

Similarities and Differences of Intercultural Adjustment and Culture Shock of Taiwanese Master and Doctoral Students Studying Credits in the United States

Hsieh I. Ling* and Chiu Fu Yuan

Department of Education and Learning Technology, National Tsing Hua University, Hsinchu County, Taiwan
Email: nike2020@gapp.nthu.edu.tw (H.I.L.); chiu.fy@gapp.nthu.edu.tw (C.F.Y.)

*Corresponding author

Manuscript received February 23, 2024; revised April 17, 2024; accepted June 7, 2024; published February 26, 2025.

Abstract—English has not been widely used in Taiwan, but it has become the most common language in the world after World War II. To strengthen Taiwan's competitiveness in the international market, the Taiwanese government has promoted the 2030 bilingual policy. One of the major purposes is to cultivate Taiwanese talents for connecting with the world. Various colleges and universities also provide more foreign study programs such as exchange students, and overseas internships for this. The author participated in the 14th PFI Summer Program at UCLA in 2023 and took the opportunity to study Intercultural adjustment and the Culture Shock of 20 Taiwanese doctoral and master's students who went to the United States to study for short-term credits. This research is expected to take the first step towards cross-cultural integration of Taiwan's learning methods into international standards through the vision of a global dimension in comparative education. Intercultural adjustment and Culture Shock questionnaires are used as tools, and SPSS25 is used for statistical analysis. The results show that short-term overseas studying cannot help Taiwanese doctoral and master's students in Intercultural adjustment and Culture Shock. It is recommended that the number of overseas experiences or accumulation time be conducted in future research on Intercultural adjustment and Culture Shock.

Keywords—intercultural adjustment, culture shock, comparative education, higher education

I. INTRODUCTION

On September 26, 2012, UN Secretary-General Ban Ki-moon officially named the "Global Education First Initiative (GEFI)", a five-year plan based on three key principles: education for all, education quality, and global citizenship. The initiative has three priorities: keeping every child in school, improving the quality of learning, and fostering global citizenship. While the first and second principles are crucial to the work of comparative education as a field of teaching, researching, and practicing, the third principle, education for global citizenship, is closely related to the ethos of Paulo Freire and the aims of comparative education [1]. Continuing the spirit of Paulo Freire, the Paulo Freire Institute has cooperated with UCLA for the PFI Summer Program at UCLA for many years. Although it was suspended for three years due to COVID-19 but returned this year in 2023 with the fourteenth session. This study which compares the similarities and differences of Intercultural adjustment and Culture Shock of Taiwanese master and doctoral students studying in the United States have.

II. LITERATURE REVIEW

Globalization is revolutionizing our collective and

individual world and consciousness. Based on this reason, the pursuit of global citizenship education should be understood in the context of multiple processes of globalization, and citizenship should be seen by an understanding of global interconnectedness and a commitment to the collective good [2]. Comparative education, which has been committed to explaining the role of education in the construction of a country or government, has developed into transformative citizenship education which allows students to experience democracy in classrooms and schools and enables students to internalize beliefs and values of democracy better. In addition to empowering students to have a cultural identity, it also cultivates students with reflective and critical abilities. While gaining a global identity, the students also possess the knowledge and skills needed to promote social justice in the community, the country, and the world [3].

The Scientific Dimension, the Pragmatic Dimension, and the Global Dimension are three dimensions of Comparative Education [4]. However, having a global perspective is essential for people who seek to bring an international perspective not only into academic research but also into teaching at all levels of education. That is, adding rich content and activities into curricula to enable the next generation, as well as adults, to understand the world in which they live [4].

The PFI Summer Program at UCLA is set for this purpose, and all the students who have been in this program want to learn for this. To make sure these students have the ability to learn the global spirit of Paulo Freire, Intercultural Adjustment and Culture Shock have been detected in this study.

III. TOOLS AND PARTICIPANTS

This study used a questionnaire survey method and it is divided into three parts in this research questionnaire. The beginning part is the background description; the second part is Intercultural adjustment, which is used to understand the views of Taiwanese master and doctoral students on Intercultural adjustment when they take short-term courses in foreign universities; the third part is cultural shock which is used to understand the views of Taiwanese master and doctoral students on cultural shock when they take short-term courses in foreign universities.

Taking into account the gap between the age of the participant and English proficiency, the questionnaire was made based on the principle of the native language of participants – Chinese. The design and development process

of the questionnaire items is described as follows: the Intercultural Adjustment used in this study is modified from Black & Stephens [5] and Spradley & Phillips [6], and the Culture Shock questionnaire is revised from Mumford [7] and Church [8]. A five-point Likert scale is adapted. The modified questionnaire content is shown in the Appendix and translated by the author in English to understand all over the world. Since the questionnaire has been tested for expert validity and reliability, and the participants in this experiment are adults, the same as the setting of the questionnaire, the questionnaire was used directly after minor modification to present the pre-and post-test meaning. However, to make the guarantee, after the first draft of the questionnaire was designed, an expert or scholar was invited to review the research purpose and the content of the questionnaire to obtain the content validity of the questionnaire again. Reliability was tested again as well and Cronbach's α of the Intercultural Adjustment questionnaire in the pre-test and post-test are 0.924 (n = 38) and 0.929 (n = 35); the Cronbach's α of the Culture Shock questionnaire in the pre-test and post-test are 0.708 (n = 38) and 0.721 (n = 35).

The experimental participants in this study are Taiwanese master's and doctoral students who participated in the UCLA summer course program in 2023. There are 20 people in total and their age ranges from ungraduated from university to retirement age. This is the embodiment of lifelong adult education. Second, although it is intentional sampling, it has the true characteristics of adult education and is very representative.

All participants need to finish the pre-test before the start of the course at UCLA and the post-test right after the last day of that course. Consequently, the pre-test questionnaires were distributed in electronic form (PDF, Word) on 2023.06.29, and 20 questionnaires were returned before the class started on 2023.07.03. The post-test questionnaire was distributed in paper form and collected on-site after the course ended on July 27, 2023, and 20 questionnaires were returned.

IV. STATISTICS

There are 14 valid questionnaires kept and counted by SPSS 25. Descriptive statistical analysis, Reliability Analysis, Wilcoxon matched-pairs signed-rank-test, Mann-Whitney U Test, and Two-way ANOVA (mixed design) are applied.

V. RESULT

A. Descriptive Statistic

What presented in Table 1 is descriptive statistics.

Table 1. Descriptive statistic of Intercultural Adjustment and Culture Shock (N = 14)

	N	Min	Max	Mean	Std. Deviation	
					Statistic	Std. Error
Pre-test of Intercultural Adjustment	14	41	62	52.71	1.36	5.08
Post-test of Intercultural Adjustment	14	42	64	52.57	1.93	7.22
Pre-test of Culture Shock	14	17	34	27.00	1.20	4.47
Post-test of Culture Shock	14	20	35	28.07	1.29	4.81

B. Reliability

The Cronbach's α of the Intercultural Adjustment questionnaire in pre-test and post-test are 0.839 and 0.874.

The Cronbach's α of the Culture Shock questionnaire in pre-test and post-test are 0.739 and 0.712.

All the above questionnaires are in a good reliability range.

C. Wilcoxon Matched-Pairs Signed-Rank-Test

Wilcoxon matched-pairs signed-rank-test (Table 2) shows that there is no difference between pre-test and post-test on both Intercultural Adjustment and Culture shock.

Table 2. Wilcoxon matched-pairs signed-rank-test of Intercultural Adjustment and Culture Shock (N = 14)

	Ranks	N	Mean Rank	Sum of Ranks
Pre-test -Post-test of the Intercultural Adjustment	Negative Ranks	8	6.56	52.5
	Positive Ranks	6	8.75	52.5
	Ties	0		
	Total	14		
Pre-test -Post-test of the Culture Shock	Negative Ranks	6	5.75	34.50
	Positive Ranks	8	8.81	70.50
	Ties	0		
	Total	14		
		Intercultural Adjustment		Culture Shock
		Pre-test - Post-test		Pre-test - Post-test
Z		0.000 ^b		-1.134 ^c
Asymp. Sig. (2-tailed)		1.000		0.257

^a Wilcoxon Signed Ranks Test

^b Based on the sum of the positive and negative ranks

^c Based on negative ranks

D. Maan-Whitney U Test

a. Gender in Intercultural Adjustment and Culture Shock
Maan-Whitney U Test of Gender in Intercultural Adjustment and Culture Shock (Table 3) shows that there is no difference in Gender whatever which test.

Table 3. Mann-Whitney U test for gender in pre- and post-test of Intercultural Adjustment and Culture Shock

	Gender	N	Mean Rank	Sun of Ranks	
Pre-test of the Intercultural Adjustment	Male	5	8.70	43.50	
	Female	9	6.83	61.50	
	Total	14			
Post-test of the Intercultural Adjustment	Male	5	5.90	29.50	
	Female	9	8.39	75.50	
	Total	14			
Pre-test of the Culture Shock	Male	5	10.40	52.00	
	Female	9	5.89	53.00	
	Total	14			
Post-test of the Culture Shock	Male	5	8.50	42.50	
	Female	9	6.94	62.50	
	Total	14			
		Intercultural Adjustment		Culture Shock	
		Pre-test	Post-test	Pre-test Post-test	
Mann-Whitney U		16.500	14.500	8.000	17.500
Z		-0.804	-1.070	-1.946	-0.672
Asymp. Sig. (2-tailed)		0.422	0.285	0.052	0.502
Exact Sig. [2*(1-tailed Sig.)]		0.438 ^b	0.298	0.060 ^b	0.518

^a Grouping Variable: Gender

^b Not corecteyed for ties

b. Degree in Intercultural Adjustment and Culture Shock
Maan-Whitney U Test of Degree in Intercultural Adjustment and Culture Shock (Table 4) shows that there is no difference in Gender whatever which test.

Table 4. Mann-Whitney U test for degree in pre- and post-test of Intercultural Adjustment and Culture Shock

	Degree	N	Mean Rank	Sun of Ranks
Pre-test of the Intercultural Adjustment	Post-degree	7	6.00	42.00
	Doctrol	7	9.00	63.00
	Total	14		
Post-test of the Intercultural Adjustment	Post-degree	7	8.93	62.50
	Doctrol	7	6.07	42.50
	Total	14		
Pre-test of the Culture Shock	Post-degree	7	7.14	50.00
	Doctrol	7	7.87	55.00
	Total	14		
Post-test of the Culture Shock	Post-degree	7	6.21	43.50
	Doctrol	7	8.79	61.50
	Total	14		

	Intercultural Adjustment		Culture Shock	
	Pre-test	Post-test	Pre-test	Post-test
Mann-Whitney U	14.000	14.500	22.000	15.500
Z	-1.348	-1.282	-0.322	-1.159
Asymp. Sig. (2-tailed)	0.178	0.200	0.748	0.246
Exact Sig. [2*(1-tailed Sig.)]	0.209 ^b	0.209 ^b	0.805 ^b	0.259 ^b

^a Grouping Variable: Gender

^b Not corrected for ties

E. Two-Way ANOVA (Mixed Design)

a. Gender and Intercultural Adjustment

Two-way ANOVA of Gender and Intercultural Adjustment (Table 5) shows that there is no difference between and within groups.

Table 5. Two-way ANOVA for gender and pre- and post-test of Intercultural Adjustment

Variables	SS	df	MS	F	p	ηp2
Gender	13.829	1	13.829	0.232	0.639	0.019
Error (between groups)	716.600	12	59.717			
Intercultural Adjustment	5.780	1	5.870	0.306	0.590	0.025
Gender* Intercultural Adjustment	52.013	1	52.013	2.72	0.125	0.185
Error (within groups)	229.844	2	19.154			

b. Gender and Culture Shock

Two-way ANOVA of Gender and I Culture Shock (Table 6) shows that there is no difference between and within groups.

Table 6. Two-way ANOVA for gender and pre- and post-test of Culture Shock

Variables	SS	df	MS	F	p	ηp2
Gender	66.287	1	66.287	1.911	0.192	0.137
Error (between groups)	416.178	12	34.681			
Culture Shock	3.563	1	3.563	0.610	0.450	0.048
Gender* Culture Shock	8.420	1	8.420	1.442	0.253	0.107
Error (within groups)	70.044	12	5.837			

c. Degree and Intercultural Adjustment

Two-way ANOVA for degree and Intercultural adjustment (Table 7) showed no significant differences between groups. Although there was significant variation within groups, the simple main effects showed no significant differences (Table

8). Two-way ANOVA for degree and pre- and post-test of Intercultural Adjustment.

Table 7. Two-way ANOVA for degree and pre- and post-test of Intercultural Adjustment

Variables	SS	df	MS	F	p	ηp2
Degree	3.571	1	3.571	0.059	0.812	0.005
Error (between groups)	726.857	12	60.571			
Intercultural Adjustment	0.143	1	0.143	0.010	0.923	0.001
Degree* Intercultural Adjustment	104.143	1	104.143	7.032	0.021	0.369

Table 8. Simple main effect for degree and pre- and post-test of Culture Shock

Variables	SS	df	MS	F	p	ηp2
Degree						
at Pre-test	34.73	1	34.73	0.92	0.3467	0.0370
at Post-test	73.10	1	73.10	1.94	0.1765	0.0748
Error	904.57	24	37.69			
Intercultural Adjustment						
at male	48.43	1	48.43	3.27	0.0957	0.2142
at female	56.00	1	56.00	3.78	0.0756	0.2396
Error	177.72	12	14.81			

d. Degree and Culture Shock

Two-way ANOVA of degree and I Culture Shock (Table 9) shows that there is no difference between and within groups.

Table 9. Two-way ANOVA for degree and pre- and post-test of Culture Shock

Variables	SS	df	MS	F	p	ηp2
Degree	30.036	1	30.036	0.797	0.390	0.062
Error (between groups)	452.429	12	37.702			
Culture Shock	8.036	1	8.036	1.331	0.271	0.100
Degree* Culture Shock	6.036	1	6.036	1.000	0.337	0.077
Error (within groups)	72.429	12	6.036			

VI. DISCUSSION

When Qiu [9] elaborated on international education, he discussed that comparative education is a practice of international education. He believed that comparative education scholars have two kinds of research practices: the “comparison” means putting people being compared together and identifying the similarities and differences, or simply describing, analyzing, and making suggestions on a country’s educational performance. The author attempts to conduct a preliminary understanding of Taiwan’s global education practice by studying the Intercultural Adjustment and Culture Shock of Taiwanese doctoral and master’s students short-term studying in the United States.

For doctoral and master’s students who went to the United States to take short-term credit courses, the results showed that there was no difference in intercultural Adjustment and Culture Shock before and after the course. This result is different from the expectations of the author before conducting the research. However, through the analysis of the semester and experience of exchange students, Peng [10] found that non-experience has better adaption than experience and two-semester is greater than one in general living adaption. Furthermore, the study of Lan’s [11] on

expatriates showed inconsistent results. That is, aside from those with more than 10 years of working experience in Taiwan had less impact than those with 6 years, overseas experience had no impact on work adaptation, life adaptation, and interaction adaptation. Lin [12] found that foreign students who have been in Taiwan for less than 1 year and 1 to 2 years have higher cultural shock than students who have been in Taiwan for 3 to 4 years. The inconsistency shows that how the length of stay abroad is related to Intercultural Adjustment and Culture Shock has no conclusion. This inconsistency can give the reason for no difference between pre-and post-test, which is because the course duration is only one month. It can also be used as a hint that for that using the number of overseas experiences, and accumulated time as variables for further studies.

Lan [13] found that the academic qualifications and age of expatriates had no impact on work adaptation, life adaptation, and interaction adaptation. Lin [13] found that there is no difference between genders, studying department of overseas internship on Intercultural Adjustment and Culture Shock. This result coincides with the results of this study – There is no significant difference in four groups of Mixed two-factor ANOVA: Gender and Intercultural Adjustment, Gender and Culture Shock, Degree and Intercultural Adjustment, and Degree and Culture Shock. However, although Lin [12] also said that gender and education have no impact on Intercultural adjustment and Culture Shock, his research showed that age differences have an impact on intercultural Adjustment and Culture Shock. Unfortunately, he did not make Post-hoc Analysis, so there is no way to know who is higher and who is lower. Future research could focus on extending the age component.

These discussions not only confirm that gender and degree have little impact on the background variables but also

illustrate that studying short-term overseas is unlikely to change the Intercultural Adjustment and Culture Shock in doctoral and master’s students. It also hints that more participants should be engaged, and overseas accumulated time and age may be a critical factor for future research.

VII. CONCLUSION

This article explores the practice of comparative and international education, specifically Intercultural adjustment and Culture Shock for Taiwanese doctoral and master’s students studying in the United States for a short period. The study found no significant differences in Intercultural adjustment and Culture Shock among participants in the short course (only one month) before and after the course. Although different from the author’s expectations, comparing the results of different studies shows that there are still inconsistent results on factors affecting Intercultural adjustment and Culture Shock, such as length of residence, accumulation of overseas experience, and age and education. Because some studies have pointed out that overseas experience accumulation and age differences may have an impact. This suggests that future research should consider increasing the number of participants and delving deeper into the impact of factors such as cumulative time abroad and age.

In short, short-term overseas study has limited changes in Intercultural adjustment and Culture Shock. Future research should use a larger sample size and conduct an in-depth analysis of the impact of different background variables to provide more convincing and universal conclusions to more comprehensively Understand the impact of studying abroad on Intercultural adjustment and the Culture Shock of students.

APPENDIX

Table 10. Rating scale descriptions of Intercultural Adjustment questionnaire

Pre-test Description	Post-test Description
I will adapt to the foreign lifestyle	I adapted to the foreign lifestyle.
I will adapt to the living conditions in general abroad (such as climate, and transportation).	I adapted to the living conditions in general abroad (such as climate, and transportation).
I will be well adapted to the foreign food.	I was well-adapted to the foreign food.
I will quickly adapt to live abroad.	I quickly adapted to live abroad.
I will adapt to the cost of living abroad.	I adapted to the cost of living abroad.
I will adapt to the type of social interaction abroad.	I adapted to the type of social interaction abroad.
I will establish good relationship with foreign friends.	I think that I can establish good relationships with foreign friends.
I will learn the local language and use it to communicate.	I think that I can learn the local language and use it to communicate.
I will interact well with host-national classmates.	I think that I can interact well with host-national classmates.
I will interact well with local people.	I think that I can interact well with local people.
When working abroad, I will adapt well.	When working abroad, I have adapted well.
I will adapt to the work content of working abroad.	I think that I can adapt to the work content of working abroad.
I will adapt to the tasks entrusted by my supervisor and colleagues.	I think that I can adapt to the tasks entrusted by my supervisor and colleagues.
I will quickly understand the situation of the work project.	I think that I can quickly understand the situation of the work project.

Table 11. Rating scale descriptions of Culture Shock questionnaire

Pre-test Description	Post-test Description
The local living culture will disgust me.	The local living culture disgusted me.
I guess that I will think that Taiwan values teamwork more than the locals.	I think Taiwan values teamwork more than locals.
When accepting a new culture, I will feel helpless and fearful.	When accepting a new culture, I felt helpless and fearful.
I won’t adapt to the local eating habits.	I could not adapt to the local eating habits.
I will feel stressed when adjusting to a new culture.	I felt stressed when adjusting to a new culture.
I will feel excluded by my colleagues when I lived there.	I feel that I was excluded when I lived there.
I will feel awkward and nervous when interacting with local people.	I felt awkward and nervous when interacting with local people.
I will be very concerned about the conversation between colleagues.	I concerned about the conversation between colleagues
I will get along peacefully with local people.	I got along peacefully with local people.
I guess that I’m willing to adjust my tone when interacting with people.	I am willing to adjust my tone of voice when interacting with people.

CONFLICT OF INTEREST

The authors declare no conflict of interest.

AUTHOR CONTRIBUTIONS

Hsieh I. Ling is responsible for researching and analyzing data; Fu Yuan Chiu is the supervising professor who is responsible for planning research design and research tools; both authors had approved the final version.

FUNDING

This study is grateful for the financial support from Taiwan National Science and Technology Council.

ACKNOWLEDGMENT

Thanks to the Paulo Freire Institute and UCLA for co-organizing the 14th PFI Summer Program at UCLA without fearing the severity of the epidemic. It has greatly benefited and inspired courage and perseverance on the academic road.

REFERENCES

- [1] C. A. Torres, "The dialectics of the global and the local," in *Teaching Comparative Education: Trends and Issues Informing Practice*, P. K. Kubow and A. H. Blosser, Eds., Oxford: Symposium Books Ltd, 2016, ch. 9, pp. 163–181.
- [2] C. A. Torres, "Solidarity and competitiveness in a global context: Comparable concepts in global citizenship education?" *International Education Journal: Comparative Perspectives*, vol. 14, no. 2, pp. 22–29, Oct 2015.
- [3] J. A. Banks, "Diversity, group identity, and citizenship education in a global age," *Educational Researcher*, vol. 37, no. 3, pp. 129–139, April 2008.
- [4] R. F. Armove, "Introduction: Reframing comparative education: The dialectic of the global and the local," in *Comparative Education*, 5th ed., Rowman & Littlefield Publishers, 2022, pp. 1–28.
- [5] J. S. Black and G. K. Stephens, "The influence of the spouse on American expatriate adjustment and intent to stay in Pacific Rim overseas assignments," *Journal of Management*, vol. 15, no. 4, pp. 529–544, 1989.
- [6] J. P. Spradley and M. Phillips, "Culture and stress: A quantitative analysis 1," *American Anthropologist*, vol. 74, no. 3, pp. 518–529, 1972.
- [7] D. B. Mumford, "The measurement of culture shock," *Social Psychiatry and Psychiatric Epidemiology*, vol. 33, pp. 149–154, 1998.
- [8] A. T. Church, "Sojourner adjustment," *Psychological Bulletin*, vol. 91, no. 3, p. 540, 1982.
- [9] Y. Qiu, "Ideology in international education in the era of globalization," *Journal of Curriculum Studies*, vol. 7, no. 2, pp. 1–30, 2012.
- [10] Z. Peng, "Research on the learning motivation, cross-cultural adaptation and learning satisfaction of international exchange students," M.S. thesis, Wenzao Univ. of Foreign Languages, Kaohsiung, Taiwan, 2014.
- [11] Y. Lan, "Research on the correlation between the implementation degree of cross-cultural training, the ability of expatriates and overseas adaptation-taking Taiwanese businessmen stationed in mainland China as an example," M.S. thesis, Chung Yuan Univ., Taoyuan County, Taiwan, 2002.
- [12] Y. Lin, "Exploring the impact of foreign students' cultural intelligence on culture shock – Using cross-cultural adaptation as the mediating variable," M.S. thesis, Chaoyang Univ. of Science and Technology, Taichung City, Taiwan, 2011.
- [13] Y. Lin, "A study on cultural shock and cross-cultural adaptation on satisfaction with overseas internships – Taking the overseas interns of the National Kaohsiung University of Hospitality and Tourism as an example," M.S. thesis, National Kaohsiung Univ. of Hospitality and Tourism, Kaohsiung, Taiwan, 2012.

Copyright © 2025 by the authors. This is an open access article distributed under the Creative Commons Attribution License which permits unrestricted use, distribution, and reproduction in any medium, provided the original work is properly cited ([CC BY 4.0](https://creativecommons.org/licenses/by/4.0/)).