

## **An Initial Exploration of the Cross-cultural Validity of the Global Citizenship Scale in the Hong Kong Setting**

KENNETH W.K. LO, Office of Service Learning, The Hong Kong Polytechnic University

K.P. KWAN, Educational Development Center, The Hong Kong Polytechnic University

GRACE NGAI, Department of Computing, The Hong Kong Polytechnic University

STEPHEN C.F. CHAN, Office of Service Learning, The Hong Kong Polytechnic University

### **ABSTRACT**

International service-learning programmes have been increasingly explored and integrated into the curriculum of tertiary education (Smith et al., 2013). Studies support the benefits to students from these projects, including gains in critical thinking skills, integration of theory and practices and global citizenship (Hartman, 2009). However, existing research has largely ignored the development of a systematic metric to measure the impact of international service projects on university students. In this study, we conducted an initial exploration of the Global Citizenship Scale (GCS) (Morais & Ogden, 2010). Eighty-six students from a university in Hong Kong who participated in four international service-learning subjects and one project were surveyed and their responses were analyzed. Results show that the subscales of GCS have good internal consistency and the factor analysis provides partial support for the proposed seven-factor model. These findings support further explorations of the cross-cultural validity of GCS for Hong Kong students.

Key Words: Service-Learning, Global Citizenship, Factor Analysis, Scale Development

### **1. INTRODUCTION**

Global citizenship is becoming an important topic in higher education (Stoner et al., 2014) and included in university-wide learning outcomes of an increasing number of institutions (Stearns, 2009). It is believed that integration of international service-learning programmes in the undergraduate curriculum is an effective educational strategy to engage students and develop them into responsible global citizens (Hunter, 2006; Praetzel, Curcio & Dilorenzo, 1996).

The Global Citizenship Scale (GCS) was developed by Morais & Ogden (2010) and validated with a sample of 348 undergraduate students enrolled in faculty-led, education aboard programmes from the United States. This scale measures global citizenship from three dimensions: social responsibility, global competence and global civic engagement, and can be further divided into seven subscales. Social responsibility is defined as the perceived level of interdependence and social concern to the community (Parekh, 2002). Global competence is understood as recognizing self-limitations, interest in world issues

Kenneth W.K. Lo, Office of Service Learning, Hong Kong Polytechnic University, Hung Hom, Kowloon, Hong Kong, Email: [kenneth.wk.lo@polyu.edu.hk](mailto:kenneth.wk.lo@polyu.edu.hk); K.P. Kwan, Educational Development Center, Hong Kong Polytechnic University, Hung Hom, Kowloon, Hong Kong, Email: [kam.por.kwan@polyu.edu.hk](mailto:kam.por.kwan@polyu.edu.hk); Grace Ngai, Department of Computing, Hong Kong Polytechnic University, Hung Hom, Kowloon, Hong Kong, Email: [grace.ngai@polyu.edu.hk](mailto:grace.ngai@polyu.edu.hk); Stephen C.F. Chan, Office of Service Learning, Hong Kong Polytechnic University, Hung Hom, Kowloon, Hong Kong, Email: [stephen.c.chan@polyu.edu.hk](mailto:stephen.c.chan@polyu.edu.hk).

and being equipped with intercultural communication skills. Global civic engagement refers to recognizing the social issues and responding through actions.

Applying the scale development process (DeVellis, 2003), Morais and Ogden derived a 30-item inventory in which students were asked to respond on a 5-point Likert-type scale ranging from 1 (strongly disagree) to 5 (strongly agree) as shown in appendix 1 (items sorted according to the subscales). However, since the instrument was developed for use in the Western context, further exploration of the validity of the instrument is needed, especially when administered to Asian students. This paper reports an initial exploration of the cross-cultural validity of the GCS for assessing the outcomes of international service-learning programmes in the Hong Kong context.

## **2. METHODOLOGY**

### **2.1 Participants**

The 30-item GCS was administered to 97 students participating in the international service-learning programmes in one university in Hong Kong. In total, 86 valid questionnaires were returned and analyzed, with a response rate of 88.7%. Sixty-eight (79.1%) of the students were in their first year of study, 7 (8.1%) in their second year, 8 (9.3%) in their third year, and the remaining 3 (3.5%) students were in their final year. Sixty-seven (77.9%) of them were taking a credit-bearing service-learning subject (4 subjects in total), and the remaining 19 (22.1%) were participants of an extra-curricular international service project. Project-wise, 41 (47.7%) students worked in Cambodia, 17 (19.7%) students in Indonesia, 19 (22.1%) students in Vietnam and 9 (10.5%) students in Rwanda.

### **2.2 Administration**

Course instructors or teaching assistants visited the class to distribute the paper-based questionnaires to the students 2 weeks before the trip departure day. The purpose of the survey was explained to the students and they were required to complete and return the questionnaires within 15 minutes.

### **2.3 Data Analysis Methods**

To determine whether the inventory was appropriate for use in the Hong Kong setting, exploratory factor analysis (EFA) was conducted. The Kaiser-Meyer-Olkin (KMO) value was calculated to measure the sampling adequacy for the analysis (Kaiser, 1970). The factor structure and the reliability of each subscale were examined using alpha factoring exploratory factor analysis and Cronbach's alpha (Cronbach, 1951), respectively. Direct oblimin rotation method was used to clarify the factor structure obtained from the EFA as it was expected that the factors would be interrelated (Brown, 2009). All negative items were reverse coded before analysis.

## **3. RESULTS & DISCUSSION**

Based on the guidelines suggested by Hutcheson & Sofroniou (1999), the result of KMO test (0.767) classified the data source as "middling", which suggested that the sample was adequate for conducting factor analysis.

Table 1 shows the comparison of the coefficients of internal consistency (Cronbach's alpha) of the US and HK samples. The alpha values obtained for the subscales in this study were comparable to those of the US sample, and ranged from 0.74 to 0.86 which are generally accepted as good (Kline, 1993).

Dimension and subscales	Cronbach's alpha	
	US Sample	HK Sample
Social responsibility	0.79	0.76
Global competence		
- Self-awareness	0.69	0.74
- Intercultural communication	0.76	0.75
- Global knowledge	0.67	0.75
Global civic engagement		
- Involvement in civic organizations	0.92	0.86
- Political voice	0.86	0.85
- Global civic activism	0.74	0.76

**Table 1 Comparison of the coefficient of internal consistency of each subscale between USA and Hong Kong Samples**

Following the best practices in EFA (Costello & Osborne, 2005), we first ran an EFA and retained all factors with eigenvalues greater than 1. Seven factors were extracted which explained 70.6% of the item variance. Then, we explored the six-factor model and eight-factor model and compared their factor structures with that of the seven-factor model. The six-factor model explained 66.9% of the item variance while the eight-factor model explained 73.7%. In the six-factor model, two of the proposed subscales (global competence: self-awareness and global civic engagement: global civic activism) were grouped under the same factor. On the other hands, in the eight-factor model, the factor structure is scattered. For example, 6 items from 4 of the proposed subscales were grouped under a single factor and these items also heavily cross-loaded on other factors. Therefore, based on the results, we conclude that the seven-factor model is a better fit of our data.

Table 2 shows the factor loading of each item with an absolute value greater than 0.4 (Stevens, 2012). The factor structure was similar to that reported by Morais and Ogden (2010) with 24 out of 30 items clearly grouped. SR\_5 did not load significantly on any factor (i.e. the absolute value of the factor loadings were below 0.4).

Factor one had ten items, with three of them from the subscale of “self-awareness” and one from “involvement in civic organizations” under “global civic engagement” loading most significantly on the factor. Factor loadings were high (ranging between 0.50 and 0.76). The second factor contained five items, all of them were from the “social responsibility” scale and four of them did not cross-loaded on other factors. Factor three is composed of six items, with four of them under “political voice” and two under “involvement in civic organizations”. The factor loadings were negative and ranged between -0.49 and -0.80. However, items GCE\_1.6 and GCE\_1.2 cross-loaded heavily on Factor 1 and Factor 6. Factor four had three items, two from “intercultural communication” and one from “global civic activism”. Factor five was formed with six items from “global competence”. Three of them were from the subscale of “global knowledge”, one item from “intercultural communication” and two items from “self-awareness”. The sixth factor included ten items. Eight of them were from “involvement in civic organizations” with the factor loadings ranging from 0.44 to 0.86. Of these eight item, six loaded most significantly on this factor. The other two items were from “social responsibility” and “intercultural communication”. The last factor, Factor 7, contained five items. Three of them were from “global civic activism”, one from “social responsibility” and one from “involvement in civic organizations”. Eleven of the thirty items cross-loaded heavily on more than one factors.

Item Number		Rotated Factor Loadings						
		1	2	3	4	5	6	7
Social Responsibility	SR_1		<b>0.668</b>					
	SR_2		<b>0.58</b>					
	SR_3		<b>0.698</b>					
	SR_4		<b>0.636</b>					
	SR_5							
	SR_6		0.537				-0.438	<b>-0.564</b>
Global Competence	Self-awareness	GC_1.1	<b>0.76</b>					
		GC_1.2	<b>0.71</b>			-0.459		
		GC_1.3	<b>0.5</b>				-0.452	
	Intercultural Communication	GC_2.1				<b>-0.688</b>		
		GC_2.2				<b>-0.661</b>		
		GC_2.3	0.535				<b>-0.562</b>	0.473
	Global Knowledge	GC_3.1	0.507				<b>-0.749</b>	
		GC_3.2					<b>-0.728</b>	
		GC_3.3					<b>-0.729</b>	
Global Civic Engagement	Involvement in Civic Organizations	GCE_1.1					<b>0.762</b>	
		GCE_1.2	<b>0.576</b>		-0.494		0.451	
		GCE_1.3					<b>0.758</b>	
		GCE_1.4	0.538				<b>0.8</b>	
		GCE_1.5					<b>0.857</b>	
		GCE_1.6	0.504		<b>-0.601</b>		0.443	
		GCE_1.7	0.483				<b>0.618</b>	
		GCE_1.8					<b>0.471</b>	0.465
	Political Voice	GCE_2.1			<b>-0.793</b>			
		GCE_2.2			<b>-0.747</b>			
		GCE_2.3			<b>-0.802</b>			
		GCE_2.4			<b>-0.78</b>			
	Global Civic Activism	GCE_3.1						<b>0.869</b>
		GCE_3.2	0.521					<b>0.549</b>
		GCE_3.3				<b>-0.524</b>		0.451
Eigenvalues		7.35	3.46	2.81	1.96	1.19	1.04	0.74
Variance explained:		24.50%	11.54%	9.35%	6.55%	3.96%	3.74%	2.46%

Note: Factor loadings between -0.4 to 0.4 are hidden

The highest loading among the factors for an item is indicated in bold.

Table 2 Results of Exploratory Factor Analysis of the Global Citizenship Scale

#### 4. CONCLUSION

The purpose of this study was to report on an initial exploration of the cross-cultural validity of the GCS in the Hong Kong context. The results indicate that the subscales of GCS have generally good internal consistency and that a seven-factor model can be replicated in the Hong Kong setting, although a few of the items did not load on the factor as hypothesized. This study has the limitations of small sample size, students coming from one university in Hong Kong and the background of the students being relatively homogeneous. Therefore, further study should aim at involving a larger sample with more heterogeneous subjects from more universities in Hong Kong. To conclude, the findings provide partial support for further validation of the instrument for measuring the impact of international service-learning programme in the Hong Kong setting.

#### ACKNOWLEDGMENTS

This study was funded by the project on “Institution-wide Evaluation and Enhancement of Credit-bearing Service-Learning Subjects” under the Learning and Teaching Development Fund 2012-15 of The Hong Kong Polytechnic University.

#### REFERENCES

- Brown, J. D. (2009). Choosing the Right Type of Rotation in PCA and EFA. *JALT Testing & Evaluation SIG Newsletter*, 13 (3), 20–25. Retrieved September 10, 2014, from [http://jalt.org/test/bro\\_31.htm](http://jalt.org/test/bro_31.htm)
- Costell A. B., & Osborne J. W. (2005). Best practices in exploratory factor analysis: four recommendations for getting the most from your analysis, *Practical Assessment, Research & Evaluation*, 10 (7), 173–178. Retrieved September 10, 2014, from <http://pareonline.net/getvn.asp?v=10&n=7>
- Cronbach, L. J. (1951). Coefficient alpha and the internal structure of tests. *Psychometrika*, 16 (3), 297–334.
- DeVellis, R. F. (2003). *Scale Development: Theory and Applications*. Chapel Hill: SAGE Publications, Inc.
- Hartman, E. (2009). *Educating for Global Citizenship through Service-Learning: A Theoretical Account and Curricular Evaluation*. (Doctoral dissertation). Retrieved September 10, 2014, from D-Scholarship Institutional Repository at the University of Pittsburgh.
- Hunter, B. (2006). What Does It Mean to Be Globally Competent? *Journal of Studies in International Education*, 10(3), 267–285.
- Hutcheson, G. D., & Sofroniou, N. (1999). *The Multivariate Social Scientist: Introductory Statistics Using Generalized Linear Models*. Manchester: SAGE Publications, Inc.
- Kaiser, H. F. (1970). A second generation little jiffy. *Psychometrika*, 35(4), 401–415.
- Kline, P. (1993). *The Handbook of Psychological Testing*, 1993. London: Routledge.
- Morais, D. B., & Ogden, A. C. (2010). Initial Development and Validation of the Global Citizenship Scale. *Journal of Studies in International Education*, 15(5), 445–466.
- Parekh, B. (2002). Cosmopolitanism and global citizenship. *Review of International Studies*, 29(01), 3–17.
- Praetzel, G. D., Curcio, J., & Diloranzo, J. (1996). Making study abroad a reality for all students. *International Advances in Economic Research*, 2(2), 174–182.
- Smith, K. L., Meah, Y., Reininger, B., Farr, M., Zeidman, J., & Thomas, D. C. (2013). Integrating service learning into the curriculum: lessons from the field. *Medical Teacher*, 35(5), 1139–1148.
- Stearns, P. N. (2009). *Educating global citizens in colleges and universities: Challenges and opportunities*. New York: Routledge.
- Stevens, J. P. (2012). *Applied Multivariate Statistics for the Social Sciences*. Oxford: Taylor & Francis.
- Stoner, K. R., Tarrant, M. A., Perry, L., Stoner, L., Wearing, S., & Lyons, K. (2014). Global Citizenship as a Learning Outcome of Educational Travel. *Journal of Teaching in Travel & Tourism*, 14(2), 149–163.

---

Social Responsibility (SR)

---

- SR\_1 I think that most people around the world get what they are entitled to have.  
 SR\_2 It is OK if some people in the world have more opportunities than others.  
 SR\_3 I think that people around the world get the rewards and punishments they deserve.  
 SR\_4 In times of scarcity, it is sometimes necessary to use force against others to get what you need.  
 SR\_5 The world is generally a fair place.  
 SR\_6 I think that many people around the world are poor because they do not work hard enough.

Global Competence (GC) - Self-awareness

---

- GC\_1.1 I know how to develop a place to help mitigate a global environmental or social problem.  
 GC\_1.2 I know several ways in which I can make a difference on some of this world's most worrisome problems.  
 GC\_1.3 I am able to get other people to care about global problems that concern me.

Global Competence (GC) - Intercultural communication

---

- GC\_2.1 I unconsciously adapt my behavior and mannerisms when I am interacting with people of other cultures.  
 GC\_2.2 I often adapt my communication style to other people's cultural background.  
 GC\_2.3 I am able to communicate in different ways with people from different cultures.

Global Competence (GC) - Global knowledge

---

- GC\_3.1 I am informed of current issues that impact international relationships.  
 GC\_3.2 I feel comfortable expressing my views regarding a pressing global problem in front of a group of people.  
 GC\_3.3 I am able to write an opinion letter to a local media source expressing my concerns over global inequalities and issues.

Global Civic Engagement (GCE) - Involvement in civic organizations

---

- GCE\_1.1 Over the next 6 months, I plan to do volunteer work to help individuals and communities abroad.  
 GCE\_1.2 Over the next 6 months, I will participate in a walk, dance, run, or bike ride in support of a global cause.  
 GCE\_1.3 Over the next 6 months, I will volunteer my time working to help individuals or communities abroad.  
 GCE\_1.4 Over the next 6 months, I plan to get involved with a global humanitarian organization or project.  
 GCE\_1.5 Over the next 6 months, I plan to help international people who are in difficulty.  
 GCE\_1.6 Over the next 6 months, I plan to get involved in a program that addresses the global environmental crisis.  
 GCE\_1.7 Over the next 6 months, I will work informally with a group toward solving a global humanitarian problem.  
 GCE\_1.8 Over the next 6 months, I will pay a membership or make a cash donation to a global charity.

Global Civic Engagement (GCE) - Political voice

---

- GCE\_2.1 Over the next 6 months, I will contact a newspaper or radio to express my concerns about global environmental, social, or political problems.  
 GCE\_2.2 Over the next 6 months, I will express my views about international politics on a website, blog, or chat room.  
 GCE\_2.3 Over the next 6 months, I will contact or visit someone in government to seek public action on global issues and concerns.  
 GCE\_2.4 Over the next 6 months, I will participate in a campus forum, live music, or theater performance or other event where young people express their views about global problems.

Global Civic Engagement (GCE) - Global civic activism

---

- GCE\_3.1 If at all possible, I will always buy fair-trade or locally grown products and brands.  
 GCE\_3.2 I will deliberately buy brands and products that are known to be good stewards of marginalized people and places.  
 GCE\_3.3 I will boycott brands or products that are known to harm marginalized global people and places.
- 

**Appendix 1 Item Pool of Global Citizenship Scale (GCS)**