

On the Impact of Growth Mindset on Intercultural Competence with Informal Learning as the Mediator

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Abstract: A survey of 77 students majoring in Portuguese found that growth mindset was positively related to intercultural competence of students with informal digital learning of Portuguese as the mediator. This study will review growth mindset, intercultural competence in digital ages and present the analysis result that informal learning serves full mediation between growth mindset and intercultural competence. Finally, some discussion and limitation of the study will be given based on the data.

Keywords: Growth mindset; Informal language learning; Portuguese learning; Intercultural Competence

1 Introduction

A growth mindset, known as an incremental theory of intelligence, maintains the belief that intelligence is adaptable and can be enhanced through continuous experience—people internalize their perceptions of the malleability of their skills via socialization (Dweck, 1999). This study aims to explore if growth mindset has an impact on intercultural competence with informal language learning as the mediator and Chinese college students majoring in Portuguese as samples. This study employs a quantitative method with questionnaires and the hypothesis is that growth mindset and informal digital learning of Portuguese has a significant role in improving the intercultural competence of Chinese college students.

2 A Review of Growth Mindset and Intercultural Competence in Digital Age

A growth mindset involves believing that talents can be cultivated and improved over time, whereas a fixed mindset assumes that human abilities are inherent and cannot be changed (Dweck & Yeager, 2019). Educational research indicates that individuals with a growth mindset are more resilient when encountering failure and actively participate in problem-solving tasks. This proactive approach to learning contributes to better overall learning results (Dai & Cromley, 2014). Notably, empirical investigations have recognized the significance of the growth mindset as a motivating principle that can profoundly enhance the language learning of students, e.g. English as a Foreign Language (EFL) and English as a Second Language (ESL) (Bai & Guo, 2019). A growth language mindset refers to the

conviction that language skills can be changed and enhanced through dedicated effort and the use of effective learning techniques (Lou & Noels, 2019). Despite the recognition of the significance of students' beliefs in their learning, it is noteworthy that the integration of these two strands of research in the context of EFL and ESL students' learning has yet to be explored (Bai & Wang, 2023). Research has additionally indicated that students exhibiting a growth mindset demonstrate a tendency to engage in diverse forms of learning, namely formal, informal, and non-formal learning (Reinhardt & Elwood, 2019). If growth mindset has an impact on the intercultural competence of Chinese college students should be explored.

In the digital age of globalization, intercultural communication in online settings has become ubiquitous across various aspects of our lives. Present-day second language (L2) learners, often referred to as "digital natives," actively engage in intercultural dialogues within a connected world (Chen, 2012). Consequently, there is a growing demand for instructional support to foster proficiency in L2 speaking skills for both face-to-face and digital multilingual/multicultural contexts (Porto, Houghton, & Byram, 2018). The events of recent years fundamentally transformed the nature of international exchange and education, enabling students to participate in culturally diverse "classrooms" without leaving their beds (Deardorff et al., 2012). Furthermore, intercultural understanding can be fostered through virtual online intercultural exchanges, both internationally and within local contexts (O'Dowd, 2007).

When addressing the development of intercultural competence (ICC), it is essential to acknowledge that ICC is an ongoing process throughout an individual's life, extending beyond the boundaries of the classroom context (Bok, 2008). The coherent and consistent development of intercultural competence necessitates engagement beyond the classroom, particularly through authentic interpersonal interactions. Therefore, educational institutions should prioritize activities outside the formal curriculum, including extracurricular and co-curricular activities, to foster ICC (Deardorff & Arasaratnam-Smith, 2017). This proposed research aims to delve further into the informal learning context by focusing on extramural activities in students' daily lives, shedding light on the impact of growth mindset on intercultural competence beyond the confines of the classroom.

3 Investigating the impact of growth mindset on ICC with IDLP as the mediator

Convenience sampling is employed in this research. A total of 77 Chinese college students in an university of Guangzhou majoring in Portuguese voluntarily participated in the answering the digital questionnaires comprising 30 items that encompassed demographic data, growth mindset (Dweck, 1999), productive and receptive Informal Digital Language Learning of Portuguese (IDL P) (adapted from Lee & Drajeti, 2019), and self-assessment of intercultural communicative competence (ICC) (Wu et al., 2013). Linear regression on SPSS is employed to analyze the data collected through Wenjuanxing in order to find out the relationship between growth mindset and ICC with IDLP as the mediator.

The first regression: Independent variable is growth mindset(GM) and dependent variable is informal digital learning of Portuguese (IDL P). The result is shown in figure 1:

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	10.360	1.029		10.072	<.001
	GM	.336	.107	.340	3.129	.002

a. Dependent Variable: IDLP

Figure 1. Linear regression between growth mindset and IDLP.

The estimated effect of growth mindset on IDLP = .336 ($SE = .107$).

The effect of growth mindset on IDLP was significant with $t = 3.129$, $p = .002$ ($<.05$).

The second regression: Independent variable is IDLP and dependent variable is ICC. The result is shown in figure 2:

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	57.844	6.533		8.854	<.001
	IDLP	1.236	.476	.287	2.595	.011

a. Dependent Variable: ICCall

Figure 2. Linear regression between IDLP and ICC.

The estimated effect of IDLP on ICC = 1.236 ($SE = .476$).

The effect of IDLP was significant with $t = 2.595$, $p = .011$ ($<.05$).

The third regression: Independent variable is growth mindset and dependent variable is ICC. The result is shown in figure 3:

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	9.345	2.047		4.566	<.001
	ICCall	-.002	.027	-.009	-.081	.936

a. Dependent Variable: GM

Figure 3. Linear regression between GM and ICC.

The estimated effect of growth mindset on ICC = -.002 ($SE = .027$).

The effect of IDLP was not significant with $t = -.081$, $p = .936$ ($>.05$).

The fourth regression: Independent variables are growth mindset and IDLP, and dependent variable is ICC. The result is shown in figure 4:

Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	60.185	6.917		8.701	<.001
	GM	-.514	.500	-.121	-1.027	.308
	IDLP	1.412	.506	.328	2.790	.007

a. Dependent Variable: ICCall

Figure 4. Linear regression with GM, IDLP and ICC.

The estimated residual direct effect of growth mindset on ICC was not significant after controlling for the effect of the mediator (IDLP) with $t = -1.027$, $p = .308$ ($>.05$)

As depicted in the aforementioned figures, the variable of growth mindset does not exert a direct and significant influence on intercultural communicative competence (ICC). However, it does have a substantial effect on the mediator, namely, the Informal Digital Portuguese Learning (IDLP), which in turn significantly impacts ICC. These findings illustrate that IDLP serves as a mediator between growth mindset and ICC. The relationship among the independent variable (growth mindset), mediator (IDLP), and dependent variable (ICC) can be visually represented by Figure 5. The effect of growth mindset (variable X) on IDLP is significant with $p=.002$ and the effect of IDLP on intercultural competence (variable Y) is significant with $p=.011$, however, the impact of growth mindset and intercultural competence is not significant with $p=.936$.

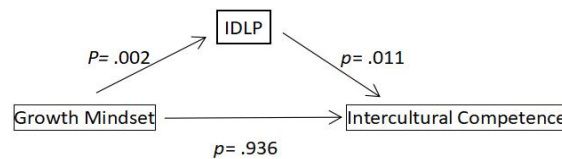


Figure 5. The mediation effect of IDLP.

4 Discussion and Limitation

The findings demonstrate that individuals with a higher growth mindset are inclined to engage in more frequent informal digital learning of Portuguese activities, which results in a higher intercultural competence. The hypothesis that growth mindset and IDLP play an important role in improving students' ICC is proved to be true although growth mindset does not have a direct impact on students' ICC. In light of these findings, college Portuguese teachers could consider encouraging students to utilize digital resources for learning Portuguese outside the traditional classroom setting. Moreover, they should acknowledge the significance of fostering a growth mindset, as students with a higher growth mindset tend to actively embrace diverse learning methods and strive to enhance their competence. More digital learning resources and platforms of good quality should be provided to students and the cultivation of positive psychology including growth mindset is also crucial in enhancing the ICC of college students. After all, the intercultural conflict and communication does not only happen in face-to-face context, but also in digital and online context.

The evident constraint of this research lies in its reliance on quantitative methods alone, which may not sufficiently offer an in-depth analysis. Consequently, to gain deeper insights into the role of growth mindset in influencing engagement with Informal Digital Learning of Portuguese (IDL) and how these activities foster the enhancement of college students' Intercultural Competence (ICC), a qualitative study should be undertaken as a complementary follow-up. This qualitative approach would allow for a more nuanced understanding of the underlying mechanisms and processes involved. Furthermore, the current study's sample size is limited, which could potentially impact the generalizability of the findings. To enhance the study's validity and applicability to a broader population, it would be more appropriate to involve a larger and more diverse sample from various universities or educational settings. This expanded sample would enable the researchers to draw more robust conclusions and establish stronger correlations between growth mindset, IDL engagement, and levels of ICC among college students.

5 Conclusion

The outcomes derived from the survey conducted among 77 students majoring in Portuguese underscore the significance of fostering a growth mindset and embracing informal digital learning as effective means to augment students' intercultural competence. The findings indicate that the development of a heightened growth mindset may prompt students to proactively participate in voluntary informal digital learning endeavors, thereby resulting in the enrichment of their intercultural competence. It is imperative to acknowledge that promoting intercultural competence and language proficiency among college students should extend beyond conventional formal learning, particularly in the context of the prevailing digital landscape.

Acknowledgement: This thesis is the achievement of a project of Guangzhou Xinhua University. Project name: Exploring a Self-directed Learning Mode for College Students with Formal and Informal English Learning in the Digital Era. Project number: 2023J004

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