

Comparison of the Effects of Campus Environment and Teaching Practices on International Students' Perceived Gains through Reflective-Integrative Learning

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Background

- The importance of international students for the U.S. colleges/universities (Anderson, Carmichael, Harper, & Huang, 2009 ; Schoch & Baumgartner, 2004)
- An existing practice that often lumps international students into one group (Anderson et al., 2009)
- Focusing too much on international students' challenges (Zhao, Kuh, and Carini, 2005)
- The importance of international students' perceived gains of attending U.S. institutions of higher education (Pascarella, Mayhew, Rockenbach, Bowman, Seifert, Wolniak, & Terenzini, 2016; Association of American Colleges & Universities, 2007)



Purpose

To understand the relationships among self-reported perceived gains, reflective-integrative learning, supportive campus environment, and effective teaching practices by considering international students' geographical regions of origin¹

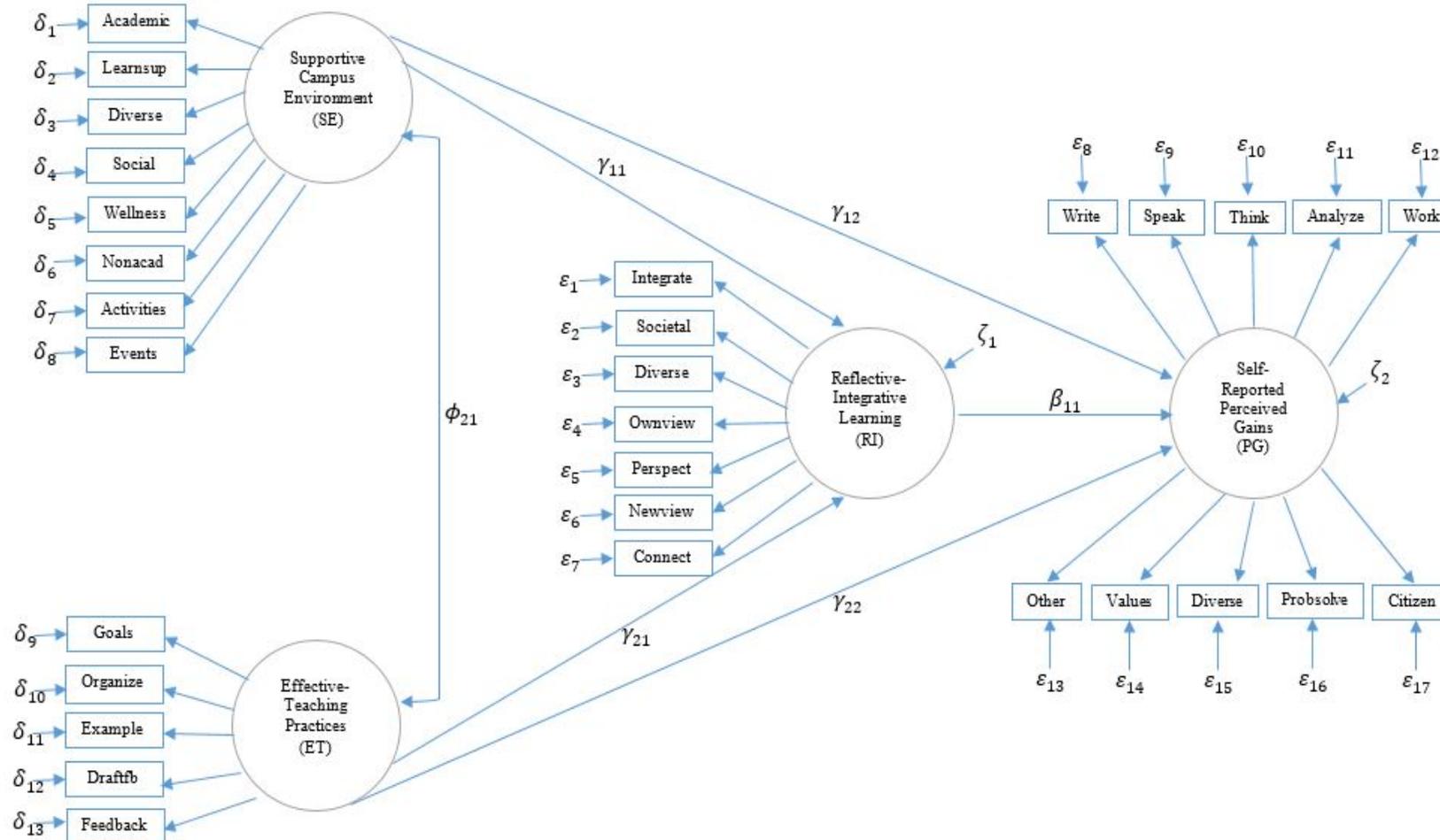
¹ Geographical regions of origin refer to Version 6.15 of the Student and Exchange Visitor Information System (SEVIS) which was developed by the Student and Exchange Visitor Program (SEVP) within the U.S. Department of Homeland Security



Theoretical Framework

- Self-reported perceived gains: A set of benefits, self-reported by students, gained due to their experience at institutions of higher education (Pascarella et al., 2016)
- Reflective-integrative learning: An approach to learning in which students critically assess and reflect on what they have learned and then integrate their thoughts and experiences to build a larger construct of understanding (Brockbank & McGill, 2007; Glaser, 1984; Huber & Hutchings, 2004)
- Supportive campus environment: Conditions, both physical and non-physical, that affect all elements in an institution of higher education (Kuh, 2001; Kuh, 2003; Pascarella, 1985; Kuh et al., 2005)
- Effective-teaching practices: Intentional activities designed by instructors to help students learn more effectively (Pascarella et al., 2016)

Conceptual Framework

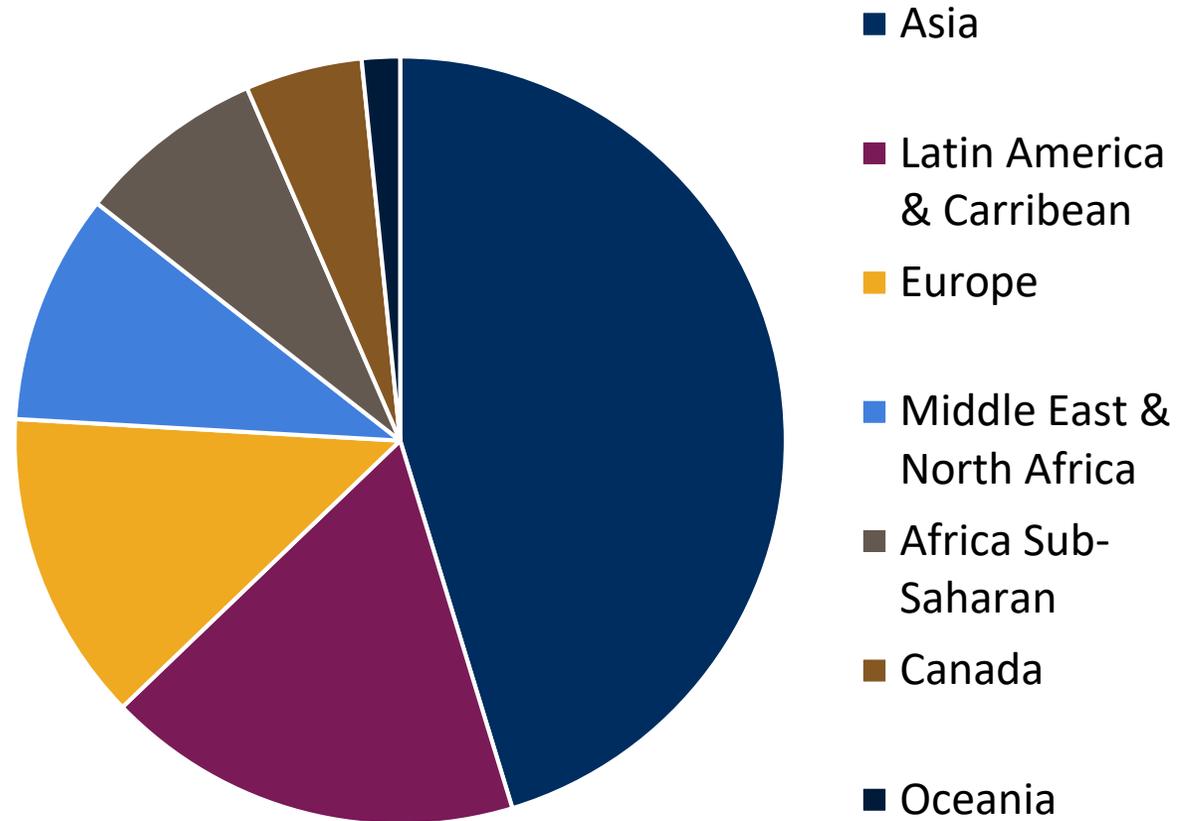


Data Source

- 2015 – 2017 National Survey of Student Engagement (NSSE)
 - **What.** An annual survey that measure students' experience in undergraduate education in the U.S. and Canada
 - ❖ Consists of 10 Engagement Indicators, other items related to students' behavior/opinion, some students' background characteristics, and some institutional characteristics
 - **Why.**
 - ❖ The need of “process indicators” (McCormick, Kinzie, & Gonyea, 2013)
 - ❖ The need of assessing university quality from students' perspective
 - **How.** NSSE administration is about 12-month time span
 - ❖ Summer: Registration and planning
 - ❖ Fall/Winter: Survey preparations
 - ❖ Spring: Survey administration
 - ❖ Summer/Fall: Data and reports

Sample

Geographical Regions of Origin	Count	%
Africa Sub-Saharan	1,104	7.9
Asia	6,314	45.3
Canada	683	4.9
Europe	1,823	13.1
Latin America & Caribbean	2,447	17.5
Middle East & North Africa	1,357	9.7
Oceania	221	1.6



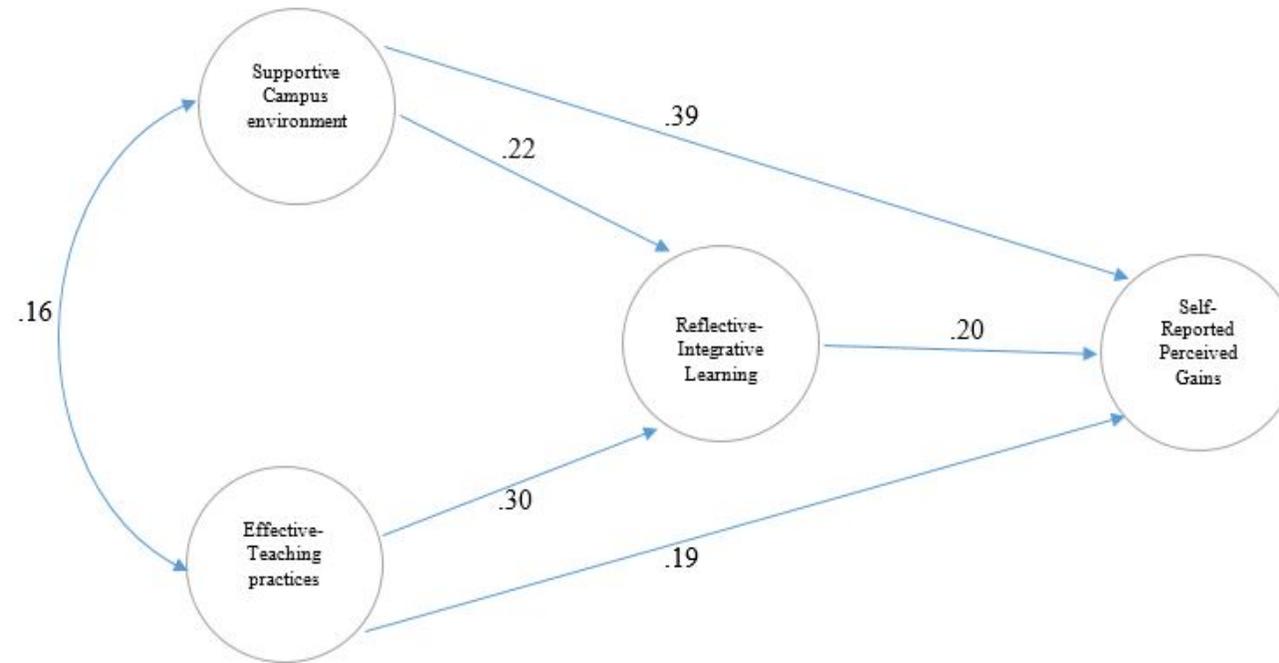
Analytical Procedure

1. Identified model

$$RI = \gamma_{11}SE + \gamma_{21}ET + \zeta_1$$
$$PG = \beta_{11}RI + \gamma_{12}SE + \gamma_{22}ET + \zeta_2$$

2. Tested measurement models
3. Tested the structural model
4. Tested measurement invariance
5. Employed multi-group structural equation modelling

Findings



$\chi^2 = 43489.49$, $df = 399$, $n = 28877$, $p < .001$; with fit indices CFI = .90, TLI = .90, and RMSEA = .06

Findings (Continued)

Estimates of Path Coefficient of Self-Reported Perceived Gains (PG), Reflective-Integrative Learning (RI), Supportive Campus Environment (SE), and Effective-Teaching Practices (ET)

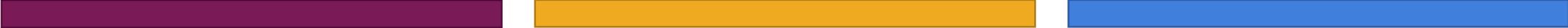
	Africa Sub-Saharan	Asia	Canada	Europe	Latin American & Caribbean	Middle East & North Africa	Oceania
SE → PG	.40	.41	.42	.42	.35	.38	.37
ET → PG	.23	.16	.26	.18	.24	.17	.10
RI → PG	.18	.20	.28	.20	.18	.21	.30
SE → RI	.18	.26	.18	.18	.15	.24	.27
ET → RI	.30	.31	.25	.31	.30	.27	.31

Note: All estimates are significant at $p < .001$



Discussion & Implications

- Addressing the limitation of a study by Zhao, Kuh, and Carini (2005)
- Confirming studies from Gudykunst and Hammer (1988) as well as Olaniran (1996) who hypothesized there are differences among international students from different geographical regions of origin
- Implications
 - Treating international students similarly is unwise.
 - Disaggregating data of international students based on geographical regions of origin
 - Creating intercultural orientation that could support students' reflective-integrative learning
 - Office of international services as a one-stop-shop for international students

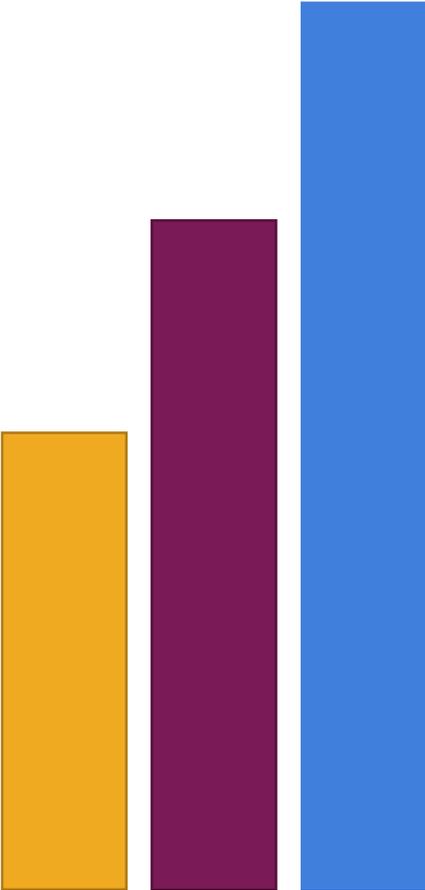


Future Research

- Assessing the effect size of the differences
- Figuring out why different effects occur among international students from different geographical regions of origin
- Modifying some indices of the model (such as making correlations between similar items)
- Including some covariances (e.g., student major, enrollment status, and first-generation status) in testing a similar model
- Studying international students by country of origin (when the number of international students is sufficient by countries of origin)
- Including domestic students in the analysis

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Measure Scale, Subscales, Component Items, and Reliability

Self-Reported Perceived Gains (Cronbach's alpha = .91)

How much has your experience at this institution contributed to your knowledge, skills, and personal development in the following areas?

Response Options

- a) Writing clearly and effectively
- b) Speaking clearly and effectively
- c) Thinking critically and analytically
- d) Analyzing numerical and statistical information
- e) Acquiring job-or-work-related knowledge and skills
- f) Working effectively with others
- g) Developing or clarifying a personal code of values and ethics
- h) Understanding people of other backgrounds (economic, racial/ethnic, political, religious, nationality, etc.)
- i) Solving complex real-world problems
- j) Being an informed and active citizen

Very little
Some
Quite a bit
Very much

Measure Scale, Subscales, Component Items, and Reliability (Continued)

Reflective-Integrative Learning (Cronbach's alpha = .87)

During the current school year, about how often have you done the following?	Response Options
a) Combined ideas from different courses when completing assignments b) Connected your learning to societal problems or issues c) Included diverse perspectives (political, religious, racial/ethnic, gender, etc.) in course discussions or assignments d) Examined the strengths and weaknesses of your own views on a topic or issue e) Tried to better understand someone else's views by imagining how an issue looks from his or her perspective f) Learned something that changed the way you understand an issue or concept g) Connected ideas from your courses to your prior experiences and knowledge	Never Sometimes Often Very often

Measure Scale, Subscales, Component Items, and Reliability (Continued)

Effective-Teaching Practices (Cronbach's alpha = .88)

During the current school year, to what extent have your instructors done the following?	Response Options
a) Clearly explained course goals and requirements b) Taught course sessions in an organized way c) Used examples or illustrations to explain difficult points d) Provided feedback on a draft or work in progress e) Provided prompt and detailed feedback on tests or completed assignments	Very little Some Quite a bit Very much

Measure Scale, Subscales, Component Items, and Reliability (Continued)

Supportive Campus Environment (Cronbach's alpha = .90)

How much does your institution emphasize the following?	Response Options
a) Providing support to help students succeed academically b) Using learning support services (tutoring services, writing center, etc.) c) Encouraging contact among students from different backgrounds (social, racial/ethnic, religious, etc.) d) Providing opportunities to be involved socially e) Providing support for your overall well-being (recreation, health care, counseling, etc.) f) Helping you manage your non-academic responsibilities (work, family, etc.) g) Attending campus activities and events (performing arts, athletic events, etc.) h) Attending events that address important social, economic, or political issues	Very little Some Quite a bit Very much