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A COMPARATIVE STUDY OF THE GLOBAL-MINDEDNESS OF FRESHMEN AND SENIOR STUDENTS AT NORTHERN MICHIGAN UNIVERSITY

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A COMPARATIVE STUDY OF THE GLOBAL-MINDEDNESS OF FRESHMEN AND
SENIOR STUDENTS AT NORTHERN MICHIGAN UNIVERSITY

By

Anthony Barnes

THESIS

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SIGNATURE APPROVAL FORM

A COMPARATIVE STUDY OF THE GLOBAL-MINDEDNESS OF FRESHMEN AND
SENIOR STUDENTS AT NORTHERN MICHIGAN UNIVERSITY

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ABSTRACT

A COMPARATIVE STUDY OF THE GLOBAL-MINDEDNESS OF FRESHMEN AND SENIOR STUDENTS AT NORTHERN MICHIGAN UNIVERSITY

By

Anthony Barnes

Our global society has become increasingly interconnected. It is therefore necessary, no matter who you are or where you live, to be globally-minded and understand that now more than ever the consequences of our actions will have global implications. Although studies have been done to measure the global-mindedness of university students, and more specifically pre-service teachers, research was needed to compare the global-mindedness between freshmen and senior pre-service teachers. This quantitative study measured the global-mindedness of freshmen and senior university students at Northern Michigan University using the global-mindedness survey (GMS) designed by Hett (1993). The results showed no statistically significant difference in the mean scores on the global-mindedness survey between freshmen and senior students or freshmen and senior pre-service teachers. The results did show, however, a statistically significant difference in the mean score on one of the five latent variables of globalcentrism between freshmen and senior pre-service teachers. Globalcentrism is defined by Hett (1993) as a tradition of thinking and behaving globally rather than locally and a sense of full global consideration when making decisions. Globalcentrism is just one part of Hett's (1993) definition of global-mindedness which includes the other four latent variables. The results from this research suggest that college may have an effect on the development of globalcentrism within an individual.

Keywords: Global-mindedness, globalization, university students, pre-service teacher, internationalization of education, international education, American education

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ANTHONY BARNES

2018

DEDICATION

This research is dedicated to the people of the world, those I've met and those I have yet to meet.

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DEFINITIONS

Cultural pluralism: a comprehension of different cultures and a willingness to appreciate the difference between cultures (Hett, 1993).

Efficacy: a commitment to participate in global activities and a conviction that an individual's effort can make the world better (Hett, 1993).

Globalcentrism: a tradition of thinking and behaving globally rather than locally and a sense of full global consideration when making decisions (Hett, 1993).

Global-mindedness: an attitude towards cultural diversity and the interconnectedness of the world, a responsibility and self-efficacy of making the world better, and a tradition of thinking and behaving globally (Hett, 1993).

Interconnectedness: an acceptance of globalization and an enthusiasm to participate in the global activities to bring the whole world together (Hett, 1993).

Responsibility: a care for others all over the world and an obligation to take action to assist those in need (Hett, 1993).

CHAPTER I

INTRODUCTION

Our global society has become increasingly interconnected. The current speed at which goods and services, people and their ideas are able to move around our planet is in large part a result of improvements in transportation infrastructure and information communications technology (ICT). Political ideology is decoupled from this trend because even the most nationalistic of people cannot deny the progress that is connecting people around the world causing this well-defined time-space convergence. Issues that were once confined to national boundaries are now significant to the global community. It is therefore necessary, no matter who you are or where you live to be globally-minded and understand that now more than ever the consequences of our actions will have global implications.

In order to prepare individuals for life in this increasingly interconnected world, teachers themselves must not only be able to act local but also think global. Pre-service teachers (education majors) have a responsibility to their students and to our society to be globally-minded. This is not to say all teachers must promote “globalism.” Teachers can and should offer different perspectives. Teachers who are globally-minded themselves offer their students the greatest chance of success in this globalized society.

Problem statement

Although studies have been done to measure the global-mindedness of university students, and more specifically pre-service teachers, the global-mindedness between freshmen and senior pre-service teachers had not yet been compared. This research was carried out to determine the extent to which college has an effect on an individual’s global-mindedness and to determine areas for growth in teacher education programs.

Hett (1993) initially created a research instrument she called the Global-Mindedness Survey (GMS) to measure the global-mindedness of an individual that has been used in various research studies throughout the United States and around the world. The survey consists of 30 statements that require participants to respond using a Likert-type scale (Appendix B). It can be further broken down so that each statement is associated with one of five latent variables: (a) responsibility, (b) cultural pluralism, (c) efficacy, (d) globalcentrism, and (e) interconnectedness. Researchers use the latent variables for greater depth in their research of global-mindedness.

Once developed, Hett (1993) used the GMS to test different hypotheses she had about the relationship between demographic variables and level of global-mindedness. She predicted that students who had senior class standing in college would score higher on the GMS but concluded that “class level was not related to the GMS” (p. 148-149). She did concede in her evaluation however, that the invasion of Iraq and the political implications surrounding international relations in 1994 may have affected these results. She also predicted that student major and field of study would be indicators of global-mindedness and more generally found that students who “had enrolled in a total of five or more classes with an international focus” (Hett, 1993, p. 148) were more globally-minded.

Cui (2013) used the GMS to determine the global-mindedness of pre-service teachers across all university grade levels. Cui grouped freshmen and sophomore students into Group 1 and junior and senior students into Group 2. He concluded that regardless of their class standing, pre-service teachers had consistent scores on the five latent variables of the GMS (Cui, 2013). Cui (2013) acknowledged that the results may be biased because the two groups were so close in grade level that it is possible there wasn't enough differentiation between the groups and further

bipolar research would be needed to study the differences in global-mindedness between freshmen and senior pre-service teachers.

Purpose statement

The purpose of this study was to re-test Hett's (1993) theory that senior university students would be more globally-minded than freshmen. Based on Cui's recommendation, the study specifically looked at the differences in global-mindedness between freshmen and senior pre-service teachers. Further analysis was done to break down freshmen and senior pre-service teacher mean scores on the five latent variables within the GMS.

The results of this research provided further clarification on Hett's (1993) theory of global-mindedness and also determined areas for growth in promoting global-mindedness in teacher education programs. Very little research on the global-mindedness of pre-service teachers existed; therefore, this research sought to determine areas in need of curriculum reform to promote global-mindedness in schools of education in the United States to ensure global peace and democracy around the world. A formal request to use Dr. Hett's survey and permission was granted on December 8, 2017 (Appendix D).

Research questions

1. Is there a statistically significant difference in mean scores on the global-mindedness survey between freshmen and senior students?
2. Is there a statistically significant difference in mean scores on the global-mindedness between freshmen and senior education majors?
3. Does global-mindedness vary by freshmen major?
4. Does global-mindedness vary by senior major?

5. Is there a statistically significant difference in the mean scores on any of the five latent variables of global-mindedness between freshmen and senior pre-service teachers?

Hypotheses

Null Hypothesis 1: There is not a statistically significant difference in mean score of global-mindedness between freshmen and senior students.

Null Hypothesis 2: There is not a statically significant difference in the mean score of global-mindedness between freshmen and senior majors.

Null Hypothesis 3: Global-mindedness will not vary by freshmen major.

Nully Hypothesis 4: Global-mindedness will not vary by senior major.

Null hypothesis 5: There is not a statistically significant difference in the mean scores on any of the five latent variables of (a) responsibility, (b) cultural pluralism, (c) efficacy, (d) globalcentrism, and (e) interconnectedness between freshmen and senior pre-service teachers.

Theoretical framework

The theoretical framework underpinning this study was based upon three pillars: international education, transformationalist globalization, and social constructivism.

The driving force behind this research was the idea that international education should be the foundation to any 21st century classroom. There is much debate on the definition of international education but according to Walker (2011), international education is an education for global-mindedness that encourages diversity, promotes cultural differences, and most importantly educates for peace. Students are taught to understand that they are not only part of their local community but they are also members of a global community and as a result their actions, no matter how small, may have far reaching impacts. International education in this

paper takes a broad approach and encompasses everything from study abroad experiences to a more globally-focused educational curriculum.

Three modern theories of globalization exist to try and explain the rapid changes that are currently taking place as we become more interconnected: hyperglobalization, skepticism, and transformationalism (Held, McGrew, Goldblatt, & Perraton, (1999). While hyperglobalists and skeptics seemed determined to predict the results of global interactions, transformationalists are less certain of globalizations outcomes. The transformationalist theory proposes that globalization is caused by a wide range of factors and its outcomes cannot be determined but are instead continually being shaped by the processes currently in place.

This theory is in line with the thinking that educational institutions that promote international education can have a direct impact on the global-mindedness of the student body. Likewise teachers have the ability to promote international education and impact student's perspective on the wider world. In a sense, globalization is being transformed when people become more globally-minded through education thereby affecting change in what may have been considered a largely predetermined outcome of globalization. Transformationalism posits that the work being done in this respect directly reflects the changes taking place as a result of globalization.

The final pillar of this study was grounded in social constructivism (Berger & Luckmann, 1966). A global citizen is merely a social construct and to be globally-minded is likewise a matter of how a person interacts with their world. University students, and more specifically pre-service teachers, will have been influenced by their life experiences and so their scores on the GMS will represent their socially constructed realities. For example, the more a person interacts with someone from another culture, the more likely they will understand and empathize

with that culture, thereby scoring higher on the GSM. Studies by Hett (1993) herself showed what was already assumed, that people who study abroad are more globally-minded. Brooking (2010) supported this theory with research from a dozen other studies. This is likely explained by “distance decay” or “friction of distance” – the further you are from something the less likely you are to interact with it. Time also seems to be a factor with students that are abroad for longer durations of time (8 weeks or greater) showing higher levels of global-mindedness (Brooking, 2010). Humans ultimately construct their views on reality through personal experience and it would therefore make sense that global-mindedness is attained the longer more you interact with people from around the world.

CHAPTER II

LITERATURE REVIEW

Introduction

Globalization has infiltrated all facets of our lives – social, economic, political, cultural, and environmental. It is no wonder then that so many people and organizations have attempted to define such a complex phenomenon. Urzúa (2000) provided a detailed definition, asserting that globalization is a multi-dimensional process characterized by international economic and political exchange, transfer of control to multi-governmental organizations while also involving a recent resurgence in nationalism, technological innovation, liberalization, and dissemination of culture. Many other more complex definitions of globalization exist but Urzúa’s best encapsulates the underlying themes within the process: socio-economic, political, technological, and cultural. Globalization has “shrunk” the earth by creating a time-space convergence, bringing people, goods, services, and ideas closer together than ever before at a faster rate than ever imagined.

This literature review covers a brief history of the internationalization of education in the United States before moving on to why global-mindedness is an important focus for modern American education. The literature review then moves into the effects that college has on the development of a student and how their global-mindedness is shaped by the university experience. Finally, the literature review finishes with a section on the teaching profession and the importance of pre-service teacher global-mindedness.

Internationalization of education in the United States

International education in the United States can be traced as far back as 1951 (Kenworthy, 1951). “Internationalization is a reaction to globalization, meaning that

internationalized curricula in education, for example, are designed to address our interconnected globalizing world” (Belal, 2017, p. 20). More recently the concept of promoting global-mindedness in American public schools has gained steam because of state and national educational policy decisions (Bottery, 2006). Education decision makers in the United States recognize the influence that globalization is having and are reacting by including global perspectives to policies and programs at the university level (Qui, 2013). Swiniarski (2006) noted that global-mindedness is even being integrated into the daily curriculum in the k-12 setting. Educational reformers are more cognizant than ever of the impact that globalization is having on our daily lives.

Not only are these changes taking place at the k-12 level but they are also changing at the college level. The Association of American Colleges and Universities (2007) is now specifically attempting to foster global learning at the undergraduate level. Northern Michigan University (2015) for example took a strategic direction to include “international opportunities” in their Five-Year Master Plan that recognizes the growing importance of our interconnected world community (p. 7). A quick look at the mission and vision for any college or university in the United States will provide further support that there is a distinct awareness that our society is part of a global community and that we must prepare students for this future.

Offering courses that have an international focus, supporting study abroad and international service learning trips, and promoting international student exchange are just some of the ways that universities have attempted to promote international education. Brooking (2010) made a clear case for the benefits of longer-term study abroad programs. He studied the rise of the international education at the college level and identified an increase in study abroad amongst American universities that fits right alongside the internationalization of the curriculum

and pro-global vision of institutions of higher education (Brooking, 2010). Little research has been done on the effects that international exchange students have on promoting global-mindedness within the host country. Further research could be done to determine if these programs are even beneficial for the university that has organized the exchange.

Importance of global-mindedness in American education

Globalization shows no signs of slowing and neither does the internationalization of education. We are going to have to face these changes whether we like them or not because globalization is firmly entrenched in the modern development of nearly every country on the planet. Yet Americans unfortunately don't seem to be meeting the challenges of living in a global society. A National Geographic Literacy Study (National Geographic, 2006) found that the majority of people surveyed couldn't go into detail about the world outside the United States or how the United States fit within a global context. These results are also reflected within our public school system. According to the latest National Assessment on Educational Proficiency (NAEP) (2014) results for Geography, average scores for grade 12 have dropped over the last two decades. It is an unfortunately common stereotype that Americans are bad at geography and have a difficult time communicating in more than one language. Self-fulfilling if left unchecked.

Belal (2015) argued that since globalization has created a demand for 21st century skills, the American education system has to support this shift to internationalized education. Clarke (2004) agreed by concluding that in a more globalized society, certain structures need to be in place to support the shift to internationalism. She went on to say that, "Chief of these is an educational system capable of producing a cadre of citizens with global knowledge, skills, attitudes, and values. While these citizens will have a national identity, their affinities will first be to the brotherhood of world citizenry" (p. 67). As people, goods, and services move more

freely around the planet we are sure to encounter them with more regularity. It is vital that we can effectively integrate into this globalized society and it is our education system that will get us there.

International education is an education for democracy, peace, and prosperity. The most important thing any person or country can get out of international education is a better understanding for humanity's global interconnectedness. To be globally-minded is to believe in democracy and peace. A global-minded citizenry is in the national security interest of the United States. The more prepared we can be as a nation for this process of globalization, the more likely we are to lead the charge economically, politically, and technologically.

Development of college students and their global-mindedness

The cognitive and social development of an individual throughout college is well documented (Komives & Woodard, 1996). College is an intricate and multidimensional progression in an individual's life as they transition through their young adult lives and into more mature members of society (Evans, Forney, Guido, Patton, & Renn, 2010; Komives & Woodard, 1996). This progression to adulthood is a result of the cognitive and social development that happens at college and often solidifies an individual's self-identity (Evans et al., 2010; Komives & Woodard, 1996). The "college experience" therefore plays a significant role in the maturation, development, and growth of an individual.

Hett (1993) was originally unable to find a correlation between age and level of global-mindedness. Almost twenty years later Braskamp and Engberg (2011) found however, that grade level does indeed affect the global-mindedness of college students – freshmen were observed to be less globally-minded than seniors, exactly what Hett (1993) had predicted. Their results also showed that there is a larger difference in the global-mindedness of freshmen and

sophomore students than from sophomores to seniors, concluding that developmental gains occurred early in their college years (Braskamp & Engberg, 2011). It must be noted that Braskamp and Engberg (2011) used a different survey instrument than Dr. Hett (1993) which could explain the differences in the results.

Other researchers who actually used Hett's GMS were able to add to the scientific body surrounding the relationship between class standing, major, and global-mindedness. Clarke (2004) performed a study on university student's global-mindedness and attitudes towards internationalism. She found that the majority of respondents (71%) viewed the culture of the United States as superior to other cultures (Clarke, 2004). Just over half of the students favored the globalization of the economy, but there were variations in academic departments – 68% for business majors, 50% for education majors, 39% for science majors, and 34% for liberal arts majors (Clarke, 2004). Stevens' (2012) research also supports the idea that academic rank has an effect on global-mindedness and concluded that exposure to higher education curricula increases global-mindedness. Still, little research on the global-mindedness of specific majors at the freshmen and senior level exists.

Connection to pre-service teachers

Pre-service teachers in particular must not only be aware of the move towards internationalization in education but must also prepare for a career in education where global-mindedness is the new norm. McGaha and Linder (2014) further support the nationwide move to internationalize college curriculum. They believe that since our world is so pluralistic, teachers must be able to teach with a global perspective and that it is vital that teacher education programs support students by preparing them to teach with this global perspective (McGaha & Linder, 2014). Their study examined the global-mindedness of over 300 pre-service teachers using the

GMS and found that participants were neutral on items related to interconnectedness and globalcentrism (McGaha & Linder, 2014).

Cui's (2013) research also found that pre-service teachers scored low on globalcentrism and recommended that "colleges and universities should go further to develop pre-service teachers' global sensitives to embrace the global society" (p. 90). Guffy (2012) conducted a similar study on the global-mindedness of 424 first-year (freshmen) college students and found them to be only moderately globally-minded. She concluded that "the results indicate a need to enhance college students' global-mindedness" (Guffy, 2012, p. 64).

This literature review first defined globalization. Then, a brief history of the internationalization of education in the United States was covered before moving on to why global-mindedness is an important focus for modern American education. The literature review then moved into the effects that college has on the development of a student and how their global-mindedness is shaped by the university experience before finishing with the teaching profession and the importance of pre-service teacher global-mindedness.

CHAPTER III

METHODOLOGY

Introduction

The purpose of this study was to retest Hett's (1993) theory of global-mindedness that students with higher class standing would be more globally-minded. The purpose of this study was also to measure the global-mindedness pre-service teachers based on Cui's (2000) recommendations that freshmen and senior groups be researched. The research method used in this study consisted of a quantitative survey with data collected between Tuesday, March 20, 2018 and Tuesday, April 3, 2018. This quantitative study was a cross-sectional non-experimental non-longitudinal research design using primary data collected over a two week period of time.

Participants

Data were collected from two main groups of participants: freshmen and senior university students at Northern Michigan University (NMU). Northern Michigan University is a rural Midwestern university that has approximately 2,000 – 3,000 freshmen and senior students so it was assumed that a 5% return (100 – 150 completed surveys) would offer an appropriate sample size. The study is non-experimental in design as it analyzes variables from a survey completed voluntarily by the participants. All freshmen and senior students at NMU 18 years or older had an opportunity to complete the survey. The study therefore used stratified random sampling.

The participants were full-time undergraduate students. A demographic questionnaire was used to be certain the correct population was being sampled. Participant demographics data collected included:

1. Age

2. Gender
3. Class standing
4. Primary major
5. College preparatory experience
6. Study abroad experience
7. International student status

Participants were also asked if they had taken or were currently enrolled in any Social Responsibility in a Diverse World or World Cultures courses offered at NMU. If so, those participants' responses were not included in this study.

Instruments

To assess the global-mindedness of freshmen and senior students at NMU, Hett's (1993) Global-Mindedness Survey (GMS) was used. The survey includes 30 statements on a five-point Likert-type scale ranging from *strongly disagree* to *strongly agree*. In order to allow for more detailed analysis, Hett (1993) further identified five latent variables within the survey: (a) responsibility (questions 2, 7, 12, 18, 23, 26, and 30), (b) cultural pluralism (1, 3, 8, 13, 14, 19, 24, and 27), (c) efficacy (4, 9, 15, 20, and 28), (d) globalcentrism (5, 10, 16, 21, and 29), and (e) interconnectedness (6, 11, 17, 22, and 25). Hett (1993) tested her GMS content validity by inviting four judges to establish the content validity index (CVI) for the scale. The CVI for the GMS was .88 (Hett, 1993). The Cronbach's alpha for the GMS was .90 and so since the reliability of each of the five latent variables ranged from .65 to .80, Hett was able to establish factorial validity (Hett, 1993).

A Qualtrics survey was created which included a block of seven demographic questions, a block of 30 Likert-style questions (the GMS), and a block of two questions related to Social

Responsibility in a Diverse World and World Cultures courses available to all NMU students. A link to the survey was created for easy email distribution.

Procedures

On March 20, 2018 the survey was sent to all freshmen and senior students at NMU using the school's mass email E-Postal system. The email contained a short description of the study along with a link to the Qualtrics survey. Two days later on March 22, 2018 a reminder email was sent to all declared freshmen and senior education majors. After two weeks, a total of 160 (~5%) students had completed the survey and the survey was then locked and the data downloaded on a password protected computer.

Out of the total number of 160 students who completed the survey, the final usable number of participants totaled 145 ($N=145$). There were two main reasons for this data screening. Ten participants indicated on the survey that they were either sophomore or junior students. Also, five students did not answer all of the GMS questions. These 15 participants were removed so that the data included only freshmen and senior students who completed the entire GMS. Tables 4 and 5 indicate majors of the participants that completed the survey.

Data analysis

The data were analyzed using the Microsoft Excel data analysis tool. For research questions 1, 2, and 5, a two-tailed t-Test: Two-Sample Assuming Unequal Variances was completed to compare the mean values of the GMS of freshmen and senior students. For research questions 3 and 4, the descriptive statistic of mean was completed to determine the rank order of the global-mindedness of each major.

CHAPTER IV

RESULTS

Introduction

The purpose of this study was to retest Hett's (1993) hypothesis that university students with a higher class standing would score higher on the global-mindedness survey (GMS). Based on Cui's (2013) recommendation, this study also attempted to measure the global-mindedness of freshmen and senior pre-service teachers, specifically comparing the two groups' mean scores on the GMS and the five latent variables. Table 1 displays the demographic variables collected in the first block of questions on the Qualtrics survey.

Table 1. *Frequencies for demographic variables (N = 145)*

Variable	N	Percentage
Gender		
Female	98	67.59
Male	40	27.59
Gender-Variant/Non-Conforming	4	2.76
Not listed	1	0.69
Prefer Not to Answer	1	0.69
Transgender Male	1	0.69
Class Standing		
Freshmen	41	28.28
Senior	104	71.72
College Prep Classes		
Advance Placement	43	29.66
International Baccalaureate	2	1.38
Study Abroad		
Yes	13	8.97
Not yet, but I plan to it in the future	41	28.28
No, and not planning on it	89	61.38
International Student		
Yes	3	2.07
No	142	97.93

DATA ANALYSIS

Research question 1. *Is there a statistically significant difference in mean scores on the global-mindedness survey between freshmen and senior students at?* The results from the data analysis for research question 1 showed a higher mean score on the GMS for seniors than for freshmen but resulted in a p -value of 0.14 ($p > 0.05$). Therefore the null hypothesis is accepted since there was not a statistically significant difference in the mean scores on the GMS between freshmen and senior students at NMU. Table 2 displays the results of the data analysis for research question 1.

Table 2. *Data analysis for research question 1*

Class standing	<i>N</i>	Mean	SD	<i>p</i>
Freshmen	41	114.73	18.5	0.14
Senior	104	119.58	14.21	

Research question 2. *Is there a statistically significant difference in mean scores on the global-mindedness between freshmen and senior education majors?* The results from the data analysis for research question 2 showed a higher mean score on the GMS for seniors than for freshmen but resulted in a p -value of 0.13 ($p > 0.05$). Therefore the null hypothesis is accepted since there was not a statistically significant difference in the mean scores on the GMS between freshmen and senior education majors (pre-service teachers) at NMU. Table 3 displays the results of the data analysis for research question 2.

Table 3. *Data analysis for research question 2*

Class standing	<i>N</i>	Mean	SD	<i>p</i>
Freshmen	9	113.78	12.2	0.13
Senior	33	121	10.28	

Research question 3. *Does global-mindedness vary by freshmen major?* No more than four responses were recorded for any one freshmen major. A lack of responses for each major caused the sample size to be too low to determine how global-mindedness varies between

freshmen majors. Table 4 displays the results of the data analysis for research question 3, sorted by count (*N*).

Table 4. *Data analysis for research question 3*

Major	Mean	<i>N</i>
Outdoor Recreation Leadership and Management Major	88.00	1.00
Biology Major - Zoology Concentration	92.00	1.00
Spanish Major	100.00	1.00
Elementary Education Language Arts Major	104.00	1.00
English Major	107.00	1.00
Art and Design Major - Bachelor of Arts or Bachelor of Science	110.00	1.00
Earth Science Major	110.00	1.00
Elementary Education Social Studies Major	110.00	1.00
Hospitality and Tourism Management	112.00	1.00
Electrical Engineering Technology Major	113.00	1.00
Secondary Education English Major	116.00	1.00
Criminal Justice Major	118.00	1.00
Sports Science Major	123.00	1.00
Biology Major - Microbiology Concentration	124.00	1.00
Environmental Science Major	124.00	1.00
Communications Studies Major	125.00	1.00
Music Major	125.00	1.00
Sociology Major	134.00	1.00
Psychology Major	136.00	1.00
Biology Major	93.00	2.00
Secondary Education Social Studies Major	108.00	2.00
Secondary Education Special Education Major	114.00	2.00
Undecided	120.50	2.00
Elementary Education Special Education Major	125.00	2.00
Psychology/Behavior Analysis Major	135.00	2.00
Other	102.67	3.00
Art and Design Major - Bachelor of Fine Arts	109.67	3.00
Nursing Major	126.25	4.00

Research question 4. *Does global-mindedness vary by senior major?* No more than five responses were recorded for any one senior major. This lack of responses for each major caused the sample size to be too low to determine how global-mindedness varies between senior

majors. Table 5 displays the results of the data analysis for research question 4, sorted by count (*N*).

Table 5. Data analysis for research question 4

Major	Mean	<i>N</i>
Elementary Education - Two Minors	98.00	1.00
Anthropology Major	98.00	1.00
Accounting/Corporate Finance Major	98.00	1.00
Management Major	98.00	1.00
Clinical Health Science Major	109.00	1.00
Criminal Justice Major	112.00	1.00
Biology Major - Ecology Concentration	114.00	1.00
Psychology/Behavior Analysis Major	118.00	1.00
Secondary Education History Major	118.00	1.00
Elementary Education Mathematics Major	119.00	1.00
German Studies Major	121.00	1.00
Secondary Education Special Education Major	125.00	1.00
Psychology Major	127.00	1.00
Secondary Education Spanish Major	128.00	1.00
Accounting Major	130.00	1.00
Information Assurance/Cyber Defense Major	131.00	1.00
Clinical Laboratory Science Major	131.00	1.00
Fisheries and Wildlife Management	132.00	1.00
Forensic Biochemistry Major	132.00	1.00
Neuroscience Major	132.00	1.00
English Graduate Bound Major	133.00	1.00
Secondary Education Music Major	138.00	1.00
Biology Major - Botany Concentration	140.00	1.00
Philosophy Major	143.00	1.00
Secondary Education Physical Education Major	106.50	2.00
Biology Major - Physiology Concentration	113.00	2.00
Communications Studies Major	113.50	2.00
Music Major	118.50	2.00
Secondary Education Integrated Science Major	119.50	2.00
Outdoor Recreation Leadership and Management Major	124.00	2.00
Community Health Education Major	125.50	2.00
Hospitality and Tourism Management	126.00	2.00
Secondary Education Social Studies Major	126.00	2.00
International Studies Major	130.50	2.00
Earth Science Major	132.00	2.00
Information Systems Major	98.67	3.00

Biology Major - Zoology Concentration	103.33	3.00
Nursing Major	113.67	3.00
Art and Design Major - Bachelor of Fine Arts	115.00	3.00
Elementary Education Language Arts Major	121.00	3.00
Biochemistry Major	122.67	3.00
Mathematics major	124.00	3.00
Art and Design Education Major	124.67	3.00
Biology Major - General Biology Concentration	131.33	3.00
Elementary Education Special Education Major	120.00	4.00
Elementary Education Social Studies Major	121.50	4.00
Environmental Science Major	121.75	4.00
Environmental Studies and Sustainability Major	133.00	4.00
Other	92.60	5.00
Secondary Education English Major	122.40	5.00
Social Work Major	123.60	5.00

Research question 5. *Is there a statistically significant difference in the mean scores on any of the five latent variables of global-mindedness between freshmen and senior pre-service teachers?* The results from the data analysis for research question 5 showed a higher mean score on all of the five latent variables within the GMS for seniors than for freshmen but resulted in p -values of 0.30, 0.41, 0.61 and 0.36 ($p > 0.05$) for responsibility, cultural pluralism, efficacy, and interconnectedness respectively. Therefore the null hypothesis is accepted for these four latent variables since there was not a statistically significant difference in the mean scores on any of these four latent variables of the GMS between freshmen and senior education majors (pre-service teachers) at NMU.

The results from the data analysis for research question 5 resulted in a p -value of 0.03 ($p < 0.05$) for global centrism. Therefore the null hypothesis is rejected for the latent variable of global centrism since there was a statistically significant difference in the mean scores between freshmen and senior education majors (pre-service teachers) at NMU. Table 6 presents the data analysis for research question 5.

Table 6. *Data analysis for research question 5*

Latent Variable	Freshmen		Senior		<i>p</i>
	M	SD	M	SD	
Responsibility	26.67	3.35	28.06	3.60	0.30
Cultural Pluralism	33.44	4.16	34.70	2.76	0.41
Efficacy	19.89	3.02	20.45	2.05	0.41
Global-centrism	15.33	3.08	18.15	3.14	0.03
Interconnectedness	18.44	3.81	19.73	2.63	0.36

The findings show that there was not a statistically significant difference in the mean scores on the GMS between freshmen and senior university students at NMU. There is not a statistically significant difference in the mean scores on the GMS between freshmen and senior pre-service teachers at NMU. There is not a statistically significant difference in four out of the five latent variables of responsibility, cultural pluralism, efficacy, and interconnectedness on the GMS between freshmen and senior pre-service teachers. There is a statistically significant difference in the mean score of global-centrism on the GMS between freshmen and senior pre-service teachers.

Summary

The total number of responses was 145 ($N=145$), 42 ($N=42$) of which were pre-service teachers. The results from the survey helped answer research questions 1, 2, and 5. The results from the survey did not help answer research questions 3 and 4 due to the lack of responses. The null hypothesis was accepted for research questions 1 and 2 – there is not a statistically significant differences in the global-mindedness between freshmen and senior university students. The null hypothesis was accepted for four of the five latent variables for research question 5 – responsibility, cultural-pluralism, efficacy, and interconnectedness. The null hypothesis was rejected for the latent variable of globalcentrism for research question 5 ($p=0.03$, $p < 0.05$) – seniors university students are more globally-centric than freshmen.

CHAPTER V

DISCUSSION

Introduction

This quantitative research study measured the global-mindedness of freshmen and senior students at Northern Michigan University using Hett's (1993) Global Mindedness Survey (GMS). Based on Cui's (2013) recommendation, the global-mindedness of freshmen and senior pre-service teachers was also studied. Statistical analysis was performed on the survey results to determine statistical significance between the freshmen and senior students.

Interpretation of findings

Although senior students tend to have a higher average global-mindedness than freshmen students, the findings of this research study are consistent with Hett's (1993) original findings. Hett's (1993) hypothesis that students who had senior class standing would score higher on the GMS does not show statistical significance even over twenty years later in a completely different political environment. Experiencing events at the same time does not always ensure uniform thinking and like-minded worldviews. Gitlin (1993, 1996, 2003, & 2006) explains that an individual's attitudes towards politics and world events vary depending on a variety of factors including age, gender, race, and geographic location, concluding that it matters less when someone was born than where they are in their life when world events occur with two different opposing views emerging from the same moment.

Cui (2013) was unable to find a statistically significant difference in the mean scores on "any of the five latent variables of global-mindedness between pre-service teachers in Group 1 (freshmen and sophomores) and those in Group 2 (juniors and seniors)" (p. 92). Cui (2013) recommended further bi-polar research and as a result, the data analysis performed in this study

was able to find a statistically significant difference in one latent variable between freshmen and senior pre-service teachers: globalcentrism ($p = 0.03$, $p > 0.05$). Since senior pre-service teachers showed a statistically significant difference than freshmen in the mean score on the latent variable of globalcentrism on the GMS, it can be inferred that college does have an effect on the latent variable of globalcentrism for pre-service teachers.

Kjar (2007) studied why individuals develop a “global mindset” and found four distinct similarities between his research participants. Globalcentrists tend to have more international/travel experience and can speak a foreign language, they have greater contextual sensitivity like deep listening skills and self-reflection, they can fluidly move between connecting to other people both locally and globally, and they develop their global mindset in stages from early family experience to specific cultural settings like college and beyond (Kjar, 2007). The university experience plays a significant role in the maturation process of an individual (Evans, Forney, Guido, Patton, & Renn, 2010; Komives & Woodard, 1996) and for pre-service teachers at NMU it is quite possibly the first time they have ever traveled/moved away from home, done so much self-reflection, considered things globally, or experienced a different cultural setting from their own. Their worldview is significantly shaped throughout college.

Implications of findings

The results of this study suggest that college does not have an overall effect on global-mindedness as Hett (1993) first hypothesized. It must be repeated here that this is not a longitudinal study and therefore caution must be taken in formally concluding that college does not have effect on the global-mindedness of an individual. Colleges and universities should still continue to seek ways to increase the global-mindedness of university students. Specifically,

more attention should be paid in the teacher education program at NMU to promoting the latent variables of responsibility, cultural pluralism, efficacy, and interconnectedness.

Teacher education programs tend to be among the least internationalized of all college programs because of the homogenized culture of teacher education with local students preparing to teach at local schools (Zhao, 2010). Gay (2010) found that this is reinforced by the fact that even in teacher education courses on multi-cultural education, students claim to be culturally sensitive but cannot go into any depth of multi-cultural analysis. Yet with an increasingly diverse student body both pre-service teachers and professors agreed that it is important to build a strong relationship between multi-cultural education and the teaching profession (Estupinan, 2010).

Merryfield (2000) studied professors that are recognized by their peers for successfully preparing teachers to teach for global interconnectedness. Her findings were similar to Kjar's (2007) with many of the professors having experienced cultures and people different from themselves and experience living and working abroad (Merryfield, 2000). Amewu-Sirleaf's (2015) research supported these conclusions adding that although a global perspective may not always be a part of a teacher education program, faculty are not only knowledgeable and skillful enough to integrate global-mindedness into the curriculum but they are also willing to teach with a global perspective. Apple (2011) argued that critical analysis in teacher education is more important now than ever before due to the changes globalization is having on our society. He suggests nine tasks for teacher education programs to promote social responsibility in the age of globalization: bear witness to negativity, critically analyze, consider research, build a base of elite knowledge, keep traditions alive, criticize inadequate traditions, take action, mentor, and act as professionals (Apple, 2011).

Limitations of the study

One of the major limitations of this study was the low number of responses not only for each major, but more specifically for freshmen pre-service teachers ($N=9$). This low sample size prevented analysis of research questions 3 and 4 and may have affected the data for research questions 2 and 5. Although the t-tests performed in this study's data analysis account for low sample sizes, the results of this study could have been even more accurate if the sample size was higher.

Another limitation of this study was that the data were collected half way through the second semester of the school year and freshmen students had already experienced three quarters of their first year of college. This exposure to college could have affected their responses on the GMS compared to if the data were collected at the beginning of the year. This is also a possible explanation for why there were so few responses: Students could have been less motivated later in the year to open up a mass email and complete a voluntary survey than at the beginning of the year.

One final limitation of this study has to do with the latent variable of globalcentrism. Each of the questions within the globalcentrism variable on the GMS are inverse. This means that unlike the regular questions on the survey where moving closer to selecting "Strongly agree" on the Likert scale indicates higher levels of global-mindedness, participants that are considered more globally-minded would move closer to selecting "Strongly disagree." The inverse questions (4, 5, 9, 10, 16, 21, 25, 27, and 29) are then reverse scored. This is a limitation for this particular study because globalcentrism is the only latent variable that showed a statistically significant difference in the mean scores between freshmen and senior students and it is also the only latent variable where all of the questions are inverse. This could just be a coincidence but it

is also possible that participants assumed the survey was patterned without reading the questions completely and therefore unintentionally affected the results.

Future research directions

Further research into the global-mindedness of pre-service teachers could shed light on why globalcentrism shows a statistically significant difference between freshmen and senior students compared to the other four latent variables. Research should target globalcentrism either by analyzing the globalcentrism found within Hett's (1993) GMS or by creating a different research instrument that specifically measures globalcentrism. In any case, it would be valuable to focus a study on globalcentrism to better understand why this latent variable stands out amongst the other latent variables.

Likewise, since this study concluded that only globalcentrism had a p-value below 0.05, further research could be done on how to promote the latent variables of responsibility, cultural pluralism, efficacy, and interconnectedness in teacher education programs at the university level. Further studies could look at how university colleges of education currently promote or plan to promote these latent variables and what effect that has on the global-mindedness of pre-service teachers.

Finally, longitudinal studies that measure the global-mindedness of the same students their freshmen year and then again their senior year could provide a clearer picture of the effect that college has on the global-mindedness of an individual. In addition, a mixed-methods study that includes qualitative analysis could assist in further explaining the results of the study. Simply allowing participants the opportunity to answer one or two open ended questions would add a more personal dimension to the research.

APPENDICES

Appendix A: Demographic questionnaire

Q1 How old are you? (Please use whole numbers, for example: 18)

Q2 To which gender identity do you most identify?

- Female (1)
- Male (2)
- Transgender Female (3)
- Transgender Male (4)
- Gender-Variant/Non-Conforming (5)
- Not listed (6) _____
- Prefer Not to Answer (7)

Q3 Please select your class standing:

- Freshmen (1)
- Sophomore (2)
- Junior (3)
- Senior (4)

Q4 What is your primary major?

▼ Accounting Major (1) ... Undecided (114)
--

Q5 Select any college preparatory courses you completed.

Advanced Placement (AP). Course(s): (1)

International Baccalaureate. Please indicate - PYP, MPY, DP, CP, Certificate: (2)

GCE Advanced Level (A Level). Course(s): (3)

Other (4) _____

Q6 Have you studied abroad or participated in international service learning?

Yes. Length: (1) _____

Not yet, but I plan to in the future. (2)

No, and not planning on it. (4)

Q7 Are you registered at NMU as an international student?

Yes (1)

No (2)

Appendix B: Global-mindedness survey

Q8 Please read each statement and decide whether or not you agree with it. There are no "correct" answers.

	Strongly disagree (1)	Somewhat disagree (2)	Neither agree nor disagree (3)	Somewhat agree (4)	Strongly agree (5)
1. I generally find it stimulating to spend an evening talking with people from another culture. (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
2. I feel an obligation to speak out when I see our government doing something I consider wrong internationally. (2)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
3. The United States is enriched by the fact that it is comprised of many people from different cultures and countries. (3)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
4. Really, there is nothing I can do about the problems of the world. (4)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

5. The needs of the United States must continue to be our highest priority in negotiating with other countries. (5)

6. I often think about the kind of world we are creating for future generations. (6)

7. When I hear that thousands of people are starving in an African country, I feel very frustrated. (7)

8. Americans can learn something of value from all different cultures. (8)

9. Generally, an individual's actions are too small to have a significant effect on the global ecosystem. (9)

10. Americans should be permitted to pursue the standard of living they can afford if it only has a slight negative impact on the environment. (10)

11. I think of myself, not only as a citizen of my country but also as a citizen of the world. (11)

12. When I see the conditions some people in the world live under, I feel a responsibility to do something about it. (12)

13. I enjoy trying to understand people's behavior in the context of their culture. (13)

14. My opinions about national policies are based on how those policies might affect the rest of the world as well as the United States. (14)

15. It is very important to me to choose a career in which I can have a positive effect on the quality of life for future generations. (15)

16. American values are probably the best. (16)

17. In the long run, America will probably benefit from the fact that the world is becoming more interconnected. (17)

18. The fact that a flood can kill 50,000 people in Bangladesh is very depressing to me. (18)

19. It is important that American universities and colleges provide programs designed to promote understanding among students of different ethnic and cultural backgrounds. (19)

20. I think my behavior can impact people in other countries. (20)

21. The present distribution of the world's wealth and resources should be maintained because it promotes survival of the fittest. (21)

22. I feel a strong kinship with the worldwide human family. (22)

23. I feel very concerned about the lives of people who live in politically repressive regimes. (23)

24. It is important that we educate people to understand the impact that current policies might have on future generations. (24)

25. It is not really important to me to consider myself as a member of the global community. (25)

26. I sometimes try to imagine how a person who is always hungry must feel. (26)

27. I have very little in common with people in underdeveloped nations. (27)

28. I am able to affect what happens on a global level by what I do in my own community. (28)

29. I sometimes feel irritated with people from other countries because they don't understand how we do things. (29)

30. Americans have a moral obligation to share their wealth with the less fortunate peoples of the world. (30)

SCORING KEY: Reverse score items: 4, 5, 9, 10, 16, 21, 25, 27 and 29

SCORING: *Range of scores 30 – 150

*Sum all responses

*Higher scores indicate a higher level of global-mindedness

ITEMS REFLECTING THEORETICAL DIMENSIONS

RESPONSIBILITY: 2, 7, 12, 18, 23, 26, 30

CULTURAL PLURALISM: 1, 3, 8, 13, 14, 19, 24, 27

EFFICACY: 4, 9, 15, 20, 28

GLOBALCENTRISM: 5, 10, 16, 21, 29

INTERCONNECTEDNESS: 6, 11, 17, 22, 25

Appendix C: Social Responsibility in a Diverse World and World Culture questions

Q9 Please select any of the following Social Responsibility in a Diverse World (SOCR) courses that you have taken or are currently enrolled in.

- AN 100 Introduction to Socio-Cultural Anthropology (1)
- BC 415 Intercultural Communication (2)
- CHN 101 Elementary Chinese (3)
- EN 311 World Literature in English (4)
- EN 311Z World Literature in English (5)
- EN 314 Traditional Oral Literatures: Selected Native American Cultures (6)
- EN 316 Native American Novels and Poetry (7)
- EN 317 Native American Drama, Nonfiction, and Short Stories (8)
- EN 375 Diverse Traditions in American Literature (9)
- EN 375Z Diverse Traditions in American Literature (10)
- EN 378 Early African-American Literature (11)
- EN 379 Modern African-American Literature (12)

- EN 411 Topics in World Literature (13)
- EN 411Z Topics in World Literature (14)
- FR 101 Elementary French (15)
- GC 164 Human Geography (16)
- GC 300 Regional Studies: World Cultures (17)
- GN 100 Introduction to Gender and Sexuality Studies (18)
- GR 101 Elementary German (19)
- GR 201 Intermediate German (20)
- HL 322 International Health Issues (21)
- HL 386 Interdisciplinary Study in Global Health Care - Latin America (22)
- HON 301 World Cultures: A Humanities Perspective (23)
- HON 302 World Cultures: Social Sciences (24)
- HS 201 World History to 1520 (25)

- HS 202 World History since 1400 (26)
- HS 254 History of Africa (27)
- IP 190 Introduction to International Studies (28)
- LDR 300 Leadership in Diverse Workplaces (29)
- NAS 204 Native American Experience (30)
- NAS 212 Michigan and Wisconsin Tribal Relations (31)
- NU 386 Interdisciplinary Study in Global Healthcare - Latin America (32)
- PL 270 World Religions (33)
- PS 207 Ancient and Medieval Political Thought (34)
- PS 440 Race, Politics and Public Policy (35)
- RUS 101 Elementary Russian I (36)
- SN 101 Elementary Spanish I (37)
- SN 102 Elementary Spanish II (38)

- SN 201 Intermediate Spanish I (39)
- SO 322 Social Class, Power and Mobility (40)
- SO 372 Minority Groups (41)

Q10 Please select any of the following World Cultures (WC) University Requirement courses that you have taken or are currently enrolled in.

- AD 200 Native American Art and Architecture (1)
- AD 265 Art and Architecture of Japan (2)
- AD 300 Asian Influence in Modern Art (3)
- AN 210 Ecological Anthropology: People, Culture and Nature (5)
- AN 320 Native Peoples of North America (6)
- HN 362 Cultural Food Patterns (18)
- HS 130 Globalization and You (21)
- HS 233 Native American History (24)
- HS 251 Latin American History (25)

- HS 252 History of the Middle East since 600 (26)
- HS 362 History of Mexico (28)
- LG 317Z World Studies through Literature in Translation (29)
- MU 325 World Music (30)
- NAS 280 Storytelling by Native American Women (33)
- NAS 330 Native Cultures and the Dynamics of Religious Experience (34)
- NAS 342 Indigenous Environmental Movements (35)
- PS 321 Politics of Islamic Nations (38)
- PS 404 Politics of East and Southeast Asia (39)
- SN 312 Introduction to Spanish America (40)
- SN 314 Contemporary Latin American Culture (41)
- SO 353 Globalization and Asian Societies (42)
- SP 434 Environmental Communication in an International Context: Brazil (43)

Appendix D: Letter of request

From: Dallas Boggs

Sent: 12/8/17

To: Anthony Barnes

Subject: global mindedness scale

Dear Mr. Barnes, You has (sic) my full permission to use Jane Hett's global mindedness scale in any way you see fit. Best of luck with your studies. Dallas Boggs

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