

# Global Awareness Interest of College Students

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## ABSTRACT

Professional skills are expected from college students; however, assessing students' professional skill development is challenging. In order to better prepare students for a career in today's global business environment, it is essential students develop interest and knowledge toward global awareness. This research is primarily concerned with the understanding of college students' interest toward global awareness. In order to unveil what factors affect students' interest toward global awareness, a survey was developed and data collected. Analyses of survey results suggested that gender, ethnicity and high involvement activities might positively affect interest toward global awareness.

## KEYWORDS

Assessment, Empirical Study, Global Awareness, Interest, Student Demographics

## INTRODUCTION AND BACKGROUND

The phrases "global citizen," "global economy," and "increasingly interconnected world" have been frequently used (Parker, 2011). Businesses in today's technologically advanced society are searching and recruiting talent from the global workforce. Markets are continuously expanding across nations, and it is imperative that students are prepared to enter an international society. Today, young professionals face complex issues and problems that are national, international, and global in scope, shaped by our interconnected world. In order to analytically counter these challenges, undergraduates must be able to analyse problems from multiple perspectives. Global awareness is a complex construct that involves much more than one component, and it cannot necessarily be achieved just by having knowledge and a foreign language. The development of the components of global awareness needs to be addressed in order for the strategic growth of internationalization to occur among students. Clarke (2004) found out that students had mixed beliefs about the United States' involvement with other countries and cultures. Zappe et al. (2010) surveyed freshman college students and found that approximately one-third of the freshmen felt that global awareness was very important to them personally while over one-half believed global awareness to be very important to them professionally.

Reimers (2009) defines a globally aware student as a student who (a) uses 21st century skills to understand and address global issues, (b) works collaboratively with individuals representing diverse cultures, religions, and lifestyles in the spirit of mutual respect and open dialogue in personal, work and community contexts, and (c) understands other nations and cultures, including the use of non-English languages. Andreotti et al. (2015) proposed global-mindedness as a multidimensional concept that is concerned with the ways in which individuals act in different contexts.

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Global awareness is a multidimensional construct, and developing an instrument to measure global awareness is challenging. Merryfield (2008) describes global awareness as a mindset that students need in order to survive in a world “increasingly characterized by economic, political, cultural, environmental, and technological interconnectedness.” As such, Merryfield (2008) identified three traits: open-mindedness, mastery of multi-disciplinary, global body of knowledge about how the world works and the ability to apply knowledge to authentic relevant problems. Merryfield (2008) also asserts that global awareness is gained through multiple perspectives as well as when students collaborate to address problems for the common good. Cultural values and practices influence interactions (Javidan & Bowen, 2013). Knowledge of and curiosity about other cultures, and the ability to connect, communicate, and collaborate with people from other countries are key identifiers of global awareness. Besterfield-Sacre et al. (2013) defined the expected traits for engineering students’ global proficiency and preparedness by surveying the experts in the field, regarding the knowledge and professional skills essential to global engineers. Responses from the experts included (a) the ability to interact with engineers from different cultures, cultural awareness (e.g. awareness of how national differences are important in defining and solving technical problems), (b) the ability to understand global markets, business, politics, and trade, and (c) the knowledge of global engineering practices. Although the study focused on engineering, the results can be generalized to other Science, Technology, Engineering, and Mathematics (STEM) disciplines. Demand for globally aware students will continue to increase; and therefore, the need for the assessment of culturally aware individuals will be even more crucial.

One of the challenges of assessing global awareness is that it is fairly extensive in scope. Doscher (2012) developed two rubrics for the measurement of students’ global awareness and also conducted a study among administrators to determine what constitutes global awareness. Three common elements were noted in the responses: (a) awareness, valuing, and understanding of cultural differences, (b) experiencing other cultures, and (c) the self-awareness of one’s own culture.

In this paper, interest proposed as a construct to track students’ development of global awareness. Interest plays a critical role in learning. Researchers have begun to collect evidence that demonstrates the impact of interest on student learning (Krapp et al., 1992). In their review of early interest research, Schraw & Lehman (2001) concluded that any increase in student interest always results in increased student learning. Educational researchers distinguish between two types of interest, situational and personal (Krapp et al., 1992). When students are introduced to a new domain, their interest is usually situational interest, which is spontaneous and temporary due to a new and exciting topic. On the other hand, individual interest is a long lasting interest that motivates students to gain deeper knowledge in a domain. Individual interest develops over time by repetitively engaging in a subject (Hidi, 2006). Eventually, individual interest indicates how much students are willing to immerse themselves into a subject. Individual interest is also a precursor for sustaining long-term learning. According to Krapp et al. (1992), it is important to transfer situational interest into individual interest for educating students as life-long learners. They note that both types of interests of the learner play an important role in this transformation. Hence, interest is a promising construct in concert with determining global awareness development. That being said, there is no previously published research that focuses exclusively on global awareness interest. This paper is the first empirical research that addresses the feasibility of using interest in assessing global awareness.

Alexander et al. (1997) explained that interest changes as one excels from novice to proficiency in a domain. In the competency stage, one develops their interest further through an increased commitment to their field of study. In the proficiency stage, individual interest is defined as the strong desire to invest more into the field of study in a long-term and personal manner. With this in mind the objectives for this research are threefold:

1. Ascertain how certain student characteristics affect global awareness interest,
2. Determine the extent student engagement impacts global awareness interest,
3. Further demonstrate the utility of the global awareness interest survey.

## INSTRUMENT DESIGN

Students' global awareness knowledge, skills, and abilities (KSAs) were mapped into the Model of Domain Learning (MDL) framework. Developed by Alexander et al. (1997), the MDL is a developmental framework that can be applied to a variety of skills. Unlike other proposed developmental frameworks, the MDL is two dimensional with three developmental stages: acclimation, competency, and proficiency with three different components: interest, knowledge, and strategic processing. Mapping the three stages with the three components of global awareness or any KSA makes the tracking of a student's progress toward obtaining competency in that skill area (Chipperfield et al., 2015).

Global awareness is further defined through the following six learning outcome areas: Interaction involves the effective communication and comfort toward diverse backgrounds and culture (Lohmann, 2006; Hunt, 2006). Application is being open-minded and able to use global technology and skills to find solutions to the problems (Deardorff & Hunter, 2006). Collaboration requires being able to work with people from other cultures and diverse backgrounds. McGraw (2004) states that people from diverse circumstances recognize opportunities better than those without. Exploration encourages finding common ground with people different from oneself and becoming more open minded to diversity (Lohmann, 2006; Hunt 2006). Intercultural sensitivity is the acceptance and curiosity about other's diverse beliefs. Perception entails being able to think beyond the cultural stereotypes (Hunter, 2006).

In this paper, measuring students' interest in being globally aware is of a particular interest, since the prior research (Kulturel-Konak et al., 2015) suggest interest as one of the constructs to track student development in teamwork knowledge, skills, and abilities. The first phase of learning is developing interest in the adapted MDL framework. A survey was created to ascertain interest, frequency of behaviour, and attitude pertaining to global awareness. The purpose of the instrument was to determine a base line for these global awareness constructs within the context of the six student learning outcome areas described above. Items were written for one or more of these global awareness objectives.

Most items incorporated a sliding-scale bar, which allowed students to slide a bar along the scale to determine their ratings for each item. This improved the flexibility of response but was similar to a Likert scale item (Kline, 2005). The sliding bar scale was accompanied by four anchors for points of reference but the students could choose to place their rating anywhere on the scale. For each item, the minimum value was zero and the maximum value was 100. Composite scores were compiled based on an average of similar items. For example, an interest composite was computed based on an average of nine items pertaining to interest. Reliability as indicated by Croanbach's alpha was .863 for the interest composite.

## METHODOLOGY

Four research questions (RQs) were proposed by the researchers to explore different factors affecting global awareness interest:

- RQ1.** Does certain student demographics affect interest toward global awareness?
- RQ2.** Does student involvement affect interest toward global awareness?
- RQ3.** Does proficiency in another language affect interest toward global awareness?
- RQ4.** Does international travel/purpose affect interest toward global awareness?

A global awareness interest survey was created with the purpose of being able to determine if students are interested in global awareness and to investigate meaningful patterns among the groups of students, who are interested in this professional skill. Before implementing the survey, subject-matter

experts (SME) were asked to give feedback on items so that a content-validation of the survey was performed, and then their feedback was incorporated. Some sample interest items that were vetted with the SMEs include:

- Rate your level of interest in attending a free workshop on global awareness.
- Rate your level of willingness to take an elective course in order to improve your global awareness skills.
- Rate your level of interest in reading literature about global issues.
- A renowned global awareness specialist will give a workshop on “issues with intercultural communication in a multinational organization” at your institution. Rate your level of interest in attending this workshop.
- A cross-cultural dinner is being held on campus featuring food and music from different parts of the world and it is free to attend. Rate your likelihood of attending the event.
- While you are browsing a news website, you have spotted an article entitled “Economic Problems in Europe.” Rate your likelihood of reading this article.
- While you are browsing a news website, you have spotted an article entitled “Asian Women Challenging Their Ancient Cultural Female Norms.” Rate your likelihood of reading this article.
- While browsing the Internet, you come across an article that focuses on global education. How likely are you to read it?
- If an outbreak, such as the Ebola outbreak this past summer, were to happen again, how likely are you to research and learn more about it?

The survey was administered online using Qualtrics. The anonymous link to the survey was mailed to undergraduate students at a college campus of a large research university in the northeast United States. An invitation to the survey was extended in the Fall 2014 and Spring 2015 semesters.

## RESULTS

Over 300 ( $n = 315$ ) completed surveys were returned. Approximately two-thirds of the respondents indicated their gender as male (63.3%). The most frequently cited major among the respondents were Information Sciences and Technology and Security and Risk Analysis (29.5%), Business (19.0%), Engineering (9.5%), and the Physical Sciences (5.4%). Collectively, these majors represented almost two-thirds (63.5%) of the respondents. Respondents also identified the following majors as well: Criminal Justice, Agricultural Sciences, Psychology, and Hospitality Management.

The proportion of respondents by class standing and self-reported current cumulative GPA could affect global awareness scores. Therefore, a precursory look at the respondent distribution is warranted. The percent by class standing and self-reported current cumulative GPA are shown in Table 1. Less than three percent (2.7%) of the respondents indicated that their cumulative GPA was less than a 2.00. In fact, most respondents indicated that their cumulative GPA exceeded a 3.00 (70.1%). However, the self-reported cumulative GPA for these respondents corresponds to the grade distribution for this college campus. Average cumulative GPA for all students in this college campus is reported as 2.96, and it is 3.11 for the majors represented in this survey.

In the following, results to each research question are discussed separately. Although not all statistically significant, the findings suggest that the instrument is meritorious with further research needed to confirm its true potential.

**RQ1. Does certain student demographics affect global awareness interest?** To ascertain if student demographics may have an influence on global awareness interest scores, scores between male and female respondents as well as among ethnicity were examined. However, because very few

**Table 1. Class Standing and Current Cumulative GPA**

Class Standing	Count	Percent
First Year	121	38.4
Second Year	80	25.4
Third Year	57	18.1
Fourth Year	57	18.1
Current Cumulative GPA	Count	Percent
<2.0	13	2.7
2.0-2.5	36	7.6
2.5-3.0	93	19.6
3.0-3.5	147	30.9
3.5-4.0	186	39.2

respondents identified in any one ethnic category except for the Caucasian ethnic category, the ethnicity categories were aggregated into two main categories: minority respondents and non-minority respondents. Respondents, who reported that their ethnicity was not Caucasian, were flagged as a non-minority respondent. All other respondents were grouped into a minority category. Respondents by ethnicity and gender are shown in Table 2.

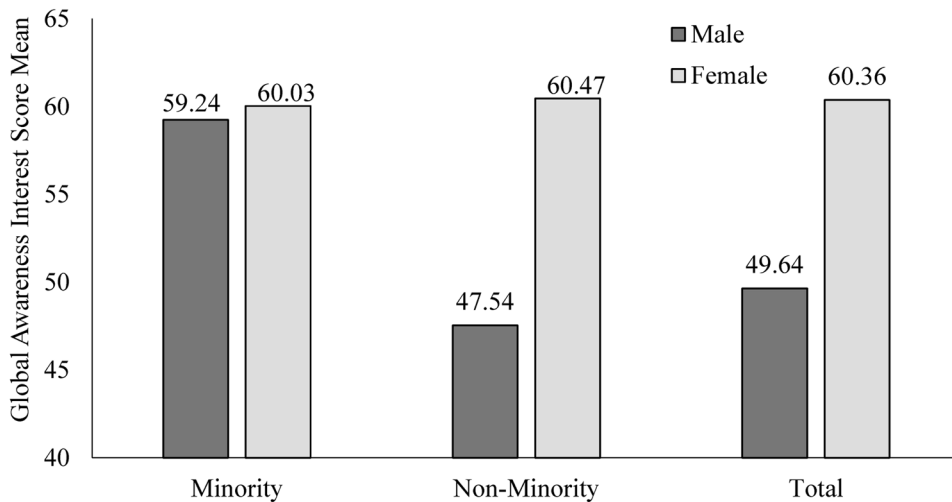
Missing ethnicity records were excluded from the analysis for this research question. As seen in Figure 1, student demographics, specifically gender and ethnicity, appear to affect global awareness interest scores. Female respondents outscore male respondents especially non-minority female respondents compared to non-minority male respondents. The most striking difference is between non-minority female and male respondents. Non-minority male respondents have the lowest global awareness interest score, lagging behind minority male respondents by over 10 points and non-minority females by almost 13 points.

The results of the ANOVA confirm that not only do certain student demographics affect global awareness interest scores but combinations of characteristics also affect global awareness interest scores even more profoundly than a single characteristic. Mean differences in global awareness interest scores between minority statuses were not significant ( $F = 3.567, p > .05$ ). However, gender differences are remarkably different and those differences are statistically significant ( $F = 5.284, p < .05$ ) as is the interaction between minority and gender ( $F = 4.136, p < .05$ ). As the  $F$  statistics indicate, there was also quite a bit of variance within each group.

**Table 2. Ethnicity Category by Gender**

	Male		Female		Total	
	Count	Percent	Count	Percent	Count	Percent
Minority	28	17.9	27	23.7	55	20.4
Non-Minority	128	82.1	87	76.3	215	79.6
Total	156	100.0	114	100.0	270	100.0

Figure 1. Means: Global Awareness Interest Scores by Gender and Minority Status



**RQ2. Does student involvement affect interest?** Respondents were asked about their involvement in several extra-curricular activities as well as other external obligations. Additionally, students were asked if they were over the age of 24. These demographic characteristics often define a student as non-traditional (Chung et al., 2014). Non-traditional students tend to have previous work and professional experience.

The researchers hypothesized that involvement in certain activities or specific student characteristics would affect interest in global awareness. Respondents that reported participation in one or more high impact behaviours were conjectured to have statistically different global awareness interest scores than students that reported no high impact behaviours. Correspondingly, respondents, who indicated that they were a non-traditional student, would have global awareness interest scores that were statistically different. This follows well-established findings that certain academic behaviours benefit students (Kuh, 2008). Nonetheless, the effect on global awareness interest has not been directly studied.

In order to determine students' involvement with extra-curricular activities related to global awareness, they were asked to indicate how many times they participated in the following activities in the last two years:

- Attended a seminar about global awareness/issues
- Read a book about global awareness/issues
- Read an online article about global issues
- Read a newspaper/magazine article about global issues
- Had conversations with your friends about global issues
- Watched a video clip or foreign film outside of class work about global awareness/issues
- Attended a speaker event about global awareness/issues
- Asked questions to a professor about global awareness/issues
- Performed a web search to learn about global awareness/issues
- Sampled the cuisine of a different culture
- Attended a cultural dinner or event on campus
- Coordinated or taken part in a fundraiser for a global issue
- Attended a diversity training class

**Table 3. Means: High and Low Involvement Interest Scores**

Involvement/ Characteristics		Count	Mean	Standard Deviation	<i>t</i> value	<i>p</i> value
Involvement	Low	134	44.64	19.10	-8.197	0.000
	High	137	62.96	17.65		
Dean's List	No	144	52.68	19.79	-1.031	0.304
	Yes	136	55.22	21.40		
Student Type	Traditional	244	52.95	20.20	-2.037	0.043
	Non-Traditional	36	60.40	22.29		
Student Type (Only Non-Minority)	Traditional	194	51.25	20.20	-2.777	0.006
	Non-Traditional	31	62.27	22.41		

Responses to these involvement items were coded as follows: 1: Never, 2: 1-2 Times, 3: 3-4 Times, 4: 4-5 Times, and 5: > 6 Times. Each respondent's involvement score was calculated by averaging his or her answers to the items. Then, the respondents were categorized as Low Involvement (0) if their average involvement scores were less the median involvement score (e.g. 2.333) or as High Involvement (1) otherwise. A *t*-test was conducted for detecting statistically significant differences in global awareness interest scores for high involvement respondents compared to students with low involvement respondents. Another *t*-test was compiled on global interest scores based on students' academic performance. Respondents were categorized whether they were in the Dean's List (GPA  $\geq 3.5$ ) or had not obtained the requisite GPA for Dean's List. Mean global awareness interest scores for the groups and *t*-test results are shown in Table 3.

There were significant differences in global awareness interest scores between respondents with high involvement and low involvement ( $t = -8.197, p < .05$ ). The high involvement respondents had a mean global awareness interest score that was about 30% higher than those respondents who did not indicate high involvement. It is clear that the participation in the listed activities, many of which are extra-curricular, positively impacted respondents' interest in global awareness. On the other hand, respondents' academic performance did not have a significant effect on their interest toward global awareness. Although the respondents, who were in the Dean's List indicated a higher interest level than the respondents who were not, the difference was not statistically significant ( $t = -1.031, p > .05$ ). It is also interesting to point out that it was not their academic performance, but their involvement in the activities that had a positive impact on global awareness interest. This finding may support the importance of exposing students to various extra-curricular activities in order to instil global awareness into them.

Non-traditional students had a considerably higher mean interest score than traditional students did ( $t = -2.037, p < .05$ ). The difference was even larger for non-minority students ( $t = -2.777, p < .05$ ). Typically, non-traditional students are looking forward to advancing and changing their current careers. The majority of the non-traditional students have already had a full time job and/or professional experience. This observation is particularly important for one of the main research objectives of the paper. This finding suggests that students' individual interest in global awareness increases with their professional experience. Therefore, interest can be used as an additional metric to assess their professional skills related to global awareness.

**RQ3. Does proficiency in another language affect interest?** Proficiency in communication, oral and written, in another language was self-reported. Respondents indicated their ability on a 100-point continuum scale with 0 - Poor and 100 - Very Good. The level of foreign language proficiency was parsed into quartiles. Oral and written skills were separated based on the distribution of

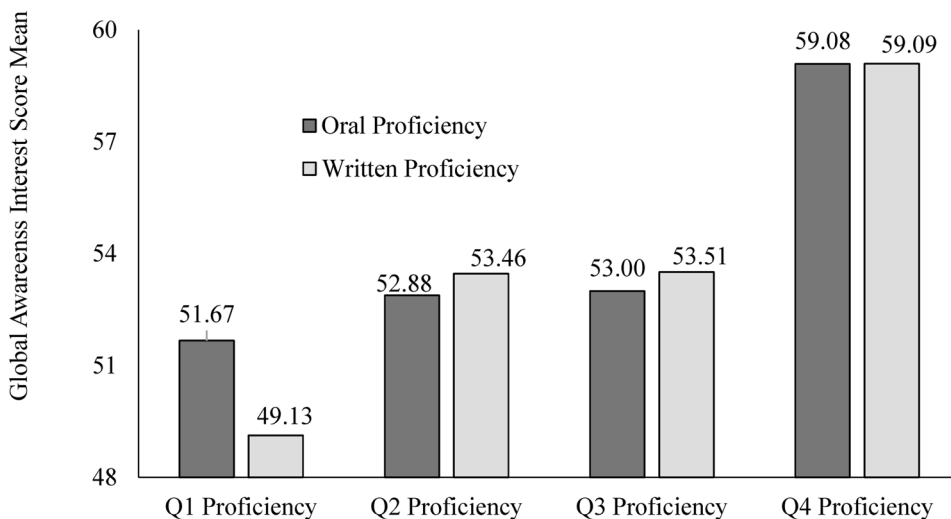
self-reported proficiency ratings. Respondents who did not rate themselves on either foreign language proficiency scales were eliminated from the analysis. Perceptible but for the most part non-significant differences in mean global awareness interest scores by proficiency level quartile were observed as shown in Figure 2.

As seen, global awareness interest scores increase as foreign language proficiency increases. In fact, there is a noticeable difference between global awareness interest scores between respondents in the first and fourth quartiles for both oral and written foreign language proficiency. However, the differences were not statistically significant for either oral foreign language proficiency ( $F = 1.516, p > .05$ ) or written foreign language proficiency ( $F = 2.246, p > .05$ ) quartile groups. It should be noted that the within group variance, it was relatively large for both analyses and this is in part, is responsible for the results not being statistically significant. However, one pairwise comparison was significant deemed by the Tukey honest significant difference (HSD) test. The difference between the global awareness interest score means between the first quartile and fourth quartile respondents for written proficiency in a foreign language was statistically significant ( $F = 9.965, p < .05$ ). As Figure 2 indicates this was the largest mean difference between groups in global awareness interest scores for both the oral foreign language proficiency and written foreign language proficiency ratings.

**RQ4. Does international travel/purpose affect interest?** A logical connection to global awareness is travel. The survey included several items on traveling abroad. Respondents were asked to distinguish between three types of travel: education, leisure and work-related. To answer the question whether international travel/purpose affects global awareness interest, each type is analysed separately. In addition, an aggregated variable was computed indicating, if a student travelled abroad for any of the three aforementioned purposes. Although the number of respondents that travelled abroad are small, there are noticeable global awareness interest mean score differences between those who travelled and those who did not. These mean differences by those who travelled and those who did not by travel type are shown in Table 4.

There were no significant differences in the mean global awareness interest scores between those who travelled and those who did not for any purpose. Respondents, who travel for educational purposes,

Figure 2. Means: Global Awareness Interest Scores by Written and Oral Proficiency in a Foreign Language Quartiles





**Table 4. Means: Global Awareness Interest Scores by Type of Travel/No Travel**

	Travelled for			Did Not Travel for			<i>t</i> statistic	<i>p</i> value
	Count	Mean	Standard Deviation	Count	Mean	Standard Deviation		
Education	41	56.16	23.14	239	53.53	20.15	-0.683	0.498
Leisure	98	53.16	20.23	182	54.33	20.83	0.458	0.648
Business	21	52.95	23.19	259	54.00	20.41	0.201	0.842
Any	121	54.80	20.55	159	53.25	20.66	-0.63	0.532

had the highest average global awareness interest score. Curiously but maybe not surprising is that respondents, who travelled for business, posted a lower average global awareness interest score than those, who travelled for any other purpose, education or leisure. However, the sample size was very small in this category. In any case, there were no significant differences in mean global awareness interest scores between those who travelled and those who did not regardless of the purpose.

## DISCUSSION

A survey was developed to measure interest toward global awareness. The results obtained using this instrument were analyzed to ascertain the impact on different student experiences and characteristics on interest toward global awareness. Our analyses suggest that high involvement in extra-curricular activities positively influenced students' interest in global awareness. In fact, high involvement was the most important factor affecting global awareness positively in this paper. This result may suggest that global awareness can be instilled into students by exposing them to social, economic, and political dynamics of globalization through extra-curricular activities such as seminars, reading assignments, case studies, and research assignments. The findings in this paper support that such interventions, which aim to broaden students' global perspectives, may in fact make an impact.

Although not statistically significant, mean global awareness interest scores increased as foreign language proficiency increased for both oral and written skills. The largest increase in mean global awareness interest scores was between the third and fourth quartiles for both oral and written foreign language proficiencies. This is illustrated in Table 5. As seen, the mean global awareness interest score differences between the first and third quartiles are not as large as the differences between mean global awareness interest scores at the third quartile compared to the fourth quartile for both oral and written foreign language proficiencies, being most striking for written proficiency. Moreover, mean global awareness scores seem to be similar between the oral and written foreign language proficiencies at each quartile with the exception of the highest quartile.

There were no significant differences in mean global awareness interest scores between those, who travelled, and those, who did not, regardless of the purpose. This finding aligns with the research that indicates that travel alone without deliberate attention and interaction is inadequate in the fostering of intercultural competence (Covert 2014). Students, who travelled for business or leisure, had the lowest global awareness interest scores ( $M=52.95$  and  $M=53.16$ , respectively). In this paper, the sample size for international travel for business is very small to make statically sound analysis. Respondents, who travelled for business, may have focused almost exclusively on the task at hand and, as a result, were not interested in increasing their global awareness interest or competence. Those traveling abroad for leisure may have been equally unmindful of the histories and cultures of the places travelled. In both types of travel, the international experience may have precluded the necessary criteria for global awareness interest (Doscher, 2012). To be determined are other motivations for travel to help isolate the factors that most profoundly impact interest toward global awareness.

Table 5. Means: Global Awareness Interest Scores Differences for Selected Foreign Language Proficiency Quartiles

Difference	Oral Proficiency	Written Proficiency
Q <sub>1</sub> -Q <sub>3</sub>	1.33	4.38
Q <sub>4</sub> -Q <sub>3</sub>	6.09	5.58

## IMPLICATIONS

It was observed that gender and ethnicity impact students' interest in global awareness and this should be further explored. The influence of other student characteristics, such as age, socio-economic class, and the degree level, should be further investigated. It would be reasonable that some student characteristics may increase global awareness interest, such as degree level and age. However, these relationships have never formally been studied. As mentioned, non-minority male student global awareness interest scores were more than 10 points lower than any other demographic group. With further research, suppositions about non-minority male interests in other areas and possible non-academic preferences and distractions could be brought to light. Moreover, the conceptualization of interventions, curriculum, and pedagogy innovations that could be induced to overcome those distractions could start to take form. The results of the survey support the positive impact of certain extra-curricular activities on global awareness.

As mentioned, interest in global awareness is more than foreign language proficiency. However, foreign language competence does impact global awareness interest. Therefore, and not surprisingly, foreign language proficiency was positively associated with global awareness interest, where respondents in the fourth oral and written foreign language proficiency quartiles having the largest mean global awareness interest scores. The difference in mean global awareness interest scores between the first and third quartiles for oral foreign language proficiencies is remarkable given that the gap is more than six points (6.09) compared to the difference in mean global awareness interest scores between the first and third quartiles for both oral (1.33) and written (4.38) foreign language proficiencies. Differences in foreign language proficiencies seem to have a profound impact on those that indicate they are somewhat proficient, third quartile, compared to those, who are ranked in the top quartile. That being said, respondents were not asked about their citizenship status or where they were born. Both these demographic factors could also be at play, regarding both foreign language proficiency and interest in global awareness. Further research to verify the associations between foreign language proficiency and interest in global awareness should be undertaken, as should the impact of low and high foreign language proficiencies on interest toward global awareness. Parsing out student origins of birth from the analyses should help to clarify global awareness interest proficiency as well.

Unless accompanied with meaningful opportunities to increase global awareness, international travel alone is not sufficient to increase global awareness interest or surpass those, who did not travel abroad. As suggested, interaction, curiosity, and deliberate reflections on connections between personal behaviour and perspectives on global issues are necessary to improve global awareness (McGraw, 2004). Borne out by the results, the respondents with the largest global awareness interest scores were those, who travelled for educational purposes. Given the demographics of the respondents, these were most likely students, who travelled abroad to meet academic requirements. As such, this international experience was encapsulated in a broader perspective that required at least some scholarly investigation of the cultures, before they travelled and pre-planned, intended, and programmed immersion of the cultures, while they visited.

## **CONCLUSION**

Undoubtedly, global competencies shaped by awareness and interest will be increasingly important as national boundaries shift and their economies become more interdependent. From an academic standpoint, students must not only gain new and innovative skills required to address international issues and challenges, but they must continue to advance these competencies (Reimers, 2009). This study sought to pinpoint the influences on interest toward global awareness. The MDL demonstrates that interest is integral to gaining proficiency and mastery. In this paper, an instrument to measure global awareness interest is developed for the first time in the context of the MDL. As colleges, like the one targeted in this paper, aim to internationalize their programs through extra-curricular activities. The results of the empirical study support the positive impact of extra-curricular activities on global awareness.

As this research indicates, some student demographics affect global awareness interest, such as gender and ethnicity. Foreign language proficiency positively impacted global awareness interest but some types of international travel did not. Possibly, travel abroad needs to be more structured to have a positive influence on global awareness interest. To be effectual, international travel must include a deliberate immersion into other cultures affording interaction and reflection. In addition, non-traditional students had a considerably higher mean interest score than traditional students did. The difference was even larger for non-minority students. Nonetheless, this study demonstrated the validity of the global awareness interest survey as a useful tool to ascertain the differences in global awareness interest among different student groups.

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## REFERENCES

- Alexander, P. A., Murphy, K. P., Woods, B. S., Duhon, K. E., & Parker, D. (1997). College Instruction and Concomitant Change in Students Knowledge, Interest, and Strategy Use: A Study of Domain Learning. *Contemporary Educational Psychology, 22*(2), 125–146. doi:10.1006/ceps.1997.0927
- Andreotti, V. O., Biesta, G., & Ahenakew, C. (2015). Between the Nation and the Globe: Education for Global Mindedness in Finland. *Globalisation, Societies and Education, 13*(2), 246–259. doi:10.1080/14767724.2014.934073
- Besterfield-Sacre, M. E., Ragusa, G., Matherly, C. A., Phillips, S. R., Shuman, L. J., & Howard, L. J. (2013). Assessing the Spectrum of International Undergraduate Engineering Educational Experiences. *Proceedings for the American Society for Engineering Education*.
- Chipperfield, S., Kulturel-Konak, S., & Konak, A. (2015). *Assessing Students' Global Awareness. Proceedings of the 2015 IEEE Integrated STEM Education Conference* (pp. 151–152). Princeton, NJ: ISEC. doi:10.1109/ISECon.2015.7119912
- Chung, E., Turnbull, D., & Chur-Hansen, A. (2014). Who Are 'Non-Traditional Students'? A Systematic Review of Published Definitions in Research. *Educational Research Review, 9*(23), 1224–1238.
- Clarke, V. (2004). Students Global Awareness and Attitudes to Internationalism in a World of Cultural Convergence. *Journal of Research in International Education, 3*(1), 51–70. doi:10.1177/1475240904041461
- Covert, H. H. (2014). Stories of Personal Agency: Undergraduate Students Perceptions of Developing Intercultural Competence during a Semester Abroad in Chili. *Journal of Studies in International Education, 18*(2), 162–179. doi:10.1177/1028315313497590
- Deardorff, D. K., & Hunter, W. (2006). Educating Global-Ready Graduates. *International Educator, 15*(3), 72–83.
- Doscher, S. (2012). The Development of Rubrics to Measure Undergraduate Students' Global Awareness and Global Perspective: A Validity Study [Doctoral dissertation].
- Hidi, S. (2006). Interest: A Unique Motivational Variable. *Educational Research Review, 1*(2), 69–82. doi:10.1016/j.edurev.2006.09.001
- Hunter, B. (2006). What Does It Mean to Be Globally Competent? *Journal of Studies in International Education, 10*(3), 267–285. doi:10.1177/1028315306286930
- Javidan, M., & Bowen, D. (2013). The Global Mindset of Managers: What It Is, Why It Matters, and How to Develop It. *Organizational Dynamics, 42*(2), 145–155. doi:10.1016/j.orgdyn.2013.03.008
- Kline, T. J. (2005). *Psychological Testing: A Practical Approach to Design and Evaluation*. Thousand Oaks, CA: Sage. doi:10.4135/9781483385693
- Krapp, A., Hidi, S., & Renninger, K. A. (1992). Interest, Learning and Development. In A. Renninger, S. Hidi, & A. Krapp (Eds.), *The Role of Interest in Learning and Development* (pp. 3–25). Hillsdale, NJ: Erlbaum.
- Kuh, G. D. (2008). *High-Impact Educational Practices*. Washington, DC: American Association of Colleges and Universities.
- Kulturel-Konak, S., Konak, A., Okudan Kremer, G., & Esparragoza, I. (2015). Professional Skills Assessment: Is a Model of Domain Learning Framework Appropriate? *International Journal of Quality Assurance in Engineering and Technology Education, 4*(1), 33–60. doi:10.4018/IJQAETE.2015010104
- Lohmann, J. R., & Howard, A. (2006). Defining, Developing and Assessing Global Competence in Engineers. *European Journal of Engineering Education, 31*(1), 119–131. doi:10.1080/03043790500429906
- McGraw, D. (2004). Putting It into Perspective. *PRISM, 13*(5), 24–29.
- Merryfield, M. (2008). Scaffolding Social Studies for Global Awareness. *Social Education, 72*(7), 363–366.
- Parker, W. C. (2011). International Education in US Public Schools. *Globalisation, Societies and Education, 9*(3-4), 487–501. doi:10.1080/14767724.2011.605330

Reimers, F. (2009). Leading for Global Competency, *Educational Leadership*, 67(1). ASCD. Retrieved from <http://www.ascd.org/publications/educational-leadership/sept09/vol67/num01/Leading-for-Global-Competency.aspx>

Schraw, G., & Lehman, S. (2001). Situational Interest: A Review of the Literature and Directions for Future Research. *Educational Review*, 13(1), 23–52.

Zappe, S., Litzinger, T., & Nguyen, H. (2010). An Investigation of First Year Students' Perceptions of Global Awareness. *Paper presented at 2010 Annual Conference and Exposition*, Louisville, Kentucky, USA.

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