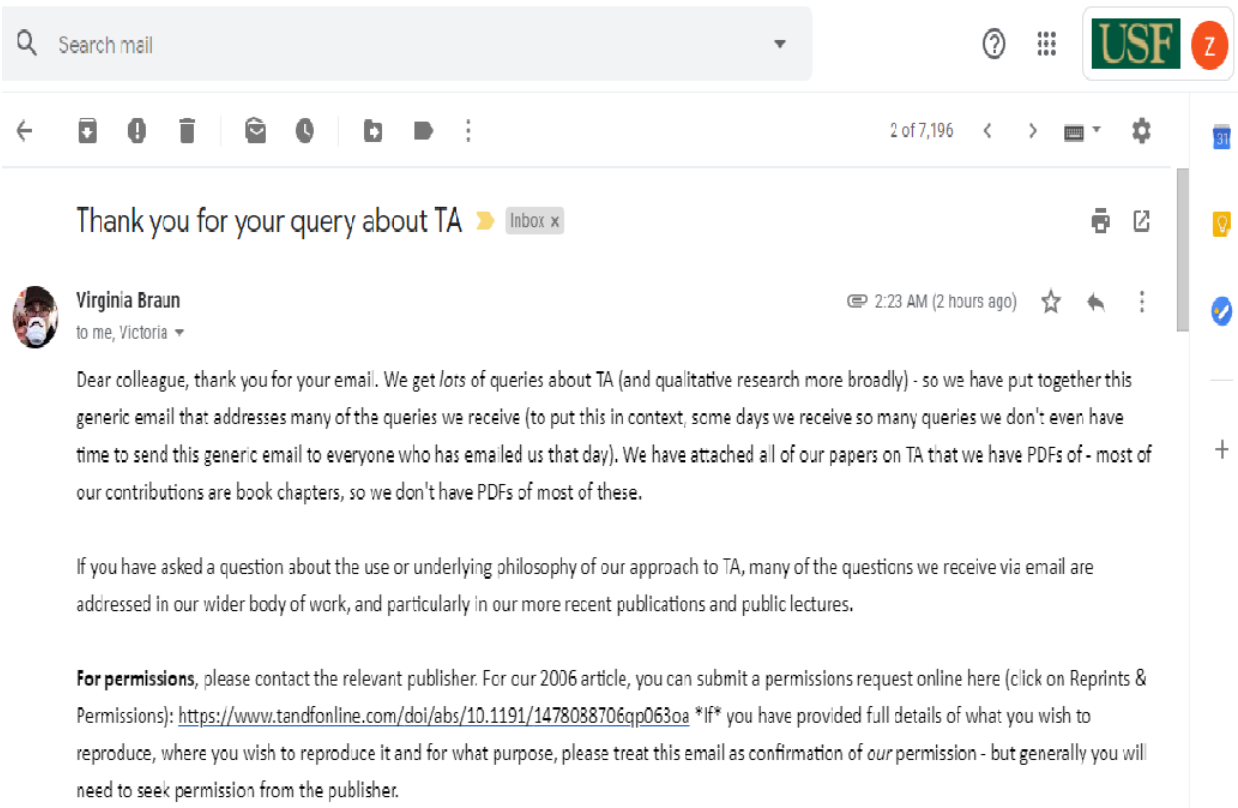
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The screenshot shows an email interface with a search bar at the top. The email is titled "Thank you for your query about TA" and is from Virginia Braun. The email content is as follows:

Dear colleague, thank you for your email. We get *lots* of queries about TA (and qualitative research more broadly) - so we have put together this generic email that addresses many of the queries we receive (to put this in context, some days we receive so many queries we don't even have time to send this generic email to everyone who has emailed us that day). We have attached all of our papers on TA that we have PDFs of - most of our contributions are book chapters, so we don't have PDFs of most of these.

If you have asked a question about the use or underlying philosophy of our approach to TA, many of the questions we receive via email are addressed in our wider body of work, and particularly in our more recent publications and public lectures.

For permissions, please contact the relevant publisher. For our 2006 article, you can submit a permissions request online here (click on Reprints & Permissions): <https://www.tandfonline.com/doi/abs/10.1191/1478088706qp0630a> *If* you have provided full details of what you wish to reproduce, where you wish to reproduce it and for what purpose, please treat this email as confirmation of our permission - but generally you will need to seek permission from the publisher.

Appendix G: Informed Consent Form



Informed Consent to Participate in Research Involving Minimal Risk

Pro # Pro00033379

You are being asked to take part in a research study. Research studies include only people who choose to take part. This document is called an informed consent form. Please read this information carefully and take your time making your decision. Ask the researcher or study staff to discuss this consent form with you, please ask him/her to explain any words or information you do not clearly understand. The nature of the study, risks, inconveniences, discomforts, and other important information about the study are listed below.

We are asking you to take part in a research study called:

Promoting L2 Idiomatic Competence among Chinese College Students via WeChat

The person who is in charge of this research study is Zhengjie Li. This person is called the Principal Investigator. However, other research staff may be involved and can act on behalf of the person in charge. He is being guided in this research by Dr. John Liontas.

The research will be conducted at a liberal arts college in northeastern China.

Purpose of the study

This study will examine the affordances and mediational artifacts from *WeChat* that allow L2 learners to actively interact with their peers and improve their communicative skills in a co-constructed learning environment. We are interested in learning about: English idiom learning supported by *WeChat*, idiom learning experience, and perceptions of learning English idioms on *WeChat* among Chinese learners of English. This study is hypothesized that students involved in collaborative idiom learning supported by *WeChat* will outperform the students who practice their collaborative idiom learning in a traditional oral English class. *WeChat* may well present itself as an advanced platform for students to collaborate with high efficiency and motivation in a constructed learning environment.

Why are you being asked to take part?

We are asking you to take part in this research study because you are a student studying English at University in China.

Study Procedures:

If you take part in this study, you will be asked to complete and or participate in the following:

1. Before the training starts, participants need to spend 60 minutes completing a pre test consisting of 30 multiple choice questions, with a total score of 30 at English Department. Professor Y will proctor the test.
2. After the pre test, participants in both the control group and the experimental group will learn these 30 English idioms in 8 weeks, complying with the guidelines and procedures in your group.
3. After the 8-week training, participants in both the control group and the experimental group will take a post-test covering the same 30 multiple choice questions with a total score of 30 as in the pre test. Professor Y will proctor the 60-minute long post-test at English Department at a liberal arts college in northeastern China.
4. Participants in both control group and experimental group need to complete an online survey embedded on Qualtrics and report your overall idiom learning experience. We will need to have your student ID number filled out in the survey as well so we can associate your input with the corresponding student ID number. Thus, your data will not be anonymous.
5. In the survey, participants in the experimental group will also need to choose whether or not you are willing to be interviewed and reflect your idiom learning perceptions. Among all the “Yes” answer in the experimental group, five volunteers will be selected randomly and interviewed by the instructor

Your information will be kept confidential and only the Principal Investigator and research team will have access to the test scores, electronic survey, and recorded interviews. After you complete all the relevant participation, we will remove your name and any identifying personal information.

Total Number of Participants

About 55 individuals will take part in this study at a liberal arts college in northeastern China.

Alternatives / Voluntary Participation / Withdrawal

You have the alternative to choose not to participate in this research study. You should only take part in this study if you want to volunteer; you are free to participate in this research or withdraw

at any time. There will be no penalty or loss of benefits you are entitled to receive if you stop taking part in this study. Your decision to participate or not to participate will not affect your student status, course grade, recommendations, or access to future courses or training opportunities.

Benefits

You will receive no benefit from this study. This research is considered to be minimal risk.

Risks or Discomfort

This research is considered to be minimal risk. That means that the risks associated with this study are the same as what you face every day. There are no known additional risks to those who take part in this study.

Compensation

We will not pay you for the time you volunteer while being in this study.

Costs

It will not cost you anything to take part in the study.

Privacy and Confidentiality

We will keep your study records private and confidential. Certain people may need to see your study records. Anyone who looks at your records must keep them confidential. These individuals include:

- The research team, including the Principal Investigator and Co-Investigator.
- Certain government and university people who need to know more about the study, and individuals who provide oversight to ensure that we are doing the study in the right way.
- The USF Institutional Review Board (IRB) and related staff who have oversight responsibilities for this study, including staff in USF Research Integrity and Compliance.

We will need to have your student ID number filled out in the survey as well so we can associate your input with the corresponding student ID number. Thus, your data will not be anonymous.

We may publish what we learn from this study. If we do, we will not include your name. We will not publish anything that would let people know who you are.

You can get the answers to your questions, concerns, or complaints

If you have any questions, concerns or complaints about this study, or experience an unanticipated problem, call Principal Investigator, Zhengjie Li at (813)-974-6880.

If you have questions about your rights as a participant in this study, or have complaints, concerns or issues you want to discuss with someone outside the research, call the USF IRB at (813) 974-5638 or contact by email at RSCH-IRB@usf.edu.

Consent to Take Part in this Research Study

I freely give my consent to take part in this study. I understand that by signing this form I am agreeing to take part in research. I have received a copy of this form to take with me.

Signature of Person Taking Part in Study

Date

Printed Name of Person Taking Part in Study

Statement of Person Obtaining Informed Consent

I have carefully explained to the person taking part in the study what he or she can expect from their participation. I confirm that this research subject speaks the language that was used to explain this research and is receiving an informed consent form in their primary language. This research subject has provided legally effective informed consent.

Signature of Person obtaining Informed Consent

Date

Printed Name of Person Obtaining Informed Consent

Appendix H: IRB Approved Letter



RESEARCH INTEGRITY AND COMPLIANCE
Institutional Review Boards, FWA No. 00001669
12901 Bruce B. Downs Blvd., MDC035 • Tampa, FL 33612-4799
(813) 974-5638 • FAX (813) 974-7091

January 30, 2018

Zhengjie Li
Teaching and Learning
Tampa, FL 33612

RE: **Expedited Approval for Initial Review**

IRB#: Pro00033379

Title: Promoting L2 Idiomatic Competence among Chinese College Students via *WeChat*

Study Approval Period: 1/29/2018 to 1/29/2019

Dear Mr. Li:

On 1/29/2018, the Institutional Review Board (IRB) reviewed and **APPROVED** the above application and all documents contained within, including those outlined below.

Approved Item(s):

Protocol Document(s):

[Research Protocol Version 1](#)

Consent/Assent Document(s)*:

[Consent Form.pdf](#)

*Please use only the official IRB stamped informed consent/assent document(s) found under the "Attachments" tab. Please note, these consent/assent documents are valid until the consent document is amended and approved.

It was the determination of the IRB that your study qualified for expedited review which includes activities that (1) present no more than minimal risk to human subjects, and (2) involve only procedures listed in one or more of the categories outlined below. The IRB may review research through the expedited review procedure authorized by 45CFR46.110. The research proposed in this study is categorized under the following expedited review

category:

(6) Collection of data from voice, video, digital, or image recordings made for research purposes.

(7) Research on individual or group characteristics or behavior (including, but not limited to, research on perception, cognition, motivation, identity, language, communication, cultural beliefs or practices, and social behavior) or research employing survey, interview, oral history, focus group, program evaluation, human factors evaluation, or quality assurance methodologies.

As the principal investigator of this study, it is your responsibility to conduct this study in accordance with IRB policies and procedures and as approved by the IRB. Any changes to the approved research must be submitted to the IRB for review and approval via an amendment. Additionally, all unanticipated problems must be reported to the USF IRB within five (5) calendar days.

We appreciate your dedication to the ethical conduct of human subject research at the University of South Florida and your continued commitment to human research protections. If you have any questions regarding this matter, please call 813-974-5638.

Sincerely,

A handwritten signature in black ink, appearing to read 'Kristen Salomon', followed by a horizontal line.

Kristen Salomon, Ph.D., Vice
Chairperson USF Institutional
Review Board

ABOUT THE AUTHOR

Zhengjie Li obtained his Ph. D. degree in Technology in Education and Second Language Acquisition (TESLA) at the University of South Florida, Tampa, FL. He received his B.A. in English Education (2011) from the College of Sciences and Humanities of Northeast Normal University (P. R. China) and his M. Ed. in Foreign Language Education/TESOL (2014) from the University of South Florida, Tampa, FL.

Zhengjie Li has extensive experience teaching English and creating international programs in China, and his current research focuses on foreign/second language teaching pedagogy, bilingual education, instructional technology, second language writing, applied linguistics, translation, and curriculum design for international programs as well as bilingual education programs.

While conducting research, Zhengjie Li, as a mixed-methods researcher, has been applying quasi-experimental and experimental study designs as well as analytic methods such as multi-level models and structural equation models.

In addition to academic research and teaching, Zhengjie Li has been professionally active in the field of translation and interpretation between English and Chinese, and he offers translation services for many renowned companies. To maintain his SLA/FLE expertise, he provides consultations to help Chinese students study in American schools.