

An Analysis of the Impact of L2 Grit on the Intercultural Competence of Chinese EFL Students with Willingness to Communicate Digitally as the Mediator

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Abstract—A study conducted at a university in Guangzhou examined 267 students, revealing a positive correlation between L2 grit and the intercultural competence of students. This relationship was found to be mediated by the students' willingness to communicate digitally. The present research aims to provide an analysis of L2 grit, intercultural competence, and digitally willingness to communicate in the context of digital communication informally. Subsequently, the study will present the findings concerning the associations among grit, intercultural competence, and willingness to communicate. Lastly, the paper will discuss the limitations of the study and offer potential pedagogical implications.

1. Introduction

The concept of grit in second language learning (L2 grit) has garnered considerable attention from scholars and educators. [1] In the realm of second language education, the rise of information and communication technologies has led to a growing number of L2 learners utilizing digital devices for online and offline communication in their target language. As a result, Dressman and Sadler [2] observed that the present era offers the most favorable conditions in history for informal language acquisition. Digital education has become increasingly vital in language learning, underscoring its significance in our technology-driven society. With the help of digital platforms, learners now have access to a wide range of resources, interactive tools, and online communities that greatly facilitate language acquisition. By incorporating multimedia elements such as videos, audio recordings, and interactive exercises, the learning process becomes more engaging and immersive. Furthermore, digital education enables learners to engage in authentic language use and cultural exchange with native speakers from around the world, fostering a deeper understanding of different cultures. Moreover, online language learning platforms provide personalized and adaptive learning experiences, tailoring the instruction to meet individual needs and allowing learners to progress at their preferred pace. The convenience and flexibility offered by digital education have effectively eliminated geographical barriers, enabling learners to access high-quality language instruction at any time and from any location. In conclusion, digital education has revolutionized language learning by creating an interactive, immersive, and easily

accessible environment that empowers learners to develop their language skills with utmost effectiveness.

The central hypothesis of this study posits that L2 learners with higher levels of grit are more inclined to engage in digital and informal language communication, leading to enhanced intercultural competence. To investigate this hypothesis, the study employed a quantitative approach utilizing questionnaires and a convenience sampling method with students from a university in Guangzhou.

2. A Review of Intercultural Competence, Grit and Willingness to Communicate

In an increasingly globalized world, intercultural competence, which is sometimes referred to as intercultural communicative competence, has become more significant and applicable in various fields, especially in education. In today's era of increasing global interdependence, education plays a crucial role in developing intercultural competence among individuals. It is widely recognized that individuals who can bridge cultural gaps and possess intercultural attitudes are essential to various aspects of human society. The development of intercultural competence is a recurring topic of discussion in the field of education, with scholars primarily focusing on its application in language education. In China, the importance of cultivating individuals with a global perspective, familiarity with international norms, and the ability to engage in international affairs and competition is emphasized in the *Overview of China's National Strategy for Long-Term Education Reform and Development (2010-2020)*. As a result, the focus of foreign language education has shifted

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from mere skill acquisition to the development of intercultural competence, as reflected in the *Guidelines for Ensuring Teaching Excellence in Undergraduate English Programs and Curriculum Requirements for College English Studies*. However, there is still a need for further development of intercultural competence among Chinese college students.^[3] The main objective of this proposed study is to enhance the intercultural competence of Chinese college students through the cultivation of grit, in the context of second language (L2) learning.

The term "grit" originates from the realm of social psychology, where Duckworth et al. ^[4] defined it as the combination of "perseverance and passion for long-term goals." It pertains to an individual's inclination to courageously confront challenges, difficulties, and setbacks while maintaining a steadfast commitment and interest over an extended duration. In the context of this study, L2 grit is considered a personality trait present in the psychological profiles of highly accomplished language learners, representing a blend of tenacity and enthusiasm for acquiring a second language. Students displaying higher levels of grit are more likely to excel in language learning, and L2 grit should be regarded as an individual difference.^[5] Moreover, L2 grit has been positively associated with behavioral, motivational, affective, cognitive, and other psychological factors, as well as various constructs such as L2 motivation, mindset, and willingness to communicate (WTC) ^[6]. It is also essential to acknowledge that research concerning grit in the context of L2 learning is still in its infancy and has not received adequate attention. Despite some research pointing to a weak association between grit and L2 proficiency^[7], further investigation is needed to fully understand the complex relationship between these factors. In informal learning, some researchers have found that L2 grit was positively and significantly linked to the Informal digital English learning experience.^[8] This study aims to determine if the L2 grit is also related to the intercultural competence of Chinese EFL students.

In today's digitally globalized world, intercultural communication in online environments has become a regular occurrence across various aspects of our daily lives. Contemporary second language learners, commonly known as "digital natives," actively participate in intercultural discussions within an interconnected society. As a result, there is a growing demand for instruction that aids individuals in becoming proficient L2 speakers in both face-to-face and digital multilingual/multicultural scenarios.^[9] Additionally, intercultural understanding can be nurtured through visible intercultural interactions that take place not only in physical cross-cultural exchanges but also in the virtual realm of online intercultural exchanges. Recognizing these trends, higher learning institutions need to emphasize activities beyond the traditional classroom setting, such as extracurricular and co-curricular activities. This research aims to explore whether individuals' willingness to communicate in informal and digital contexts can serve as a predictor of their intercultural competence.

The term "willingness to communicate in a second language" (L2 WTC) refers to an individual's readiness to engage in conversations in their second language with

specific individuals or groups at a given time. Recognizing the importance of communication skills in today's global environment, experts in second language acquisition have sought to understand the factors that influence L2 WTC, as it is a crucial prerequisite for using the second language effectively. Recent studies have highlighted the significance of diverse informal learning practices in improving students' affective factors, such as motivation and anxiety, as well as their willingness to communicate in the L2, particularly in extramural digital contexts. Notably, a substantial correlation has been observed between EFL university students' higher levels of L2 WTC online and their increased engagement in outside-of-class English activities utilizing technology.^[10] The proposed study aims to focus on the willingness to communicate digitally in informal learning settings and investigate whether it plays a significant mediating role between L2 grit and intercultural competence. By examining the potential mediation effect of willingness to communicate digitally, the research seeks to advance our understanding of how L2 grit influences intercultural competence through digital communication in informal learning contexts.

3. Analysis of the Relationship Between L2 Grit and ICC with WTC digitally as the Mediator

A digital survey administered on Wenjuanxing platform was utilized to collect data from students, encompassing demographic details, L2 grit, digital willingness to communicate^[11], and intercultural communicative competence assessment^[3]. The questionnaire of L2 grit encompasses L2 grit perseverance and L2 grit interest, the items are: I am dedicated to mastering the English language through hard work and perseverance. I embrace challenges as opportunities for growth in my English learning journey. As an enthusiastic and diligent English learner, I have maintained a long-standing interest in the language and can sustain my focus for extended periods of time. My passion for learning English remains unwavering, and I am as eager to explore the language as I have always been. The questionnaire on willingness to communicate digitally covers three aspects: engaging in conversations about diverse cultures with Asian English speakers online using digital devices such as computers and phones, engaging in conversations about diverse cultures with native English speakers online using digital devices, and sharing my own culture in English online with individuals through digital platforms. The example items in the questionnaire on intercultural competence evaluate various aspects, including understanding the values and way of life in my own country, understanding and appreciating foreign lifestyles and values, communicating with people from different countries without prejudice or bias, utilizing diverse methods to learn about foreign languages and cultures, and recognizing that different cultures have distinct communication styles and behaviors.

A total of 273 students willingly participated in the survey, and after excluding any abnormal data points, a

total of 267 responses were considered for the subsequent analysis using SPSS. Using the statistical software SPSS, a regression analysis was conducted to examine the impact of L2 grit on intercultural communicative competence (ICC). The initial regression findings are illustrated in Figure 1.

Model		Unstandardized Coefficients		Standardized	t	Sig.
		B	Std. Error	Coefficients Beta		
1	(Constant)	66.195	1.800		36.782	<.001
	grit	.442	.097	.269	4.550	<.001

a. Dependent Variable: ICCall

Figure 1. Regression effect of L2 grit on ICC

The estimated total effect of L2 grit on ICC = .442 (*SE* = .097).

The total effect was significantly different from zero with *t* = 4.550, *p* < .001

In the second regression analysis, we examined the relationship between L2 grit and digital willingness to communicate (WTC). The result is shown in Figure 2.

Model		Unstandardized Coefficients		Standardized	t	Sig.
		B	Std. Error	Coefficients Beta		
1	(Constant)	8.636	.515		16.771	<.001
	grit	.156	.028	.327	5.631	<.001

a. Dependent Variable: WTCd

Figure 2. Regression effect from L2 grit to WTC digitally

The second regression analysis revealed that the estimated effect of L2 grit on digital willingness to communicate (WTC) was .156 (*SE* = .028). This effect was found to be statistically significant, with a t-value of 5.631 and *p* < .001.

Moving on to the third regression analysis, the focus was on estimating the effect of digital willingness to communicate (WTC) on intercultural communicative competence (ICC). The result is manifested in Figure 3.

Model		Unstandardized Coefficients		Standardized	t	Sig.
		B	Std. Error	Coefficients Beta		
1	(Constant)	56.402	2.449		23.033	<.001
	grit	.264	.097	.161	2.716	.007
	WTCd	1.134	.203	.331	5.573	<.001

a. Dependent Variable: ICCall

Figure 3. Regression effect from WTC digitally to ICC

The third regression analysis examined the relationship between digital willingness to communicate (WTC) and intercultural communicative competence (ICC). The estimated effect of WTC digitally on ICC was found to be 1.134 (*SE* = .203), with a significant t-value of 5.573 and *p* < .001.

Additionally, when controlling for the mediating effect of WTC digitally, the estimated residual direct effect of grit on ICC remained significant at .264. This effect had a t-value of 2.716 and *p* = .007 (< .05), indicating that even after considering the mediating role of WTC digitally, grit still had a significant impact on ICC.

The mediation analysis, conducted using the PROCESS tool, revealed that the estimated unstandardized indirect effect was .0613, with a 95% percentile bootstrap confidence interval of (.029, .101). This indicates that the mediation effect is significant. The mediation model can be visualized in Figure 4.

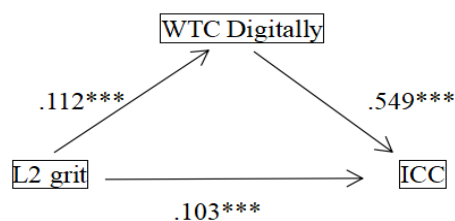


Figure 4. The mediation model

4. Discussion and Limitation

The presented figures highlight the significance of L2 grit on intercultural communicative competence (ICC), the impact of L2 grit on digital willingness to communicate (WTC), and the influence of digital WTC on ICC. These findings provide evidence supporting the hypothesis that L2 learners with higher levels of grit are more likely to engage in digital and informal language communication, ultimately leading to improved intercultural competence.

These findings have important implications for L2 educators, as they underscore the importance of cultivating L2 grit and promoting digital WTC to enhance the ICC of Chinese college students. To foster intercultural competence among students, it is crucial to address strategies and interventions that can enhance their levels of L2 grit and digital WTC. By focusing on these areas, L2 educators can effectively contribute to the development of students' intercultural communication skills.

This study does have apparent limitations that should be acknowledged. The reliance on a single university sample does limit the generalizability of the findings, as the results may not be representative of other student populations. Including more diverse samples from different institutions would indeed enhance the validity and applicability of the study. Additionally, acknowledging the limitations of relying solely on quantitative methods is important. While quantitative analysis provides valuable insights into the relationships between variables, it may not capture the complexities and nuances of individuals' experiences and perceptions. Conducting a follow-up qualitative study would be beneficial in gaining a deeper understanding of the connections between L2 grit, digital WTC, and ICC. Qualitative research methods would allow researchers to explore individual experiences, contextual factors, and the underlying mechanisms that quantitative data alone may not fully capture. By incorporating both quantitative and qualitative approaches, researchers can provide a more comprehensive and holistic understanding of the relationships under investigation. This would strengthen the study's findings and contribute to a more robust knowledge base in the field of L2 education and intercultural competence.

5. Theoretical and Pedagogical Implications

In conclusion, this study conducted at a university in Guangzhou provides valuable insights into the

relationship between L2 grit, intercultural competence, and digital communication. The findings highlight the positive correlation between L2 grit and intercultural competence, with digital communication acting as a mediating factor in this relationship. These findings have theoretical implications and pedagogical implications for educators and institutions aiming to enhance intercultural competence among students.

Theoretically, this study confirmed the “broaden and build theory of positive emotions”^[12], which stems from the documented inclination of positive emotions to increase individuals' immediate cognitive and behavioral options while simultaneously promoting the growth of their long-term personal assets. The broaden-and-build theory elucidates the characteristics of positive emotions by centering on their capacity to broaden individuals' cognitive and behavioral choices, while also emphasizing their significance in fostering the development of enduring personal resources. The broaden-and-build concept posits that despite their ephemeral nature, positive emotions yield enduring advantages. When examined from the perspective of this theory, positive emotions act as catalysts for personal growth and the formation of social connections. By augmenting individuals' personal and social resources, positive emotions facilitate positive transformations that ultimately contribute to improved future outcomes. The findings of this study clearly indicate that students who exhibit higher levels of L2 grit, a positive emotion, are more likely to engage in digital communication, thus expanding and broadening their learning experiences. Consequently, this engagement contributes to the enhancement of their intercultural competence.

The empirical implications of the presented figures highlight several significant findings. First, it is emphasized that L2 grit plays a significant role in developing intercultural competence, indicating that individuals who possess higher levels of L2 grit are more likely to demonstrate greater intercultural communication skills. Second, the data illustrates a positive correlation between L2 grit and digital willingness to communicate (WTC), implying that individuals with higher levels of L2 grit are more inclined to participate in digital language communication. Lastly, the figures demonstrate that digital WTC has a positive influence on ICC, suggesting that engaging in digital and informal language communication contributes to the development of intercultural competence. Overall, these empirical findings provide evidence supporting the hypothesis that L2 learners with higher levels of grit are more likely to actively participate in digital language communication, leading to improved intercultural competence.

The availability of abundant online resources and the use of portable digital devices contribute to the seamless integration of the front-end, middle-end, and back-end aspects of intercultural foreign language education. This offers a potential direction for future research in intercultural language education. In the end, it is also important to acknowledge the limitations of the study, such as the restricted generalizability due to the single university sample and the reliance on quantitative methods. To address these limitations, future research

should consider expanding the sample to include more diverse populations and incorporating qualitative approaches to gain a deeper understanding of the connections between L2 grit, digital communication, and intercultural competence. In addition to quantitative research methods, it is crucial to incorporate qualitative studies to uncover the underlying and significant factors that influence relationships. By utilizing qualitative approaches, researchers can delve deeper into the complexities of human connections and gain a more profound understanding of the reasons behind them. This qualitative exploration allows for a comprehensive examination of the emotions, beliefs, values, and experiences that shape and contribute to relationship dynamics. The insights gained from qualitative research can provide valuable insights that quantitative data alone may not capture, ultimately enhancing our understanding of the multifaceted nature of relationships.

Despite these limitations, the study contributes to our understanding of the role of L2 grit in shaping intercultural competence and highlights the significance of digital communication in this process. Educators can use these insights to inform instructional strategies aimed at developing students' intercultural communication skills and preparing them for a globalized world. By acknowledging the limitations and building upon these findings, educators can take meaningful steps towards nurturing a culturally competent student that is well-equipped to navigate and thrive in an interconnected global society.

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