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The Effect of A Founding International Baccalaureate Middle  
Years Programme on Participating Seventh Grade Students'  
Achievement, Behavior, Extra-Curricular Involvement, and  
Perceptions of Life Skills

by

Joan C. R. Wilson

A Dissertation

Presented to the Faculty of  
The Graduate College of the University of Nebraska  
In Partial Fulfillment of Requirements

For the Degree of Doctor of Education  
In Educational Administration

Omaha, Nebraska

September 2007

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## ABSTRACT

THE EFFECT OF A FOUNDING INTERNATIONAL BACCALAUREATE MIDDLE  
YEARS PROGRAMME ON PARTICIPATING SEVENTH GRADE STUDENTS'  
ACHIEVEMENT, BEHAVIOR, EXTRA-CURRICULAR INVOLVEMENT, AND  
PERCEPTIONS OF LIFE SKILLS

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Advisor: Dr. John W. Hill

The purpose of this study was to determine the effect of a founding International Baccalaureate Middle Years Programme (IBMYP) on participating 7th-grade students' achievement, behavior, extra-curricular involvement, and perceptions of life skills compared to 7th-grade students completing the same school's standard of care traditional academic program (TAP). The study analyzed data of IBMYP and TAP students to determine if the IBMYP has significantly impacted student outcomes. Following two consecutive years of program participation IBMYP students ( $n = 30$ ) demonstrated a significant pretest-posttest improvement on norm-referenced achievement test math scores but their measured language and reading achievement test scores remained consistent over this same time period. TAP students ( $n = 30$ ) demonstrated no significant math, language, and reading pretest-posttest gain on norm-referenced achievement tests.

IBMYP students' math, language, and reading norm-referenced achievement test scores were statistically significantly greater than their TAP peers on all Posttest-Posttest comparisons. On locally developed criterion-referenced tests, both groups showed significant pretest-posttest gains in math, and the IBMYP students also showed significant gains in reading. In posttest-posttest comparisons, IBMYP students' scores were statistically significantly greater on each of the test comparisons. There were no significant differences between the groups in student absence, or in self-perceptions of student life skills, but there was a significantly higher amount of extra-curricular involvement among IBMYP students. In light of the study results, local policy makers should consider expansion of the program.

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Next, I am so appreciative of my family. My parents who instilled a belief that I should always follow my dreams, siblings who became my long-distance cheerleaders,

my four sons, and their families, who never even once thought this adventure was ill-fated or unnecessary.

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## CHAPTER ONE

### Introduction

The public school system is based on a model that has been used for years. It has prepared students for a 1960's world instead of today's world. Friedman (2005) tells us that the world is becoming flatter, smaller, and more inter-connected. He discusses the international aspects of nearly all businesses, and the forces that have "flattened" the business world. There are ten flatteners: the fall of the Berlin wall, Netscape becoming publicly traded, work flow software, open-sourcing, outsourcing, offshoring, supply-chaining, United Parcel Service's insourcing, web search software, and digital, mobile, personal, and virtual technology. The business world continues to become more and more competitive, while the activities within the organizations must become increasingly collaborative, despite often vast differences in culture and background of the workers. In order to accomplish increased collaboration despite great diversity, there must be a greater understanding of global cultures and events (Bales, 2004; Nordgren, 2002; Sanders & Stewart, 2004; Jackson, 2004).

Because of the rapid increase in communication methods, such as the internet many people now routinely work with others from all parts of the world on a nearly

daily basis (Scherer, 2005). Globalization is more important now because of mobility of people, cultures, capital and production, and distribution and consumption of goods (Suarez-Orozco, 2005). Engler and Hunt (2004) tell us that we not only need to be prepared for a global marketplace, we need to have a global education for students because the events on the other side of the world affect us every day. The need to understand other cultures is evident just by the abundance of cultures seen every day in our neighborhoods and our schools. However, teachers may not be sufficiently prepared to close the national-international knowledge gap at a time when students need at least a basic knowledge of cultures and people throughout the world. One of the areas the U.S lags behind others is the lack of instruction to fluency levels in world languages, particularly Asian languages (Sanders & Stewart, 2004). Examples of this deficit include the lack of knowledge of current events and geography by United States students (Sanders & Stewart, 2004).

The reasons for providing an increase in basic knowledge of international cultures and events include a strengthened global workforce, prepared business leaders, effective global communication, and connected youth from



all over the world (Sanders & Stewart, 2004; Stewart, 2005; Stewart & Kagan, 2005).

Kagan and Stewart (2004a) express concern over the lack of a well-conceived global education in the U.S., saying the United States lacks interest in improving global education, which is a greater problem since other nations have seen the importance and are providing this education for students in their schools. Part of the reason for the slow movement to include a global education in our schools is due to the ambiguous nature of the term international education within a multicultural context (Cambridge & Thompson, 2004). *Student Participation in Global Education*

Early attempts to prepare students for globalization began with students' introduction to multi-cultural education. The purpose of multi-cultural education is to help students gain knowledge, skills, and attitudes each of them will need in the future in the work place, and their communities (Clauss, 2006). Because students age 10 to 15 are developing their sense of self, establishing friendships, and forming opinions of others, this is thought to be the ideal time for presenting multi-cultural learning activities to students (Clauss, 2006). However, current multi-cultural education is giving way to international knowledge and skills that also address change

in the 21st century (Engler & Hunt, 2004). *Implementing International Education*

The move toward internationalizing education in United States schools falls short for many reasons including a lack of United States students' knowledge about the rest of the world, inadequate teacher education requirements, little coursework regarding internationalism, and language instruction which does not reflect languages used throughout the world (Sanders & Stewart, 2004). United States students are uninformed regarding international matters. For example, in a recent research sample, one-fourth of a group of college bound students did not know it is the Pacific Ocean which separates the United States from Asia, and four-fifths of the students did not know that India is the world's largest democracy (Sanders & Stewart, 2004). Of further concern are undergraduate teacher training preparation programs that are not asking teachers to sufficiently learn about the world. For example, only a handful of the top 50 U.S. colleges require students preparing to be history teachers to take courses in non-western history (Sanders & Stewart, 2004). While most U.S. students who take a language other than English take French or Spanish, fewer than 40,000 take Chinese, which is spoken

by nearly 1.3 billion people worldwide (Sanders & Stewart, 2004).

In 1994 the International Baccalaureate Organization (IBO) set out to develop a curriculum for students in grades 6 through 10 that would encourage international awareness and give students skills, attitudes, and knowledge they need to participate in a global society. This program developed by the IBO for the middle schools is called the International Baccalaureate Middle Years Programme (IBMYP). The three basic concepts for IBMYP are intercultural awareness, a holistic education, and communication. Furthermore, IBMYP includes a requirement of a sustained and continuous instruction in a modern world language (International Baccalaureate Organization, 2004b).

Although the curriculum in the IBMYP is not prescribed, IBMYP schools must show evidence of an international focus through unit plans, interdisciplinary units, and assessment. The internationalism must be evident in the materials turned in periodically to IBO, as well as during the on site visits required to become and remain an authorized school. Student activities must go beyond the traditional flags, festivals, fashion and food and be evident in every classroom in all eight subjects of the program including Language A (the students' main language),

Language B (a modern world language), Humanities, Mathematics, Science, Technology, Physical Education, and the Arts. One of the main purposes of the IBMYP is to help students to gain an international perspective so they are more knowledgeable about people throughout the world and their cultures and experiences (IBO, 2002c). The focus of all of IBO's programs is reflected in their Mission Statement (IBO, 2004b) that reads in part:

The International Baccalaureate Organization aims to develop inquiring, knowledgeable and caring young people who help to create a better and more peaceful world through intercultural understanding and respect. To this end the IBO works with schools, governments and international organizations to develop challenging programmes of international education and rigorous assessment. These programmes encourage students across the world to become active, compassionate and lifelong learners who understand that other people, with their differences, can also be right. (p. 3)

Given the strife and warfare in the world today, an education that helps all individuals cooperate and learn to achieve common goals is more important than ever. The need to address global education is so apparent that Phi Delta

Kappa, the nation's leading professional education organization, is sponsoring a Global Education Summit in October 2007 in Vancouver British Columbia. The goal of the Phi Delta Kappa Summit is to provide educators an opportunity to think and talk about the important education issues that will shape the future of our planet. Questions to be addressed at the Summit include: What are the most pressing challenges facing education as a result of globalization, and what are the nations of the world doing to respond to these challenges? How will educators prepare students to be global citizens and competent leaders? What is the role of the university in preparing teachers to teach in a global society? How will schools use the vast array of information technology to assist students in gaining global understanding?

*Purpose of the Study*

The purpose of this study was to determine the effect of a founding International Baccalaureate Middle Years Programme (IBMYP; "Programme" French spelling) on participating 7th-grade students' achievement, behavior, extra-curricular involvement, and perceptions of life skills compared to 7th-grade students completing the same school's standard of care traditional academic program (TAP). The study analyzed data of IBMYP and TAP students to

determine if the IBMYP has significantly impacted student outcomes.

### *Research Questions*

The following research questions were used to analyze student participation in IBMYP and TAP measuring norm-referenced achievement outcomes.

#### Overarching Pretest-Posttest Achievement Research

Question #1: Did students who participated in the IBMYP and the TAP lose, maintain, or improve their 6th-grade Terra Nova NCE scores compared to their 7th-grade Terra Nova NCE scores for (a) math total, (b) language total, and (c) reading total subtests?

Sub-Question 1a. Was there a significant difference between students' ending 6th-grade compared to ending 7th-grade Terra Nova NCE scores for (a) math total, (b) language total, and (c) reading total scores after completing the IBMYP?

Sub-Question 1b. Was there a significant difference between students' ending 6th-grade compared to ending 7th-grade Terra Nova NCE scores for (a) math total, (b) language total, and (c) reading total scores after completing the TAP?

#### Overarching Posttest-Posttest Achievement Research

Question #2: Did students who participated in the IBMYP and

the TAP have congruent or different ending 7th-grade Terra Nova NCE scores for (a) math total, (b) language total, and (c) reading total subtests?

Sub-Question 2a. Was there a significant difference between IBMYP students ending 7th-grade Terra Nova NCE achievement scores for (a) math total, (b) language total, and (c) reading total compared to TAP students ending 7th-grade Terra Nova NCE achievement scores for (a) math total, (b) language total, and (c) reading total?

The following research questions were used to analyze student participation in IBMYP and TAP measuring criterion-referenced achievement outcomes.

#### Overarching Pretest-Posttest Achievement Research

Question #3: Did students who participated in the IBMYP and the TAP lose, maintain, or improve their 6th-grade Essential Learner Outcome (ELO) scores compared to their 7th-grade ELO scores for (a) math and (b) reading?

Sub-Question 3a. Was there a significant difference between students' ending 6th-grade compared to ending 7th-grade ELO scores for (a) math and (b) reading after completing IBMYP?

Sub-Question 3b. Was there a significant difference between students' ending 6th-grade compared to

ending 7th-grade ELO scores for (a) math and (b) reading after completing a TAP?

Overarching Posttest-Posttest Research Achievement

Question #4: Did students who participated in the IBMYP and the TAP have congruent or different ending 7th-grade Essential Learner Outcome (ELO) scores for (a) math and (b) reading?

Sub-Question 4a. Was there a significant difference between IBMYP students ending 7th-grade ELO scores for (a) math, and (b) reading compared to TAP students ending 7th-grade ELO scores for (a) math, and (b) reading?

The following research questions were used to analyze student participation in IBMYP and TAP measuring attendance outcomes.

Overarching Posttest-Posttest Behavior Research

Question #5: Did students who participate in the TAP and the IBMYP have congruent or different ending 7th-grade compared to ending 7th-grade absence totals using data from the Infinite Campus Student Information Program (ICSIP)?

Sub-Question 5a. Was there a significant difference between IBMYP students' ending 7th-grade absence totals compared to TAP students' ending 7th-grade absence totals?



The following research questions were used to analyze student participation in IBMYP and TAP measuring extra-curricular participation.

Overarching Posttest-Posttest Extra-Curricular Participation Research Question #6. Was there a significant difference between IBMYP and TAP students' ending 7th-grade self-reported participation in (a) clubs, (b) sports, and (c) drama and sports?

Sub-Question 6a. Was there a significant difference between IBMYP students' ending 7th-grade self-reported participation in (a) clubs, (b) sports, and (c) drama and sports compared to TAP students' ending 7th-grade self-reported participation in (a) clubs, (b) sports, and (c) drama and sports?

The following research questions were used to analyze self reported life skills achievement in IBMYP and TAP.

Overarching Pretest-Posttest Life Skills Perception Research Question #7: Did students who participated in the IBMYP and the TAP lose, maintain, or improve their self-reported life skill perceptions?

Sub-Question 7a. Was there a significant difference between students' ending 6th-grade compared to ending 7th-grade self-reported life skill scores after completing the IBMYP?

Sub-Question 7b. Was there a significant difference between students' ending 6th-grade compared to ending 7th-grade self-reported life skill scores after completing the TAP?

Overarching Posttest-Posttest Life Skills Perception Research Question #8: Did students who participated in the IBMYP and the TAP have congruent or different ending 7th-grade self-reported life skills perception scores?

Sub-Question 8a. Was there a significant difference between IBMYP students ending 7th-grade self-reported life skill scores compared to TAP students ending 7th-grade self-reported life skill scores?

#### *Assumptions*

The study had several strong features. Teachers participating in the IBMYP volunteered for this teaching assignment. Teachers participating in IBMYP also received a minimum of 2 official four-day training sessions by IBMYP practitioners and in some cases a maximum of four, four-day training sessions. Teachers in IBMYP also received ongoing support from building and district administrators. Teachers in both the IBMYP and TAP are experienced teachers having from six to over thirty years of teaching experience. It is assumed that all students responded to the Life Skills Self Assessment in an accurate and reflective manner. Students

enrolled in IBMYP self-selected (with parental input) into the program, without additional entrance requirements. As an administrator at this school, the researcher has ethical access to the study interventions, student outcome data, and IBMYP training sessions. The research school was recently notified, in March 2007, that it had received official authorization as an International Baccalaureate World School. This designation followed implementation of IBMYP strategies for one and a half years, an authorization visit by IBMYP practitioners, and submission of required documents including unit plans, lesson designs, and training programs to the sanctioning body.

TAP is an exemplary program. The American College Test (ACT) scores in the research district are consistently above metro, state, and national averages. In 2006, the school district's average ACT score was 23.1 compared to 21.9 (state) and 21.1 (nation). On the Terra Nova Achievement Test, students scored above the 70th national percentile on almost all subjects. On the State Report Card, the research district's students performed at exemplary levels and far exceeded the state's average scores. Thirteen of the district's schools have achieved Blue Ribbon status from the U.S. Department of Education, including the research school. The American Library

Association calls the district's school libraries "among the best in the nation" and the American Music Conference has named the district as having one of the 100 best music programs in the nation. The district is one of three districts profiled in the book, *Leading Change, the Case for Continuous Improvement*, published by the National School Boards Association and cited by the Millard Public Schools Foundation in their report, *Extraordinary Education is Not the Result of Ordinary Efforts* (2006). The district has high stakes testing, which all students must pass to graduate. Since implementing the high stakes testing in 2004, all students have met the high academic standards required to graduate. One-third of the graduating seniors in the district receive scholarship offers. Ninety-four percent of the parents in the district annually rate the schools with an A or B. (Millard Public Schools, 2006).

#### *Delimitations of the study*

This study was delimited to the 7th-grade students of a suburban school district who were in attendance from the fall of 2005 through the spring of 2007. All 6th-grade, 7th-grade, and 8th-grade students were required to take Essential Learner Outcomes (ELOs) in math and reading in the spring of the school year. All 6th-grade and 7th-grade students were required to take Terra Nova tests during

second semester. All 6th-grade, 7th-grade, and 8th-grade students were required to complete the Life Skills Self Assessment each year. Data on attendance was collected routinely and uniformly throughout the school year.

#### *Limitations of the Study*

The sample for this exploratory study was confined to one 7th-grade class of students participating in IBMYP and TAP programs at one middle school. Criterion referenced tests were developed by and utilized only in the research school district. The Life Skills Self Assessments has not been norm referenced for use outside of the research school district.

#### *Definitions of Terms*

*Cut score.* Cut score is defined as the proficiency level that insures that students scoring at or above this level clearly demonstrate they have met the prescribed standards measured by the assessments in math and reading. Buros Institute has completed studies in research district to ensure that achieved cut scores are reliable and valid. Buros Institute faculty participates in norming new tests (Buckendahl & Foley, 2007).

*Essential Learner Outcome (ELO) examinations.* ELO examinations are district developed criterion-referenced tests. District personnel, working with the Buros

Institute, determine a cut score along with scores for proficiency levels using staff members and the Buros Institute. Results of the ELOs are used in state reporting for student achievement. Although students who do not meet the specified cut score retake ELOs, the data used in this study was from initial testing only.

*International Baccalaureate Learner Profile (IBLP).*

The IBLP includes the attributes the IBO has identified as being desirable in attempting to develop internationally minded people who are guardians of the planet and seek to create a better and more peaceful world (IBO, 2006). The IBLP includes the following characteristics: inquirer, knowledgeable, thinker, communicator, principled, open-minded, caring, risk-taker, balanced, and reflective.

*International Baccalaureate Middle Years Program*

*(IBMYP).* The International Baccalaureate Organization began as a way to allow students in international schools to qualify for universities throughout the world. The first program developed was the Diploma Programme, for grades eleven and twelve in 1968. By 1992 there was a recognized need for programs in earlier grades to prepare students for the Diploma Programme. The International Baccalaureate Middle Years Programme (IBMYP) began in 1996 as a response to this need. Although the curriculum is not prescribed,

all eight of the curricular areas must be in place for IBMYP students. These curricular areas are Language A (the student's best language), Language B (a modern world language), Mathematics, Science, Humanities, Physical Education, Technology, and the Arts. Distinguishing areas of the IBMYP include use of the five areas of interaction, a focus on internationalism, an interdisciplinary approach to teaching, and use of higher level thinking skills in formative and summative assessments. In order to qualify as an IBMYP school participating teachers must be trained in IBMYP strategies and evaluated by the IB Organization (IBO, 2002a).

*Life skills.* Life skills are the 16 skills that are considered essential for helping students to be ready for work, for life-long learning, and for citizenship. These skills are managing time, following directions, solving problems, working with others, good working habits, responsibility, setting goals, organizing and evaluating information, integrity, self-discipline, a positive attitude, perseverance, participating in community, respecting diversity in others, respecting rights of others, and treating others in a respectful manner. Students are given instruction in these attributes and the

Life Skill Self Assessment (LSSA; Millard Public Schools, 2007) is administered at the end of the instruction.

*Life Skills Self Assessment (LSSA)*. The LSSA is a set of 16 statements the student is asked to reflect upon. The statements ask the student for each of the life skills if they are beginning, progressing, or proficient in each skill domain area. The standardized questionnaire has been norm referenced for use in the research school district.

*Math Essential Learner Outcome Test*. ELO mathematics examinations are district developed criterion-referenced tests for mathematics. The Math ELOs are given in April of each school year from grades three through eight. The tests used in this study were the sixth-grade and seventh-grade tests. The sixth-grade levels of proficiency were as follows: Students scoring between zero and 36 correct answers were given a proficiency level of below proficient. Students scoring between 37 and 44 correct were given a proficiency level of barely proficient. Students scoring between 45 and 50 correct were given a proficiency level of proficient. Students scoring between 51 and 69 correct were given a proficiency level of beyond proficient. Seventh grade levels of proficiency were as follows: Students scoring between zero and 36 correct answers were given a proficiency level of below proficient. Students scoring



between 37 and 44 correct were given a proficiency level of barely proficient. Students scoring between 45 and 50 correct were given a proficiency level of proficient. Students scoring between 51 and 69 correct were given a proficiency level of beyond proficient.

*Normal Curve Equivalent (NCE).* Normal curve equivalent scores are standard scores with a mean equal to 50 and a standard deviation equal to 21.06. Although the standard deviation may appear a bit strange, this scale divides the normal curve into 100 equal intervals (Salvia & Ysseldyke, 2004).

*Proficiency.* Proficiency is defined as the designated quality of work a student must produce to demonstrate mastery of a particular standard. Proficiency levels were determined by school district personnel in conjunction with Buross Institute representatives.

*Reading Essential Learner Outcome Test.* ELO reading examinations are district developed criterion-referenced tests. The Reading ELOs are given in April of each school year from grades three through eight. The tests used in this study were the sixth-grade and seventh-grade tests. The sixth-grade levels of proficiency were as follows: Students scoring between zero and 37 correct answers were given a proficiency level of below proficient. Students

scoring between 38 and 43 correct were given a proficiency level of barely proficient. Students scoring between 44 and 53 correct were given a proficiency level of proficient. Students scoring between 54 and 59 correct were given a proficiency level of beyond proficient. Seventh grade levels of proficiency were as follows: Students scoring between zero and 36 correct answers were given a proficiency level of below proficient. Students scoring between 37 and 44 correct were given a proficiency level of barely proficient. Students scoring between 45 and 50 correct were given a proficiency level of proficient. Students scoring between 51 and 69 correct were given a proficiency level of beyond proficient.

*Terra Nova (TN) Achievement Tests.* The TN is defined as a norm-referenced and criterion-referenced test of information, skills, and concepts. The TN includes a selected response portion, along with free-response items (Cizek, Johnson, & Mazzie, D, 2004). The TN is administered to all 6th-grade students and 7th-grade students in the district.

*Traditional Academic Program (TAP).* The traditional academic program is an academic program for students in grades six through ten. Students take courses in math, science, English, reading, world language, social studies,

physical education, and exploratory classes such as health, music, industrial technology, computer applications, family and consumer science, and art. Students may also select band, orchestra, and chorus. There is no performance requirement for TAP, but students in band, orchestra, or chorus will also participate in one or more performances. Starting with eighth grade students are allowed to select electives from the courses that were exploratory classes in sixth and seventh grades. TAP students do not have any minimum requirements in exploratory classes. For this study, TAP students were randomly selected from the traditional students who have been TAP students in the research school since 6th grade.

#### *Significance of the Study*

This study has the potential to contribute to research, practice, and policy. It is of significant interest because of the unique nature of the IBMYP and the role students of this program might play in a challenging future. By understanding the results of this study parents, teachers, and district personnel will be able to decide what role this unique program should play in the expansion of learning options for future students.

*Contribution to research.* There is little research to date regarding the achievement of students in IBMYP. The

results of this study may inform theoretical literature on the effectiveness of international teaching strategies within the program.

*Contribution to practice.* Based on the outcomes of this study, the district may decide whether to expand the IBMYP program to other middle schools within the district.

*Contribution to policy.* Local level policy will be impacted by this study. If results show a positive impact on student achievement, behavior, and perceived life skills, a discussion should be generated to consider expansion of the program to other middle schools.

*Organization of the Study.*

The literature review relevant to this study is presented in Chapter 2. Chapter 3 describes the research design, methodology, and procedures used to gather and analyze the data of the study. Chapter 4 will report the research results, and Chapter 5 will provide conclusions and a discussion of the research findings.

## CHAPTER TWO

### Review of the Literature

The three basic concepts the IBMYP is founded on are intercultural awareness, a holistic education, and communication. Students must be taught to respect and understand people of all races, cultures, classes, ages and abilities. Communication and interactions is key to this learning.

#### *Intercultural Awareness*

Intercultural awareness is concerned with developing students' attitudes, knowledge, and skills about their own cultures and cultures around the world. Intercultural awareness helps students to foster tolerance and respect, build empathy and understanding, and accept the rights of others, even if their beliefs are different (IBO, 2002a). It is important for students to recognize their own beliefs and values as well as to accommodate the beliefs and values of others, in order to appreciate the similarities and differences of both sets of values and beliefs (Hare, 2006).

Students who are exposed to other cultures and values, it is thought, will have a more global perspective, sensitivity to others, and more tolerance to differences. Exposure to other cultures allows students to also listen

to views of others and show empathy through their actions. In order to avoid being judgmental, consider issues not personalities, and defend the rights of others to express differing views, students must have a more intercultural awareness in their education (Hare, 2006).

Global awareness promotes understanding and acceptance of the diversity found throughout the world in society's ethnic, cultural, and religious differences. Understanding the interdependence of cultures from all parts of the world is an important role of our schools today. In order for students to compete in an interconnected world, schools must change their curricula to include a greater emphasis on internationalism (Bales, 2004; Engler & Hunt, 2004; Jackson, 2004). A combination of international content and state standards will enrich curricula (Sanders & Stewart, 2004).

#### *Going Beyond Current Multiculturalism*

Human Relations training for teachers began several years ago. Multiculturalism came out of the Human Relations movement. Human Relations education helps students to understand their own culture and background in order to help them better understand the cultures and backgrounds of others. Most schools have Black History Month and Martin Luther King celebrations, and acknowledge Cinco de Mayo

each year as part of their plan for increased multiculturalism. Although this is a start, schools need to go beyond this in order to prepare students for the world they will face as adults. Multiculturalism is more than a few isolated celebrations. Multiculturalism is educating students to have the knowledge, skills, and attitudes they will need as adults, in the workplace, and in life (Banks, 2003). Multicultural education goes beyond acknowledging diversity, to valuing diversity. Multiculturalism is about respecting the earth, and all of its people and their rights. The knowledge required for multiculturalism is combined with perception and behavior regarding multiple perspectives (Clauss, 2006).

The curricular practice of multiculturalism, human rights, and equal opportunities frequently does not match rhetoric. The fact that curriculum is often ethnocentric adds to the problem (Sears & Hughes, 1996). Ethnocentrism is the practice of viewing all events through a singular perspective. Teachers must consider the diversity of their students. Considerations for students from a variety of cultures, races, ethnic backgrounds, and languages must always be taken into account (Berns & Erickson, 2001). Multiculturalism has addressed ways to connect individuals with various cultures and identities (Torres, 1998).

Students need a balance between awareness and understanding of a variety of cultures in a world that is metaphorically shrinking as communication is enhanced globally. Students must be equipped to communicate across political boundaries, and work with people from a variety of cultures (Jackson, 2004).

#### *Assimilation and Accommodation*

Americans are moving away from assimilation of cultures, that is, expecting people of other cultures to give up their cultures and beliefs and take on the culture and beliefs of the host society. In today's world, the move is toward more accommodation of cultural diversity, expecting that groups maintain their cultural heritage while living in the macroculture. Young (1998) states that cultural diversity must be respected and accepted in order to find a balance between cultures. Most schools and communities have a growing ethnic, cultural, racial, and language diversity that make the need for educational reform immediate. Students need to have a balance between cultural and global identification. In the past, the United States has maintained a more assimilationist view, expecting all students to fit into a common conception of what a good citizen should be. This forced some to lose their cultural, language and ethnic identities.



Participation in a shared culture should not mean losing attachments to ancestral cultures (Banks, 2003).

Multicultural literacy like accommodation is considered to be one of the hallmarks of successful schools. Students must accept past and current world events through multiple perspectives. Students must be fluent in not only their own culture but in other cultures as well. Emersion in another language is an important part of not only becoming fluent in another language, but also in other cultures (Bassett, 2005).

Cultural diversity is a byproduct of the globalization currently happening throughout the United States and the world. There are a multitude of tasks related to bringing multiculturalism to our educational system. Recently, the connections between multiculturalism and citizenship have been explored (Torres, 1998).

There is a relationship between culture and citizenship. It is important to determine if the culture that led to public policy is still reflective of the current citizens. With the demographics of many regions changing rapidly with immigration, the prevailing cultures of any given geographic area are changing as well. In order to accommodate diverse learners school programs must include learning about world political and economic

systems, cross-cultural communication skills, active citizenship, and empathy for others. These skills cannot be taught in isolation. Teachers and school officials must model involvement and curiosity in the community (Bacon, 2003).

### *Globalization*

Globalization changes how we experience national and cultural identity. Majority culture children will benefit from understanding cultures throughout the world (Stewart & Kagan, 2005). Globalization creates new challenges for educators. The skills we know and need at this time may not always be adequate in the future. Current students face a world where functioning in the workplace and society will demand knowledge of other cultures and languages as critical parts of their skill set (Stewart & Kagan, 2005). The construct of global citizenship understands that citizens need and have the right to maintain commitments to their cultural and national backgrounds. Students need a balance of cultural, national, and global identifications (Banks, 2004).

### *Middle School Aged Students*

Middle school age children are the appropriate age to develop the attitudes and beliefs necessary to function as global citizens. It is during this time of their lives that

children develop their sense of self and their own cultural identity. The social circle of the middle school student begins to grow beyond the family (Clauss, 2006). It is important for teachers to help students understand the cultural knowledge they possess. Students should be asked to explore similarities and differences between cultures. Teachers also need to understand their own assumptions and values regarding different cultures, races, classes, and genders. School curricula should be perceived by students of all cultures to be in the broad public interest (Banks, 1998).

Students should be taught to be multi-culturally and globally literate. The ability to look at world events and knowledge from diverse cultural and ethnic perspectives and to help to create a more humane and just world is the basis of multicultural literacy. Positive attitudes towards others who are different in culture, race, or ethnicity require knowledge, skills, and attitudes to function in other cultures (Banks, 2004).

It is imperative that students have a strong multicultural background in order to embrace cultures different than their own. This embracing of other cultures will be necessary to participate as a global citizen in a global economy. Issues including human rights, citizenship,

and the environment may not be components of the traditional multicultural curriculum (Banks, 2004). Even though these issues are not adequately taught in our schools, students are aware of them. Students should explore and study issues such as human rights, citizenship, and the environment as a normal part of the curriculum (Andrzejewski & Alessio, 1999). Education should empower students and give them hope. Using knowledge in science and technology to find ways, for example, to wisely use the earth's resources and evaluate the impact of human projects on humans around the world are active and positive skills to learn (Andrzejewski & Alessio, 1999).

#### *Educating for Global Citizenship*

Citizenship education has always been an obligation of the public schools. Skills that help students to become decision-makers and participants in society are emphasized in citizenship education. These skills include understanding and managing change, and understanding the diversity that is a part of our history. This must include practices that promote gender equity and positive multicultural and race relations. This extends beyond the community to include global elements (Sears & Hughes, 1996). The skills that have been the cornerstone of American citizenship education in the past have been

voting, being lawful, paying taxes, respecting the flag, and saying the Pledge of Allegiance. Education has rarely challenged the current paradigms of the dominant group or wealthy elite (Andrzejewski & Alessio, 1999).

Global education should have goals of helping students understand the interdependence among nations of the world, developing and clarifying attitudes toward other nations of the world, and forming a reflective identification with the larger community of the world. Students must not be limited to constructs that emphasize blind nationalism or it will prevent them from becoming reflective or having positive global identifications. (Banks, 2003).

Global citizenship should contain these three components: understanding responsibility to others, understanding ethical behavior, and knowledge and skills for responsible citizenship. Responsibility to others includes examining democracy and citizenship from various viewpoints, the rights and obligations toward one's community and the world, reflection of a student's life in relation to the world, and responsibility to the environment. Ethical behavior components include understanding laws, human rights and legal issues, civic responsibilities for specific careers, comparing stated policies to cultural values, and understanding personal and

professional decisions and their effect on the environment. Responsible citizenship includes locating and evaluating information from a variety of sources, problem solving, citizenship skills such as letter writing to express an informed opinion, and lobbying, and skills in participatory democracy (Andrzejewski & Alessio, 1999).

The increasing diversity in schools and work places across the country makes it imperative that we educate all citizens to know about a variety of cultures. American citizens will need to understand and vote on complex issues requiring international knowledge. The political and humanitarian issues can be solved by well informed citizens throughout the world. The line between domestic and international is blurring (Kagan & Stewart, 2004a). The number of nations in the world is increasing and is approaching 200 today. Because of this increasing number of nations, we as educators are called upon to rethink our citizenship education classes and programs (Banks, 2004). The demographic movements we see in our society are reflected in our schools. International cooperation across a wider range of occupations is necessary to address changing opportunities and changing threats to security (Stewart, 2005).

International education should lead students to become contributing citizens, productive workers, and competent leaders for an interconnected world. This education should include knowledge of global regions, issues and cultures, skills in communicating in more than one language, as well as respect and concern for others in different cultures (Kagan & Stewart, 2004b).

Global citizenship is a combination of other citizenships: political citizenship, economic citizenship, environmental citizenship, and cultural citizenship. To become an educated global citizen, it is thought that one must possess knowledge about world politics and world economics, critical thinking skills, and empathy and cross-cultural communication skills (Bacon, 2003).

The deepening racial, ethnic, cultural, language, and religious diversity throughout the world make transforming citizenship education in the 21st century imperative. Citizens need to participate in the shared culture as well as maintaining attachments to their own culture and community. Educating for citizenship should include students' development of thoughtful identifications with their culture and nation-states. Students should develop a deep understanding of their role in the world community (Banks, 2004).

Educators must move beyond just history and legal considerations when designing citizenship programs. They must also consider the political, economical, and historical structure of citizenship (Torres, 1998). The need for new concepts of citizenship education is caused in part by the growing influx of immigrants and the deepening ethnic texture of a large variety of nations throughout the world. There continues to be racism and discrimination as well as a wide gap between the rich and the poor in many nations. It is important to transform the civic culture to reflect and give voice to the many and diverse ethnic, racial, and religious communities (Banks, 2003). Our educational system must evolve (Bassett, 2005).

#### *Holistic Education*

The International Baccalaureate Organization (IBO) defines holistic learning as the discovery of relationships between areas of knowledge, individuals, communities, and the world. The IBYP structures allow for more interconnectedness between subject areas, and between the content students learn and the world. The use of the five common areas of interaction gives a common vocabulary as well as a common set of lenses through which learning occurs. IBO requires that IBYP teachers become concerned with the total experience of school for students. Team



planning across curricular areas, reflection by students and teachers on learning and activities, and looking at learning from the student point of view help to accomplish a more holistic approach to learning (IBO, 2002a).

A holistic education is a journey for both the educator and the student. Holistic education does not have a clear definition but several themes are evident in holistic education. These themes include interconnectedness with the world around us, a development of relationships with the world and its people, a sense of community, a sense of caring, developing personal goals, treating the environment with respect, and managing the personal growth and development of the whole person (Hare, 2006). An education for the new global era should include cognitive, behavioral, and relational engagement with the world. The aim must be to educate the whole child for the whole world (Suarez-Orozco, 2005). The term international education can be ambiguous. It has been used to indicate education focused on international-mindedness (Cambridge & Thompson, 2004). An international education emphasizes humanism, an interactive, bilingual environment, and teaching innovation. The things that stand out in an international school are interpersonal communication, team work, and creativity (Andrzejewski & Alessio, 1999). Students from

these schools will have an advantage in a global labor market (Phillips, 2002). An interdisciplinary approach makes learning more holistic. Schools must have a clear mission statement to prepare students for post secondary education, the workplace, and for living in a global society. There is currently a discrepancy between what is taught in America's high schools and what students will need to know and be able to do in tomorrow's job market (Jackson, 2004).

#### *Communication*

All forms of verbal and non-verbal communication become the method to achieve the aims of the IBMYP. An emphasis on language acquisition, including a cultural exploration, is a part of this communication requirement. Communication also helps to develop the student's understanding and appreciation of different modes of thinking and expression, including the arts, information, and communication technology (IBO, 2002b). It is important to have schools well connected with other schools, modeling the global village concept (Bacon, 2003). Educators need to make opportunities to collaborate with other schools on the leading edge of an international focus, to share their approaches in such areas as pedagogy and professional development. They must also make international knowledge

and skills a priority in domestic and international programs (Christian, Pufahl, & Rhodes, 2005; Sanders & Stewart, 2004).

Educational leaders and policy makers in the United States have focused on No Child Left Behind initiatives rather than on the importance of international education for today's students who must compete in a global economy. United States students have not had emphasis placed on learning languages other than English. This, along with a teacher shortage in the areas of world languages has allowed the learning of additional languages to matter less to Americans than to their counterparts in other parts of the world (Christian, et al., 2005).

#### *Innovative Efforts*

Countries around the world have introduced some innovative efforts. For example, Sweden, Finland, and Holland are increasingly emphasizing global education, language education, and geography education in their public school programs. Many European countries require that students begin a foreign language in elementary school. English is a second language in China and is taught beginning in third grade. Chinese teachers are encouraged to study abroad. Japan emphasizes intercultural exchanges and provide multicultural and human rights education.

Australia focuses on Asia and Asian languages in their schools (Stewart, 2005). Educators from other parts of the world stress the importance of a well-articulated framework for language instruction and acquisition. These countries treat multiple languages as core subjects (Christian, et al., 2005).

Teacher requirements in some parts of the world exceed those in the United States. In Morocco, for example, English teachers must not only complete a four-year degree, but must also study abroad for a year receiving additional training. Only a small number of elementary schools have a foreign language program in the U.S. although the number is increasing (Christian, et al., 2005).

#### *The Need for an International Education*

Many political leaders have expressed concern about the lack of preparation for students to succeed and thrive in a global economy. There needs to be a pipeline for world languages in our schools, and media and technology must be used to bring the world to students. All references to educational excellence must now include international skills and knowledge (Bales, 2004; Bassett, 2005; Engler & Hunt, 2004; Kagan & Stewart, 2004; Jackson, 2004).

Educational leaders are only beginning to confront the disparity between the expectations of the 21st century and

the practices and values of current schools. Students who are prepared for the 21st century economy will be proficient in literacy, numeracy, science, and technology. Students who will be tomorrow's leaders must be fluent in leadership and decision making, ethics, communication, cooperative teaming, and have a high commitment to high performance (Bassett, 2005).

*Educating for a Global Economy*

In order to become global citizens students need the attitudes, knowledge, and skills to function beyond their cultural and political borders. Diversity and unity will need to coexist in the future. Students will need a blend of cultural, national, and global identities (Banks, 2003). Global education will help students to become stewards of the environment as well as participants in government and industry with a sense of optimism and hope by learning about global problems and the strategies to solve them. Students will also feel comfortable working with a wide variety of people from diverse groups in diverse settings (Andrzejewski & Alessio, 1999). Friedman (2005) gives examples of a number of multi-national businesses, including companies as diverse as Wal Mart, United Parcel Service, PayPal, and Microsoft. Globalization of our economy is driving up the demand for a more internationally

competent workforce. The United States is moving from a manufacturing based economy to a service based economy. Trying to sell services to those in other countries will be unsuccessful if there is a language barrier. While many Europeans are learning English about one-fourth of the world's people report some degree of competence in speaking English (Met, 2004). World languages are necessary in business, as is knowledge of cultures around the world. The knowledge and skills that have been adequate for our work places is quickly become insufficient. At the forefront of new skills needed is internationalism (Kagan & Stewart, 2004b). As workplaces become more global, workers must keep pace. Requirements for employment for current students when they enter the workforce will include a vast knowledge of the world, the ability to work with others from a variety of backgrounds and cultures, and to have a fundamental understanding of more than one language. Languages cannot be taught in a vacuum. They must include the culture and lives of the people who speak that language. To focus on the past and ignore the realities of the day is inadequate and does not prepare students for our current world (Andrzejewski & Alessio, 1999).

Many large American companies are already competing to expand into a global market. They must first understand

their Asian customers and competitors since Asia is likely to have a large portion of potential customers. Knowledge of other cultures and languages will help our students succeed in the global marketplace. In an interconnected world understanding other regions is an essential cornerstone of democratic citizenship (Engler & Hunt, 2004). The globalization of our workplaces will require new knowledge and skills. Twenty-first century workers will need to work effectively with other languages and cultures, and be able to function in a cross-cultural atmosphere (Stewart & Kagan, 2005).

Because the marketplace continues to become more global, there is an increasing demand for our workforce to be internationally competent. More than 16% of our nation's current jobs are tied to international trade. Because future growth will continue to involve world markets, more and more jobs will require more international knowledge and skills (Engler & Hunt, 2004). Understanding other cultures and studying other countries will empower our students when they enter the work force (Engler & Hunt, 2004).

Education must prepare leaders in business, politics, and professional fields to be able to understand and address the international challenges and opportunities. Work force knowledge will need to include an understanding

of international regions, cultures, and issues (Sanders & Stewart, 2004). As more countries become a part of the global economy, competition increases for both businesses and jobs.

*International schools.* Some research indicates that international schools excel in producing students who are communicators, are creative, and can work well in teams. Students seen as having these skills with an international background will have a competitive advantage in the workforce, and be more sought after. International schools deliver the kinds of education which is appropriate for these economic realities. International schools supply the demand for students with internationally transferable skills such as gathering, manipulating, managing, and generating information (Phillips, 2002). Emphasis is placed on skills that are transferable instead of focusing on content. These include personal and learning skills. Personal skills include teaming, interpersonal skills, and self-awareness, where learning skills include thinking in a variety of ways which can be applied to new situations (Phillips, 2002).

Students must study other countries and their cultures to succeed in a global marketplace. This knowledge of other countries and cultures will help to open new markets, and



solve some of the global health and environmental problems, and help manage international conflicts (Engler & Hunt, 2004). The dramatic changes that have taken place in the economy, and the higher expectations of employers for new hires' educational background in global events, technology, and cultural diversity have not changed the American schools enough to help our students to compete globally. Schools need to prepare students for working and living in a global society (Jackson, 2004).

An interdependent economical world gives rise to a need for economic citizenship. This is a growing element to being a world citizen in the 21st century. To introduce economics as equal in importance to politics challenges the traditional relationship between citizenship and culture. Immigrants had in the past been forced to become Americans. Now immigrants are encouraged to retain their cultural identity. This helps our students to better understand cultures from all over the world (Bacon, 2003). The global economy is here to stay. American business is tied to the world economy through imports, exports, joint ventures, and investments. Currently two-thirds of the world's purchasing power and over 90% of the consumers live outside of the U.S. (Kagan & Stewart, 2005). As the economy becomes more global, there is an increase in Americans doing business in

foreign countries. In order to sell goods and services, it is imperative that the service provider and purchaser can communicate effectively (Met, 2004). As workplaces become more global, workers must keep pace. Requirements for employment for students when they enter the workforce will include a vast knowledge of the world, the ability to work with others from a variety of backgrounds and cultures, and to have a fundamental understanding of more than one language. Languages must be taught in a more integrated manner. They must include the culture and lives of the people who speak that language. To focus on the past and ignore the realities of the day is inadequate and does not prepare students for the future realities of the world they will be a part of (Andrzejewski & Alessio, 1999).

International schools are placed to deliver the kinds of programs to prepare students for new economic realities. These schools have, in fact, for years been delivering programs which fit the needs of a global economy. They bring a vision of peace and understanding along with a marketplace perspective to prepare students for the world outside. The curriculum is less important than the skills and methods used. Personal skills such as teamwork, problem solving, communication in more than one language, and critical thinking are taught. Students become information-

gatherers and are taught how to learn. These skills are adaptable to all new environments (Phillips, 2002).

*Educating for the Understanding of Global Events*

As little as thirty years ago, students did not have access to information of the world outside of the United States. Today, textbooks are quickly out of date with information changing and growing every year. The availability of the internet provides global students the chance to learn about lands they have never seen and connect to global learning communities. Technology allows students to not only learn about events and cultures of those in other countries, but to actually connect to some of the students to gain a deeper understanding of events and make the learning more meaningful (Roberts, 2004).

American students' knowledge of other countries, events, languages, and cultures has not kept pace with students from other parts of the world. With 24 hour a day newscasts, the internet, and the ability to read newspapers throughout the world, information is abundant. A lack of information is not the problem. What our students lack is knowledge about world cultures, religions, and languages (Kagan & Stewart, 2004).

Various studies have shown that U.S. students fall behind their counterparts in other parts of the world in

geography and current events. Students are particularly uninformed about events and cultures of Asia, where 60% of the world's people live (Sanders & Stewart, 2004). Global education must help students personalize the world and internalize connections to people living in other lands (Bacon, 2003).

Educators should teach their content in the context of civil and global life issues, and should concentrate on using the increasing amount of information available today and synthesizing it so that civic and global life issues are addressed. Today's students need a deep understanding of scientific principles and international affairs and stronger foreign language skills in order to be globally competent upon graduation.

*Reducing global misunderstanding.* In order to reduce global misunderstandings, an international education is vital to the world's long-term security (Kagan & Stewart, 2004). Events that occur half way across the world may have more impact on our lives than local decisions. In fact, the quest to open new markets, stop the spread of nuclear and biological weapons, solve environmental problems, health epidemics, and international conflicts requires a greater knowledge of other regions (Engler & Hunt, 2004). The ability to promote peace around the world, depends on many

factors, not the least of which is the ability to communicate with people in other parts of the world (Met, 2004). Young American adults fall behind their global counterparts in knowledge of global events and in geography. An international education not only builds respect and understanding between nations, it advances learning, promotes scholarship, and dispels myths (Wartella & Knell, 2004).

*Educating for peace.* Today's students are growing up in a time when nuclear weapons, the environment, and international conflict are intertwined at a global level. In order to nurture global consciousness students must be helped to develop conflict resolution skills, make decisions, and confront injustice. Schools must teach academics in a broader context to help students become global citizens (Carlsson-Paige & Lantieri, 2005). It may be difficult to teach global citizenship when war threatens. However, as much as peace is necessary for global citizenship, it appears that global citizenship may promote peace. Educating for global citizenship requires us to values all lives, cultures, and perspectives, not just those of our own nations. Discussion of historical peace movements and nonviolence can be found both in events and literature. Peace education should not be limited to

history class, but should be interdisciplinary (McIntosh, 2005).

Conflict resolution training can help students to understand multiple perspectives in a conflict. Students can see what part emotional responses play in a conflict. Students can learn to value different perspectives through listening and communication. Collaborative problem solving skills used in negotiating an end to conflict will help students address future conflicts (Smith & Fairman, 2005).

In order for students to be global citizens, they must first be active in their local communities. We must look beyond school for opportunities to develop global citizenship competencies. Students must be informed, be participatory in their communities, and be concerned for the civil rights of others to become competent and responsible citizens who are educated for peace (Ladson-Billings, 2005).

*Student achievement.* A program that is designed to give students international awareness, and prepare them for a global society could also provide achievement gains equal to or greater than their peers who are not in the program, but receiving the same curricular instruction. Because of the relative newness of the IBMYP program, the student achievement research available is limited. Magee (2005)

found that students who had participated in the IBMYP in 9th and 10th grades scored significantly higher in math and reading on ACT tests than their non-IBMYP peers. In addition, Remington (2000) found that 6th graders in the IBMYP group significantly outscored the non-IB 6th grade control group in mathematics on the CAT/5 test. Furthermore, the IBMYP group outscored their non-IB control group peers on the CAT/5 in language, social studies, and study skills although the difference was below the threshold of statistical significance.

*International Baccalaureate Learner Profile.* Both of the above studies were completed before the International Baccalaureate Learner Profile (IBLP) was developed and introduced into the IBMYP schools. The introduction of IBLP brings another dimension into the study. There is currently no research available regarding the infusion of the IBLP into an IBMYP program. While the IBLP is not character education, there are components of character education components within the profile. In a study on character education by Benninga, Berkowitz, Kuehn, and Smith (2006) the addition of character education made a positive difference in academic achievement across curricular areas and over time.

*International Baccalaureate Middle Years Programme (IBMYP)*

The International Baccalaureate Organization began as a way to allow students in international schools to qualify for universities throughout the world. The first program developed was the Diploma Programme (DP), for grades eleven and twelve in 1968. By 1992 there was a recognized need for programs in earlier grades to prepare them for the DP. The IBMYP began in 1996 as a response to this need.

Although the curriculum is not prescribed, all eight of the curricular areas must be in place for IBMYP students. Distinguishing areas of the IBMYP include use of the five areas of interaction, a focus on internationalism, an interdisciplinary approach to teaching, and use of higher level thinking skills in formative and summative assessments. Teachers must be trained in IBMYP strategies, and the IB Organization must authorize IBMYP schools.

The eight instructional areas are, (a) Language A (English and Reading), (b) Language B (a modern world language), (c) Math, (d) Science, (e) Humanities (geography and history), (f) Physical Education, (g) the arts (visual, dramatic, and music), and (h) technology. The areas of interaction are lenses through which instruction occurs. The areas of interactions are Approaches to Learning (the tools we use to help us learn), Environment, Health and



Social, Community and Service, Homo Faber (what man creates).

The IBMYP was developed for grades six through ten to meet the needs of pre-adolescents and give them an educational experience designed around three fundamental concepts: Intercultural awareness, holistic education, and communication (IBO: A basis for practice, the Middle Years Programme, 2002). The IBO must authorize schools offering the IBMYP. Authorization visits occur after implementation has begun. If authorized, a follow up visit happens three years later and then every five years thereafter. During authorization, visitors speak to all levels of teachers, coordinators, administrators, superintendents, school board members, and students in the program. All students must receive at least 50 clock hours of instruction in all eight instructional areas. Students are required to participate in at least one performance each year such as a concert, play, or other type of performance.

Because communication is an important aspect of the program, students are asked to write in every class. These writings can include research, creative writing and reflections of learning. In order to maintain a high degree of integrity, the IBO requires that all authorized school have teachers who have received IBMYP training. Training

session are subject specific in the first two levels, and may be subject specific in level three trainings which focus around specific topics such as assessment, or the areas of interaction. Students, with parent knowledge and support, self select into the IBMYP program, and there is no entrance requirement other than interest. Students may come to the research school for the IBMYP from any district school, and may come from other districts when they follow the option enrollment rules set forth by the state. For purposes of this study, only students who have been students in the research school since the start of 6th grade were included.

*Traditional Academic Program (TAP).* The traditional academic program is an academic program for students in grades six through ten. Students take courses in math, science, English, reading, world language, social studies, physical education, and exploratory course work such as health, music, industrial technology, computer applications, family and consumer science, and art. Students may also select band, orchestra and/or chorus. There is no performance requirement, but students in band, orchestra, or chorus will also participate in a performance.

Starting with eighth grade students are allowed to select electives from the courses that were exploratory classes in sixth and seventh grades. TAP students do not have any minimum requirements in exploratory classes although the IBMYP students do, in order have a minimum of 50 instructional hours in each of the eight areas. For this study, TAP students were randomly selected from the traditional students who have been TAP students in the research school since 6th grade.

#### *Data Collection Procedures*

The researcher collected retrospective data. All participant data was coded and names were not be included. Individual identifying information was available only to the district research personnel. After the achievement, behavior, and life skill data were linked, all student identifiers were removed by district research personnel prior to data analysis.

#### *Conclusion*

International education often focuses on the big ideas. Students approach learning and participate in a variety of ways. This involves students in ways that allow them to explore and discover and communicate about their learning. Essential skills for the 21st century include such things as problem solving, inquiry, global awareness,

and working with a multitude of cultures (Roberts, 2004). During this century the fortunes, identities, opportunities, and constraints of children growing up in all parts of the world will be linked to economic, societal, and cultural processes that are increasingly global (Suarez-Orozco, 2005). We are seeing a willingness to succeed in our efforts to include a more international curriculum. The force that will cause this to happen is the connection between our national security and economic growth, and what our students learn (Kelly, 2004).

## CHAPTER THREE

## Methodology

*Participants*

*Number of participants.* The maximum accrual for this study was  $N = 80$ . The sample of participants was a randomly selected group of seventh grade students who selected the IBMYP for two years ( $n = 40$ ), and a randomly selected group of seventh grade traditional students ( $n = 40$ ). All participants were in research school for 6th-grade and 7th-grade.

*Gender of participants.* The gender of the randomly selected participants was congruent with enrollment patterns of the participating school, where females represent 49% and males represent 51% of the total enrollment.

*Age range of participants.* The age range of participants was from 11 years to 13 years. All participants were in the seventh grade.

*Racial and ethnic origin of participants.* The racial and ethnic origin ratio was congruent with enrollment patterns in the participating school. The current enrollment shows 89% White, not Hispanic; 3% Black, not Hispanic; 3% Hispanic; 4% Asian/Pacific Islanders; and 1% American Indian/Alaskan Native.

*Inclusion criteria of participants.* Seventh grade students who were eligible for this study have attended the research school for their 6th-grade and 7th-grade school years, participated in the IBMYP, and have completed all assessments. Students with Individual Educational Plans (IEP) verified for inclusion in one or more Special Education classes were not be included in the research.

*Method of participant identification.* The 80 students selected as participants for this study were a randomly selected group of IBMYP students who have attended the research school in 6th-grade and 7th-grade ( $n = 40$ ), and a randomly selected group of traditional students who have attended the research school in 6th grade and 7th grade ( $n = 40$ ). No individual identifiers were attached to the achievement or attendance data.

#### *Description of Procedures*

*Research design.* The pretest-posttest two-group comparative survey study design is displayed in the following notation:

Group 1     $X_1$      $O_1$      $X_2$      $O_2$

Group 2     $X_1$      $O_1$      $X_3$      $O_2$

Group 1 = Randomly selected same school 7th-grade students participating in the IBMYP ( $n = 40$ )

Group 2 = Randomly selected same school 7th-grade students participating in the TAP ( $n = 40$ )

$X_1$  = 7th-grade students who completed their 6th-grade and 7th-grade academic course work in the research school

$X_2$  = 7th-grade students who have completed two school years of IBMYP in the research school

$X_3$  = 7th-grade students who have completed two school years of TAP in the research school

$O_1$  = Pretest (1) Achievement: (a) Terra Nova (TN) Normal Curve Equivalent (NCE) scores as measured in March 2006 for (i) math total, (ii) language total, and (iii) reading total; (b) Essential Learner Outcomes (ELO) scores for (i) reading and (ii) math as measured in April 2006; and (2) Life Skills: (a) Life Skills Self Assessment as measured in February 2006.

$O_2$  = Posttest (1) Achievement: (a) Terra Nova (TN) Normal Curve Equivalent scores (NCE) as measured in April 2007 for (i) math total, (ii) language total, and (iii) reading total; (b) Essential Learner Outcomes (ELO) ELO scores for (i) reading and (ii) math as measured in April 2007; (2) Behavior: absence totals as measured for the 2006-2007 school year; (3) Involvement: Extra-curricular frequency data for (i) clubs, (ii) sports, and (iii) music and drama collected in April of 2007; and (4) Life Skills:

(a) Life Skills Self Assessment as measured in February 2007.

The purpose of this study was to determine the effect of a founding International Baccalaureate Middle Years Programme (IBMYP; "Programme" French spelling) on participating students' 7th-grade achievement, behavior, extra-curricular involvement, and perceptions of life skills compared to 7th-grade students completing the same school's standard of care traditional academic program (TAP). The study analyzed achievement and behavior data of International Baccalaureate Middle Years Programme (IBMYP) and TAP students to determine if the IBMYP has significantly impacted student outcomes.

#### *Dependent Measures*

Four dependent variables were measured; 1) achievement, 2) behavior, 3) extra-curricular involvement, and 4) life skills. The first of these, achievement, were measured using; (a) Norm Referenced Tests (NRT) subtests derived from the Terra Nova test, and include the Normal Curve Equivalent (NCE) scores for Math, Language and Reading, and (b) Criterion Referenced Test (CRT) scores, known as Essential Learner Outcomes (ELOs), were collected for math, and reading.



Attendance data were be collected retrospectively from 7th-grade. This dependent measure was attendance totals for each student selected for participation for this study. This information was collected using Infinite Campus Student Information Program, the district data collection computer program.

Extra-curricular involvement data was collected retrospectively from the 7th grade. The self-reported participation in a) clubs, b) sports, and c) music and drama was collected using a student survey.

Life Skills Perception were collected via the district written Life Skills Self-Assessment tool. This data was collected retrospectively from 6th grade and 7th grade.

#### *Research Questions and Data Analysis*

The following research questions were used to analyze student participation in IBMYP and TAP measuring norm-referenced achievement outcomes.

Overarching Pretest-Posttest Achievement Research  
Question #1: Did students who participated in the IBMYP and the TAP lose, maintain or improve their 6th-grade Terra Nova NCE scores compared to their 7th-grade Terra Nova NCE scores for (a) math total, (b) language total, and (c) reading total subtests?

Sub-Question 1a. Was there a significant difference between students' ending 6th-grade compared to ending 7th-grade Terra Nova NCE scores for (a) math total, (b) language total, and (c) reading total scores after completing a IBMYP?

Sub-Question 1b. Was there a significant difference between students' ending 6th-grade compared to ending 7th-grade Terra Nova NCE scores for (a) math total, (b) language total, and (c) reading total scores after completing a TAP?

Research Sub-questions #1a and 1b were analyzed using dependent *t* tests to examine the significance of the difference between the IBMYP students' ending 6th grade compared to ending 7th grade and the TAP students' ending 6th-grade compared to ending 7th-grade Terra Nova NCE achievement scores. Because multiple statistical tests were conducted, a one-tailed .01 alpha level was employed to help control for Type 1 errors. Means and standard deviations are displayed on tables.

Overarching Posttest-Posttest Achievement Research Question #2: Did students who participated in the IBMYP and the TAP have congruent or different ending 7th-grade Terra Nova NCE scores for (a) math total, (b) language total, and (c) reading total subtests?

Sub-Question 2a. Was there a significant difference between IBMYP students ending 7th-grade Terra Nova NCE achievement scores for (a) math total, (b) language total, and (c) reading total compared to TAP students ending 7th-grade Terra Nova NCE achievement scores for (a) math total, (b) language total, and (c) reading total?

Research Sub-Question #2a was analyzed using an independent *t* tests to examine the significance of the difference between students' ending 7th-grade IBMYP compared to students' ending 7th-grade TAP Terra Nova NCE achievement scores for (a) math total, (b) language total, and (c) reading total. Because multiple statistical tests were conducted, a one-tailed .01 alpha level was employed to help control for Type 1 errors. Means and standard deviations are displayed on tables.

The following research questions were used to analyze student participation in IBMYP and TAP measuring criterion-referenced achievement outcomes.

Overarching Pretest-Posttest Achievement Research  
Question #3: Did students who participated in the IBMYP and the TAP lose, maintain or improve their 6th-grade Essential Learner Outcome (ELO) scores compared to their 7th-grade ELO scores for (a) math and (b) reading?

Sub-Question 3a. Was there a significant difference between students' ending 6th-grade compared to ending 7th-grade ELO scores for (a) math and (b) reading after completing IBMYP?

Sub-Question 3b. Was there a significant difference between students' ending 6th-grade compared to ending 7th-grade ELO scores for (a) math and (b) reading after completing a TAP?

Research Sub-questions #3a and 3b were analyzed using dependent *t* tests to examine the significance of the difference between the IBMYP students' ending 6th-grade compared to ending 7th-grade and the TAP students' ending 6th-grade compared to ending 7th-grade ELO scores. Because multiple statistical tests were conducted, a one-tailed .01 alpha level was employed to help control for Type 1 errors. Means and standard deviations are displayed on tables.

Overarching Posttest-Posttest Research Achievement Question #4: Did students who participated in the IBMYP and the TAP have congruent or different ending 7th-grade Essential Learner Outcome (ELO) scores for (a) math and (b) reading?

Sub-Question 4a. Was there a significant difference between IBMYP students ending 7th-grade ELO scores for (a) math, and (b) reading compared to TAP

students ending 7th-grade ELO scores for (a) math, and (b) reading?

Research Sub-Question #4a was analyzed using an independent *t* tests to examine the significance of the difference between students' ending 7th-grade IBMYP compared to students' ending 7th-grade TAP ELO achievement scores for (a) math, and (b) reading. Because multiple statistical tests were conducted, a one-tailed .01 alpha level was employed to help control for Type 1 errors. Means and standard deviations are displayed on tables.

The following research questions were used to analyze student participation in IBMYP and TAP measuring behavior outcomes.

Overarching Posttest-Posttest Behavior Research Question #5: Did students who participated in the traditional program, (TAP) and the International Baccalaureate Middle Years Programme (IBMYP) have congruent or different ending 7th-grade compared to ending 7th-grade absence totals using data from the Infinite Campus Student Information Program (ICSIP)?

Sub-Question 5a. Was there a significant difference between IBMYP students' ending 7th-grade absence totals compared to TAP students' ending 7th-grade absence totals?

Research Sub-Question #5a was analyzed using independent  $t$  tests to examine students ending 7th-grade compared to ending 7th-grade absence totals. Because multiple statistical tests were conducted, a one-tailed .01 alpha level was employed to help control for Type 1 errors. Means and standard deviations are displayed on tables.

The following research questions was used to analyze student participation in IBMYP and TAP measuring extra-curricular participation.

Overarching Posttest-Posttest Extra-Curricular Participation Research Question #6. Was there a significant difference between IBMYP and TAP students' ending 7th-grade self-reported participation in (a) clubs, (b) sports, and (c) music and drama?

Sub-Question 6a. Was there a significant difference between IBMYP students' ending 7th-grade self-reported participation in (a) clubs, (b) sports, and (c) music and drama compared to TAP students' ending 7th-grade self-reported participation in (a) clubs, (b) sports, and (c) music and drama?

Research Sub-Question #6a utilized a chi-square test of significance to compare observed versus expected (a) clubs, (b) sports, and (c) music and drama frequency scores for IBMYP compared to TAP students'. Because multiple

statistical tests were conducted, a one-tailed .01 alpha level was employed to help control for Type I errors. Frequencies and percents are displayed on tables.

The following research questions were used to analyze self reported life skills achievement in IBMYP and TAP.

Overarching Pretest-Posttest Life Skills Perception  
Research Question #7: Did students who participated in the IBMYP and the TAP lose, maintain or improve their self-reported life skill perceptions?

Sub-Question 7a. Was there a significant difference between students' ending 6th-grade compared to ending 7th-grade self-reported life skill scores after completing the IBMYP?

Sub-Question 7b. Was there a significant difference between students' ending 6th-grade compared to ending 7th-grade self-reported life skill scores after completing the TAP?

Research Sub-questions #7a and 7b were analyzed using dependent *t* tests to examine the significance of the difference between the IBMYP students' ending 6th grade compared to ending 7th grade and the TAP students' ending 6th-grade compared to ending 7th-grade self-reported life skills scores. Because multiple statistical tests were conducted, a one-tailed .01 alpha level was employed to

help control for Type 1 errors. Means and standard deviations are displayed on tables.

Overarching Posttest-Posttest Life Skills Perception Research Question #8: Did students who participated in the IBMYP and the TAP have congruent or different ending 7th-grade self-reported life skills perception scores?

Sub-Question 8a. Was there a significant difference between IBMYP students ending 7th-grade self-reported life skill scores compared to TAP students ending 7th-grade self-reported life skill scores?

Research Sub-Question #8a was analyzed using an independent  $t$  tests to examine the significance of the difference between students' ending 7th-grade IBMYP compared to students' ending 7th-grade self-reported life skills perception scores. Because multiple statistical tests were conducted, a one-tailed .01 alpha level was employed to help control for Type 1 errors. Means and standard deviations are displayed on tables.

#### *Data Collection Procedures*

All study achievement, behavioral, and life skills data were retrospectively, archival, and routinely collected school information. Permission from the appropriate school research personnel was obtained. A random sample of 40 students in each independent arm was



obtained to include achievement, behavior, and life skills data. Non-coded numbers were used to display individual de-identified achievement and attendance data as well as life skills data. Aggregated group data, descriptive statistics, and parametric statistical analysis were utilized and reported with means and standard deviations on tables.

*Performance site.* The research was conducted in the public school setting through normal educational practices. The study procedures did not interfere in any way with the normal educational practices of the public school and did not involve coercion or discomfort of any kind. All data was analyzed in the office of the primary investigator, at the research school. Data was stored on spreadsheets and computer disks for statistical analysis in the office of the primary researcher and the dissertation chair. Data and computer disks were kept in locked file cabinets. No individual identifiers were attached to the data.

*Institutional Review Board (IRB) for the Protection of Human Subjects Approval Category.* The exemption categories for this study were provided under 45CFR46.101(b) categories 1 and 4. The research was conducted using routinely collected archival data. A letter of support from the district is located in Appendix A.

## CHAPTER FOUR

## Results

The purpose of this study was to determine the effect of a founding International Baccalaureate Middle Years Programme (IBMYP; "Programme" French spelling) on participating students' 7th-grade achievement, attendance, extra-curricular involvement, and perceptions of life skills compared to 7th-grade students completing the same school's standard of care traditional academic program (TAP).

The study analyzed achievement, attendance, and life skill self-perception data of International Baccalaureate Middle Years Programme (IBMYP) and TAP students to determine if the IBMYP has significantly impacted student outcomes. All study achievement data related to each of these dependent variables was retrospective, archival, and routinely collected school information. Permission from the appropriate school research personnel was obtained before data were collected and analyzed.

*Research Question #1*

Table 1 displays gender information of individual seventh-grade students in the International Baccalaureate Middle Years Programme including their school-wide eligibility percentage for free and reduced price lunch and

if a student has a minority status designation. Table 2 displays gender information of individual seventh-grade students in the Traditional Academic Program including their school-wide eligibility percentage for free and reduced price lunch and if a student has a minority status designation. Individual students in the International Baccalaureate Middle Years Programme Terra Nova Achievement Test Normal Curve Equivalent scores for math, language, and reading subtests for the sixth and seventh grades are displayed in Table 3. Individual students in the Traditional Academic Program Terra Nova Achievement Test Normal Curve Equivalent scores for math, language, and reading subtests for the sixth and seventh grades are displayed in Table 4.

The first hypothesis comparing IBMYP students' dependent *t* test pretest-posttest Terra Nova Achievement Test math, language, and reading NCE score results were displayed in Table 5. As seen in Table 5 the null hypothesis was rejected for one achievement subtest in math, and was not rejected for two achievement subtests in language and reading. The pretest math score ( $M = 73.07$ ,  $SD = 13.98$ ) compared to the posttest math score ( $M = 76.70$ ,  $SD = 12.03$ ) was statistically significantly different,  $t(29) = 2.26$ ,  $p = 0.01$  (one-tailed),  $d = .27$ . The pretest language

score ( $M = 73.50$ ,  $SD = 13.76$ ) compared to the posttest language score ( $M = 73.03$ ,  $SD = 16.45$ ) was not statistically significantly different,  $t(29) = -0.29$ ,  $p < .39$  (one-tailed),  $d = .03$ . The pretest reading score ( $M = 69.27$ ,  $SD = 14.39$ ) compared to the posttest reading score ( $M = 71.77$ ,  $SD = 14.33$ ), was not statistically significantly different,  $t(29) = 1.26$ ,  $p < .11$  (one-tailed),  $d = .22$ .

Overall, pretest-posttest results indicated that IBYMP students did significantly improve their math scores but did not significantly improve their language and reading scores. Comparing IBMYP students' NRT NCE scores with derived achievement scores puts their performance in perspective. An NRT NCE posttest math mean score of 76.70 is congruent with a Standard Score of 119, a Percentile Rank of 90, a Stanine Score of 7, and an achievement qualitative description of Above Average. An NRT NCE posttest language mean score of 73.03 is congruent with a Standard Score of 116, a Percentile Rank of 86, a Stanine Score of 7, and an achievement qualitative description of Above Average. An NRT NCE mean posttest reading score of 71.77 is congruent with a Standard Score of 115, a Percentile Rank of 84, a Stanine Score of 7, and an achievement qualitative description of Above Average.

The first hypothesis comparing TAP students' dependent  $t$  test pretest-posttest Terra Nova Achievement Test math, language, and reading NCE score results are displayed in Table 6. As seen in Table 6 the null hypothesis was not rejected for the three achievement subtests math, language, and reading. The pretest math score ( $M = 65.33$ ,  $SD = 11.68$ ) compared to the posttest math score ( $M = 67.33$ ,  $SD = 14.20$ ) was not statistically significantly different,  $t(29) = 1.56$ ,  $p = 0.07$  (one-tailed),  $d = .15$ . The pretest language score ( $M = 63.57$ ,  $SD = 13.96$ ) compared to the posttest language score ( $M = 60.47$ ,  $SD = 15.90$ ) was not statistically significantly different,  $t(29) = -1.60$ ,  $p < .06$  (one-tailed),  $d = .21$ . The pretest reading score ( $M = 60.63$ ,  $SD = 11.42$ ) compared to the posttest reading score ( $M = 62.37$ ,  $SD = 13.60$ ), was not statistically significantly different,  $t(29) = 0.82$ ,  $p < .21$  (one-tailed),  $d = .13$ .

Overall, pretest-posttest results indicated that TAP students did not significantly improve their math, language, and reading scores. Comparing TAP students' NRT NCE scores with derived achievement scores puts their performance in perspective. An NRT NCE posttest math mean score of 67.33 is congruent with a Standard Score of 112, a Percentile Rank of 79, a Stanine Score of 6, and an

achievement qualitative description of Average. An NRT NCE posttest language mean score of 60.47 is congruent with a Standard Score of 107, a Percentile Rank of 68, a Stanine Score of 6, and an achievement qualitative description of Average. An NRT NCE mean posttest reading score of 62.37 is congruent with a Standard Score of 109, a Percentile Rank of 73, a Stanine Score of 6, and an achievement qualitative description of Average.

### *Research Question #2*

The second hypothesis was tested using the independent *t* test. A comparison of IBMYP versus TAP students' posttest Terra Nova Achievement Test math, language, and reading NCE score results are displayed in Table 7. As seen in Table 7 the null hypothesis was rejected for (a) IBMYP students' Terra Nova Achievement Test NCE math scores ( $M = 76.70$ ,  $SD = 12.03$ ) compared to TAP students' Terra Nova Achievement Test NCE math scores ( $M = 67.33$ ,  $SD = 14.20$ ),  $t(58) = 2.76$ ,  $p = .004$  (one-tailed),  $d = .71$ , (b) rejected for IBMYP students' Terra Nova Achievement Test NCE language scores ( $M = 73.03$ ,  $SD = 16.45$ ) compared to TAP students' Terra Nova Achievement Test NCE language scores ( $M = 60.47$ ,  $SD = 15.90$ ),  $t(58) = 3.01$ ,  $p = .002$  (one-tailed),  $d = .78$ , and (c) rejected for IBMYP students' Terra Nova Achievement Test NCE reading scores ( $M = 71.77$ ,  $SD = 14.33$ ) compared to

TAP students' Terra Nova Achievement Test NCE reading scores ( $M = 62.37$ ,  $SD = 13.60$ ),  $t(58) = 2.61$ ,  $p = .01$  (one-tailed),  $d = .65$ . Overall, these findings indicate that IBMYP students posttest math, language, and reading norm-referenced achievement scores were statistically significantly greater than the TAP students although both groups were equally prepared for average and above average performance on achievement tests and this is reflected in the math, language, and reading dependent measures comparisons.

### *Research Question #3*

Individual students in the International Baccalaureate Middle Years Programme Essential Learner Outcome test scores for math and reading are found in Table 8. Table 9 displays the individual students, in the Traditional Academic Program, Essential Learner Outcome test scores for math and reading.

The third hypothesis comparing IBMYP students' dependent  $t$  test pretest-posttest ELO math and reading score results were displayed in Table 10. As seen in Table 10 the null hypothesis was rejected for both achievement subtests, math and reading. The pretest math score ( $M = 51.37$ ,  $SD = 5.33$ ) compared to the posttest math score ( $M = 59.17$ ,  $SD = 5.31$ ) was statistically significantly

different,  $t(29) = 5.68$ ,  $p = .0001$  (one-tailed),  $d = 1.47$ . The pretest reading score ( $M = 49.63$ ,  $SD = 5.16$ ) compared to the posttest reading score ( $M = 51.83$ ,  $SD = 4.34$ ), was statistically significantly different,  $t(29) = 1.79$ ,  $p < .04$  (one-tailed),  $d = .46$ .

Overall, pretest-posttest results indicated that IBYMP students did significantly improve their math and reading scores over the two-year intervention interval measured. Comparing IBYMP students' ELO mean scores puts their performance in perspective. An ELO posttest math mean score of 59.17 is congruent with a criterion referenced rubric designation of beyond proficient. An ELO posttest reading mean score of 51.83 is congruent with a criterion referenced rubric designation of proficient.

The third hypothesis comparing TAP students' dependent  $t$  test pretest-posttest ELO math and reading score results were displayed in Table 11. As seen in Table 11 the null hypothesis was rejected for math pretest-posttest achievement score gain and the null hypothesis was not rejected for reading pretest-posttest achievement score gain. The pretest math score ( $M = 44.13$ ,  $SD = 9.31$ ) compared to the posttest math score ( $M = 52.40$ ,  $SD = 8.67$ ) was statistically significantly different,  $t(29) = 3.56$ ,  $p = .0001$  (one-tailed),  $d = .91$ . The pretest reading score ( $M$



= 46.13,  $SD = 6.46$ ) compared to the posttest reading score ( $M = 47.17$ ,  $SD = 7.12$ ), was not statistically significantly different,  $t(29) = 0.59$ ,  $p < .28$  (one-tailed),  $d = .15$ .

Overall, pretest-posttest results indicated that TAP students did statistically significantly improve their math over the two-year intervention interval measured but did not statistically significantly improve their reading scores over the two-year intervention interval measured. Comparing TAP students' ELO mean scores puts their performance in perspective. An ELO posttest math mean score of 52.40 is congruent with a criterion referenced rubric designation of beyond proficient. An ELO posttest reading mean score of 47.17 is congruent with a criterion referenced rubric designation of proficient.

#### *Research Question #4*

The fourth hypothesis was tested using the independent  $t$  test. A comparison of IBMYP versus TAP students' posttest Essential Learner Outcomes math and reading score results is displayed in Table 12. As seen in Table 12 the null hypothesis was rejected for (a) IBMYP students' Essential Learner Outcome math scores ( $M = 59.17$ ,  $SD = 5.31$ ) compared to TAP students' Essential Learner Outcome math scores ( $M = 52.40$ ,  $SD = 8.67$ ),  $t(58) = 3.64$ ,  $p < .0001$  (one-tailed),  $d = .97$  and (b) the null hypothesis was

rejected for IBMYP students' Essential Learner Outcome reading scores ( $M = 51.83$ ,  $SD = 4.34$ ) compared to TAP students' Essential Lerner Outcome reading scores ( $M = 47.17$ ,  $SD = 7.12$ ),  $t(58) = 3.06$ ,  $p = .002$  (one-tailed),  $d = .81$ .

Overall, these findings indicate that IBMYP students posttest math and reading criterion-referenced achievement scores were statistically significantly greater than the TAP students posttest math and reading criterion-referenced achievement scores although both groups were equally prepared for average and above average performance on achievement tests and this is reflected in the math and reading dependent measures comparisons.

#### *Research Question #5*

The fifth hypothesis was tested using the independent  $t$  test. A comparison of IBMYP and TAP students' posttest absence totals is displayed in Table 13. As displayed in Table 13 the null hypotheses was rejected for IBMYP versus TAP students' absence totals. As seen in Table 13 TAP students had more mean absences ( $M = 7.65$ ,  $SD = 5.42$ ) compared to IBMYP students' mean absences ( $M = 5.22$ ,  $SD = 4.56$ ),  $t(58) = -1.88$ ,  $p = .03$  (one-tailed),  $d = .40$ . While the mean absence total difference is statistically significantly greater for the TAP students ( $M = 7.65$ )

compared to the IBMYP students ( $M = 5.22$ ) it must be noted that the number of absences for both student groups was far below the stated Nebraska Department of Education threshold of 12 unexcused absences set for automatic course failure.

*Research Question #6*

A comparison of IBMYP and TAP student's extra-curricular activity participation levels is found in Table 14. The sixth hypothesis was tested using chi-square ( $X^2$ ). The result of  $X^2$  displayed in Table 14 was statistically significantly different ( $X^2(2, N = 220) = 14.52, p = >.01$ ) so we reject the null hypothesis of no difference or congruence for student's extra-curricular activity participation levels. Inspecting our frequency and percent findings in Table 14 we find that the number of IBMYP students reporting (a) club participation (34, 74%) and (b) music/drama participation (55, 72%) was greater than the totals reported by TAP students for clubs (12, 26%) and music/drama (21, 28%). However, TAP students reported a higher frequency for sports participation (52, 52%) than IBMYP students (48, 48%). It could be said that given the reported levels of extra-curricular activities for both IBMYP and TAP groups the data confirms enviable student engagement and commitment to the research school community.

*Research Question #7*

The seventh hypothesis comparing IBMYP students' dependent *t* test pretest-posttest Self-Reported Life Skills Perceptions score results were displayed in Table 15. As seen in Table 15 the null hypothesis was not rejected. The pretest Self-Reported Life Skills Perceptions mean score ( $M = 2.63, SD = 0.52$ ) compared to the posttest Self-Reported Life Skills Perceptions mean score ( $M = 2.60, SD = 0.53$ ) was not statistically significantly different,  $t(29) = -0.35, p = .36$  (one-tailed),  $d = 0.06$ .

Overall, pretest-posttest results indicated that IBYMP students did not significantly improve their Self-Reported Life Skills Perceptions scores over the two-year intervention interval measured. Comparing IBMYP students' Self-Reported Life Skills Perceptions scores puts their perceptions in perspective. Self-Reported Life Skills Perceptions scores are reported as one of three points on a scale including 3.0, referred to as proficient, 2.0, referred to as progressing, and 1.0 referred to as needs improvement. The IBMYP students' fell within the mid-point of the progressing range.

The seventh hypothesis comparing TAP students' dependent *t* test pretest-posttest Self-Reported Life Skills Perceptions score results were displayed in Table 16. As

seen in Table 15 the null hypothesis was not rejected. The pretest Self-Reported Life Skills Perceptions mean score ( $M = 2.56$ ,  $SD = 0.56$ ) compared to the posttest Self-Reported Life Skills Perceptions mean score ( $M = 2.52$ ,  $SD = 0.57$ ) was not statistically significantly different,  $t(29) = -0.57$ ,  $p = .28$  (one-tailed),  $d = 0.02$ .

Overall, pretest-posttest results indicated that TAP students did not significantly improve their Self-Reported Life Skills Perceptions scores over the two-year intervention interval measured. Comparing TAP students' Self-Reported Life Skills Perceptions scores puts their perceptions in perspective. Self-Reported Life Skills Perceptions scores are reported as one of three points on a scale including 3.0, referred to as proficient, 2.0, referred to as progressing, and 1.0 referred to as needs improvement. The TAP students' fell within the mid-point of the progressing range.

#### *Research Question #8*

The eighth hypothesis was tested using the independent  $t$  test. A comparison of IBMYP versus TAP students' posttest Self-Reported Life Skills Perceptions score results is displayed in Table 17. As seen in Table 17 the null hypothesis was not rejected for IBMYP students' Self-Reported Life Skills Perceptions mean scores ( $M = 2.60$ ,  $SD$

= 0.53) compared to TAP students' Self-Reported Life Skills Perceptions mean scores ( $M = 2.52$ ,  $SD = 0.57$ ),  $t(58) = 0.30$ ,  $p < .38$  (one-tailed),  $d = .15$ .

Overall, these findings indicate that IBMYP students' posttest Self-Reported Life Skills Perceptions mean scores and TAP students' posttest Self-Reported Life Skills Perceptions mean scores were equivalent and further indicate that both groups of students believe they are developing life-skills that are consistent with the research school and district expectations.

Table 1

*Gender Information of Individual Seventh-Grade Students in  
the International Baccalaureate Middle Years Programme*

---

Student Number (a)	Gender
1.	Female (b)
2.	Female
3.	Female
4.	Male
5.	Male (b)
6.	Female
7.	Male
8.	Male
9.	Male
10.	Female
11.	Female
12.	Male
13.	Male
14.	Female
15.	Female
16.	Male
17.	Female
18.	Female
19.	Male
20.	Male
21.	Female
22.	Male
23.	Male
24.	Male
25.	Male
26.	Female (b)
27.	Male
28.	Female
29.	Female
30.	Female (b)

---

(a) Note: 14% of students received free and reduced price lunch.

(b) Note: Minority student.

Table 2

*Gender Information of Individual Seventh-Grade Students  
in the Traditional Academic Program*

---

Student Number (a)	Gender
1.	Male (b)
2.	Female
3.	Male
4.	Female (b)
5.	Female
6.	Female
7.	Male (b)
8.	Male
9.	Male
10.	Female (b)
11.	Male
12.	Female (b)
13.	Male
14.	Female
15.	Male
16.	Male
17.	Male
18.	Female
19.	Female
20.	Female
21.	Male
22.	Male
23.	Female (b)
24.	Male
25.	Male
26.	Male
27.	Male
28.	Female
29.	Male
30.	Female (b)

---

(a) Note: 14% of students received free and reduced price lunch.

(b) Note: Minority student.



Table 3

*Individual Students in the International Baccalaureate  
Middle Years Programme Terra Nova Achievement Test Normal  
Curve Equivalent Scores for Math, Language, and Reading  
Subtests*

Students (a)	<u>Math</u>		<u>Language</u>		<u>Reading</u>	
	Pre	Post	Pre	Post	Pre	Post
1.	53	62	69	67	55	54
2.	63	70	75	67	86	81
3.	60	70	70	65	53	60
4.	78	79	69	51	61	61
5.	53	72	61	65	69	77
6.	65	59	90	98	70	73
7.	62	62	74	61	55	71
8.	72	71	78	82	73	90
9.	55	58	75	60	65	40
10.	59	63	57	62	52	67
11.	78	91	93	95	76	99
12.	73	77	72	81	82	73
13.	89	99	99	99	90	82
14.	70	79	50	57	50	49
15.	84	73	76	86	61	76
16.	54	67	62	56	66	72
17.	65	78	65	54	57	57
18.	84	69	87	91	81	75
19.	81	84	61	57	46	54
20.	78	84	77	54	68	67
21.	68	76	62	68	66	62
22.	95	89	73	75	88	75
23.	95	96	89	97	84	81
24.	92	80	81	91	77	67
25.	85	99	75	87	89	99
26.	99	91	93	86	82	80
27.	73	73	73	78	68	68
28.	68	64	51	50	65	81
29.	88	95	99	97	99	99
30.	53	71	49	54	44	64

(a) Note: Numbers correspond with Table 1.

Table 4

*Individual Students in the Traditional Academic Program  
Terra Nova Achievement Test Normal Curve Equivalent  
Scores for Math, Language, and Reading Subtests*

---

Students (a)	<u>Math</u>		<u>Language</u>		<u>Reading</u>	
	Pre	Post	Pre	Post	Pre	Post
1.	69	67	47	63	57	62
2.	71	79	85	99	82	76
3.	63	79	56	64	53	81
4.	64	60	68	55	61	60
5.	72	72	63	66	54	71
6.	71	71	89	73	77	78
7.	54	59	48	53	37	54
8.	56	52	47	35	45	47
9.	71	83	73	70	67	54
10.	56	53	44	47	56	44
11.	86	86	74	66	74	73
12.	59	69	80	60	63	67
13.	74	69	74	60	65	62
14.	81	78	79	66	77	58
15.	62	65	51	36	53	50
16.	61	56	49	33	51	50
17.	76	88	71	74	69	82
18.	63	55	55	61	50	56
19.	53	43	63	69	52	61
20.	52	62	53	47	50	48
21.	79	83	49	62	57	60
22.	52	62	57	60	45	52
23.	58	53	54	51	54	45
24.	84	96	73	82	70	88
25.	81	86	62	68	58	59
26.	84	82	99	98	73	99
27.	58	57	66	57	73	68
28.	44	52	52	46	67	53
29.	58	62	67	55	77	63
30.	48	41	59	38	52	50

---

(a) Note: Numbers correspond with Table 2.

Table 5

*International Baccalaureate Middle Years Programme  
Students Pretest Compared to Posttest Terra Nova  
Achievement Test Math, Language, and Reading Subtests  
Normal Curve Equivalent Scores*

---

Source Of Data	Pretest Scores		Posttest Scores		Effect Size	<i>t</i>	<i>p</i>
	Mean	<i>SD</i>	Mean	<i>SD</i>			
Math	73.07	(13.98)	76.70	(12.03)	0.27	2.26	.01**
Language	73.50	(13.76)	73.03	(16.45)	0.03	-0.29	.39*
Reading	69.27	(14.39)	71.77	(14.33)	0.17	1.26	.11*

---

\* Note: *not significant.*

\*\* Note:  $p < .01$ .

Table 6

*Traditional Academic Program Students Pretest Compared to Posttest Terra Nova Achievement Test Math, Language, and Reading Subtests Normal Curve Equivalent Scores*

Source Of Data	Pretest Scores		Posttest Scores		Effect Size	<i>t</i>	<i>p</i>
	Mean	<i>SD</i>	Mean	<i>SD</i>			
Math	65.33	(11.68)	67.33	(14.20)	0.15	1.56	.07*
Language	63.57	(13.96)	60.47	(15.90)	0.21	-1.60	.06*
Reading	60.63	(11.42)	62.37	(13.60)	0.13	0.82	.21*

\* Note: *not significant.*

Table 7

*Comparison of International Baccalaureate Middle Years Programme versus Traditional Academic Program Students Posttest Terra Nova Achievement Test Math, Language, and Reading Subtests Normal Curve Equivalent Scores*

Source Of Data	IBMYP Posttest Scores		TAP Posttest Scores		Effect Size	<i>t</i>	<i>p</i>
	Mean	<i>SD</i>	Mean	<i>SD</i>			
Math	76.70	(12.03)	67.33	(14.20)	0.71	2.76	.004**
Language	73.03	(16.45)	60.47	(15.90)	0.78	3.01	.002**
Reading	71.77	(14.33)	62.37	(13.60)	0.65	2.61	.01*

\* Note:  $p < .01$ .

\*\* Note:  $p < .002$  and  $p < .004$ .

Table 8

*Individual Students in the International Baccalaureate  
Middle Years Programme Essential Learner Outcome Test  
Scores for Math and Reading*

---

Students (a)	<u>Math</u>		<u>Reading</u>	
	Pre	Post	Pre	Post
1.	42	56	45	47
2.	50	60	58	48
3.	55	51	42	45
4.	57	56	48	48
5.	46	57	47	55
6.	52	63	47	54
7.	42	56	50	50
8.	49	58	53	54
9.	38	46	46	46
10.	47	57	41	50
11.	59	63	49	55
12.	50	59	51	54
13.	54	64	54	56
14.	47	57	36	42
15.	50	63	54	55
16.	45	50	50	51
17.	54	56	50	48
18.	54	65	53	56
19.	51	57	51	50
20.	57	61	45	50
21.	51	60	49	52
22.	54	65	50	50
23.	59	67	58	59
24.	57	64	53	55
25.	54	64	54	58
26.	57	66	53	57
27.	53	62	56	56
28.	48	51	47	51
29.	58	66	56	57
30.	51	55	43	46

---

(a) Note: Numbers correspond with Table 1.

Table 9

*Individual Students in the Traditional Academic Program  
Essential Learner Outcome Test Scores for Math and Reading*

Students (a)	<u>Math</u>		<u>Reading</u>	
	Pre	Post	Pre	Post
1.	50	60	37	45
2.	51	54	47	52
3.	48	59	49	54
4.	41	55	49	50
5.	47	54	45	53
6.	55	58	49	52
7.	38	55	44	39
8.	32	44	30	37 (b)
9.	55	58	51	48
10.	37	38	46	38
11.	60	68	49	53
12.	43	47	58	53
13.	41	51	47	46
14.	40	56	55	52
15.	41	45	41	49
16.	37	41	34	39
17.	51	63	55	54
18.	38	46	48	44
19.	29	47	46	45
20.	33	47	43	48
21.	52	58	33	47
22.	45	54	53	52
23.	53	55	43	46
24.	56	66	51	56
25.	57	65	44	50
26.	58	62	52	59
27.	41	45	48	41
28.	33	36 (b)	48	42
29.	35	47	47	47
30.	27	38	42	24 (b)

(a) Note: Numbers correspond with Table 2.

(b) Note: Below proficient level posttest ELO score.

Table 10

*International Baccalaureate Middle Years Programme Students  
Pretest Compared to Posttest Essential Learner Outcome  
Test Scores for Math and Reading*

---

Source Of Data	Pretest Scores		Posttest Scores		Effect Size		
	Mean	<i>SD</i>	Mean	<i>SD</i>	<i>t</i>	<i>p</i>	
Math	51.37	(5.33)	59.17	(5.31)	1.47	5.68	.0001***
Reading	49.63	(5.16)	51.83	(4.34)	0.46	1.79	.04**

---

\*\* Note:  $p < .04$ .

\*\*\* Note:  $p < .0001$ .



Table 11

*Traditional Academic Program Students Pretest Compared to Posttest Essential Learner Outcome Test Scores for Math and Reading*

---

Source Of Data	Pretest Scores		Posttest Scores		Effect Size		
	Mean	<i>SD</i>	Mean	<i>SD</i>	<i>t</i>	<i>p</i>	
Math	44.13	(9.31)	52.40	(8.67)	0.91	3.56	.0001***
Reading	46.13	(6.46)	47.17	(7.12)	0.15	0.59	.28*

---

\* Note: *not significant.*

\*\*\* Note:  $p < .0001$ .

Table 12

*Comparison of International Baccalaureate Middle Years Programme verses Traditional Academic Program Students Posttest Essential Learner Outcome Test Scores for Math and Reading*

Source Of Data	IBMYP Posttest Scores		TAP Posttest Scores		Effect Size	<i>t</i>	<i>p</i>
	Mean	<i>SD</i>	Mean	<i>SD</i>			
Math	59.17	(5.31)	52.40	(8.67)	0.97	3.64	.0001***
Reading	51.83	(4.34)	47.17	(7.12)	0.81	3.06	.002**

\*\* Note:  $p < .002$ .

\*\*\* Note:  $p < .0001$ .

Table 13

*Comparison of International Baccalaureate Middle Years Programme versus Traditional Academic Program Students Posttest Absence Totals*

---

Source Of Data	IBMYP Posttest Scores		TAP Posttest Scores		Effect Size	<i>t</i>	<i>p</i>
	Mean	<i>SD</i>	Mean	<i>SD</i>			
Absence	5.22	(4.56)	7.65	(5.42)	0.40	-1.88	.03**

---

\*\* Note:  $p < .03$ .

Table 14

*Student Extra-Curricular Activity Participation Levels*

Group	Student Activities						$X^2$
	A		B		C		
	<i>N</i>	%	<i>N</i>	%	<i>N</i>	%	
IBMYP	34	(74)	48	(48)	55	(72)	
TAP	12	(26)	52	(52)	21	(28)	
Totals	46	(100)	100	(100)	76	(100)	14.52**

A = Clubs; B = Sports; C = Music/Drama

\*\* Note:  $p < .001$  for Observed verses Expected cell frequencies with  $df = 2$  and a tabled value = 9.210 for  $p < .01$ .

Table 15

*International Baccalaureate Middle Years Programme  
Students Pretest Compared to Posttest Self-Reported  
Life Skills Perceptions*

---

Source Of Data	Pretest Scores		Posttest Scores		Effect Size		
	Mean	<i>SD</i>	Mean	<i>SD</i>	<i>t</i>	<i>p</i>	
Life							
Skills	2.63	(0.52)	2.60	(0.53)	0.06	-0.35	.36*

---

\* Note: *not significant.*

Table 16

*Traditional Academic Program Students Pretest Compared to Posttest Self-Reported Life Skills Perceptions*

Source Of Data	Pretest Scores		Posttest Scores		Effect Size	<i>t</i>	<i>p</i>
	Mean	<i>SD</i>	Mean	<i>SD</i>			
Life Skills	2.56	(0.56)	2.52	(0.57)	0.02	-0.57	.28*

\* Note: *not significant.*

Table 17

*Comparison of International Baccalaureate Middle Years Programme versus Traditional Academic Program Students Posttest Self-Reported Life Skills Perceptions*

---

Source Of Data	IBMYP Posttest Scores		TAP Posttest Scores		Effect Size	<i>t</i>	<i>p</i>
	Mean	<i>SD</i>	Mean	<i>SD</i>			
Life Skills	2.60	(0.53)	2.52	(0.57)	0.15	0.30	.38*

---

\* Note: *not significant.*

## CHAPTER FIVE

## Conclusions and Discussion

The purpose of this study was to determine the effect of a founding International Baccalaureate Middle Years Programme (IBMYP; "Programme" French spelling) on participating students' 7th-grade achievement, attendance, extra-curricular involvement, and perceptions of life skills compared to 7th-grade students completing the same school's standard of care traditional academic program (TAP).

The study analyzed achievement, attendance, and life skill self-perception data of International Baccalaureate Middle Years Programme (IBMYP) and TAP students to determine if the IBMYP has significantly impacted student outcomes. All study achievement data related to each of these dependent variables was retrospective, archival, and routinely collected school information. Permission from the appropriate school research personnel and from the Combined University of Nebraska Medical Center/University of Nebraska at Omaha, Institutional Review Board for the Protection of Human Subjects, was obtained before data were collected and analyzed.



### *Conclusions*

The following conclusions may be drawn from the study and from each of the eight research questions.

#### *Research Question #1*

Research Question #1 pretest-posttest results indicated that IBYMP students did significantly improve their math scores but did not significantly improve their language and reading scores. Comparing IBYMP students' NRT NCE scores with derived achievement scores puts their performance in perspective. An NRT NCE posttest math mean score of 76.70 is congruent with a Standard Score of 119, a Percentile Rank of 90, a Stanine Score of 7, and an achievement qualitative description of Above Average. An NRT NCE posttest language mean score of 73.03 is congruent with a Standard Score of 116, a Percentile Rank of 86, a Stanine Score of 7, and an achievement qualitative description of Above Average. An NRT NCE mean posttest reading score of 71.77 is congruent with a Standard Score of 115, a Percentile Rank of 84, a Stanine Score of 7, and an achievement qualitative description of Above Average.

Research Question #1 pretest-posttest results indicated that TAP students did not significantly improve their math, language, and reading scores. Comparing TAP students' NRT NCE scores with derived achievement scores

puts their performance in perspective. An NRT NCE posttest math mean score of 67.33 is congruent with a Standard Score of 112, a Percentile Rank of 79, a Stanine Score of 6, and an achievement qualitative description of Average. An NRT NCE posttest language mean score of 60.47 is congruent with a Standard Score of 107, a Percentile Rank of 68, a Stanine Score of 6, and an achievement qualitative description of Average. An NRT NCE mean posttest reading score of 62.37 is congruent with a Standard Score of 109, a Percentile Rank of 73, a Stanine Score of 6, and an achievement qualitative description of Average.

#### *Research Question #2*

Research Question #2 findings indicate that IBMYP students posttest math, language, and reading norm-referenced achievement scores were statistically significantly greater than the TAP students posttest math, language, and reading norm-referenced achievement scores although both groups were equally prepared for average and above average performance on achievement tests and this is reflected in the math, language, and reading dependent measures comparisons.

#### *Research Question #3*

Research Question #3 results indicated that IBYMP students did significantly improve their Essential Learner

Outcome criterion-referenced math and reading scores over the two-year intervention interval measured. Comparing IBMYP students' ELO mean scores puts their performance in perspective. An ELO posttest math mean score of 59.17 is congruent with a criterion referenced rubric designation of beyond proficient. An ELO posttest reading mean score of 51.83 is congruent with a criterion referenced rubric designation of proficient.

Research Question #3 pretest-posttest results indicated that TAP students did statistically significantly improve their Essential Learner Outcome criterion-referenced math over the two-year intervention interval measured but did not statistically significantly improve their reading scores over the two-year intervention interval measured. Comparing TAP students' ELO mean scores puts their performance in perspective. An ELO posttest math mean score of 52.40 is congruent with a criterion referenced rubric designation of beyond proficient. An ELO posttest reading mean score of 47.17 is congruent with a criterion referenced rubric designation of proficient.

*Research Question #4*

Research Question #4 findings indicate that IBMYP students posttest math and reading criterion-referenced achievement scores were statistically significantly greater

than the TAP students posttest math and reading criterion-referenced achievement scores although both groups were equally prepared for average and above average performance on achievement tests and this is reflected in the math and reading dependent measures comparisons. Research Question #5

Research Question #5 indicates that while the mean absence total difference is statistically significantly greater for the TAP students ( $M = 7.65$ ) compared to the IBMYP students ( $M = 5.22$ ) it must be noted that the number of absences for both student groups was far below the stated Nebraska Department of Education threshold of 12 unexcused absences set for automatic course failure.

*Research Question #6*

Research Question #6 found that the number of IBMYP students reporting (a) club participation (34, 74%) and (b) music/drama participation (55, 72%) was greater than the totals reported by TAP students for clubs (12, 26%) and music/drama (21, 28%). However, TAP students reported a higher frequency for sports participation (52, 52%) than IBMYP students (48, 48%). It could be said that given the reported levels of extra-curricular activities for both IBMYP and TAP groups the data confirms enviable student engagement and commitment to the research school community.

*Research Question #7*

Research Question #7 pretest-posttest results indicated that IBYMP students did not significantly improve their Self-Reported Life Skills Perceptions scores over the two-year intervention interval measured. Comparing IBYMP students' Self-Reported Life Skills Perceptions scores puts their perceptions in perspective. Self-Reported Life Skills Perceptions scores are reported as one of three points on a scale including 3.0, referred to as proficient, 2.0, referred to as progressing, and 1.0 referred to as needs improvement. The IBYMP students' fell within the mid-point of the progressing range.

Research Question #7 results indicated that TAP students did not significantly improve their Self-Reported Life Skills Perceptions scores over the two-year intervention interval measured. Comparing TAP students' Self-Reported Life Skills Perceptions scores puts their perceptions in perspective. Self-Reported Life Skills Perceptions scores are reported as one of three points on a scale including 3.0, referred to as proficient, 2.0, referred to as progressing, and 1.0 referred to as needs improvement. The TAP students' fell within the mid-point of the progressing range.

### *Research Question #8*

Research Question #8 findings indicate that IBMYP students' posttest Self-Reported Life Skills Perceptions mean scores and TAP students' posttest Self-Reported Life Skills Perceptions mean scores were equivalent and further indicate that both groups of students perceiving themselves as developing life-skills that are consistent with the research school and district expectations.

### *Discussion*

*Implications for program scale-up.* The results warrant potential program scale-up. There are two possibilities for scale-up of the IBMYP. The program could be expanded to other schools, or the research school could become a school-wide IBMYP school. Because the IBMYP students outperformed their TAP counterparts in both norm-referenced as well as in criterion-referenced ELO tests expanding the program should be considered given the congruence of the academic potential of students attending the research school. Achievement test score differences may hypothetically be attributed to several uncontrolled for variables including (a) academically gifted students selecting the program, (b) more parental involvement of IBMYP students, or (c) the teaching strategies in the program itself causing the differences. None of these can

be substantiated by this study but should be explored in future research projects. Furthermore, factors such as student motivation or the educational values of the home, referred to as "selection bias" (Goldhaber, 1997) may also have skewed the data.

*School choice.* The one verifiable difference between IBMYP and TAP students is that IBMYP students, in concert with their parents, chose the program participation. For example, in this study 40% of the IBMYP students live outside of the attendance area of the research school. Many parents and students, in making a program choice, are also making a school choice. The IBMYP has become a magnet program, drawing students from other areas to the school and the program. The self-select nature of IBMYP matches Fuller's (1996) assertion that there is a move away from the competitive admission process in magnet type of programs toward attracting students from diverse families. Fuller goes on to state that the families that leave a neighborhood school to access a magnet program are better educated and more involved in their child's education. Public school choice can increase parental involvement, encourage innovation, and keep parents from exiting to a private system (Godwin, Leland, Baxter, & Southworth, 2006). While many research studies find that few students

choose an alternative to their assigned school, clearly the research school has not had that limitation (Godwin et al., 2006). There has been little research that shows that choice schools do a better job of boosting achievement (Fuller, 1996). Goldhaber (1997) makes the point that an average private school would do no better job than a public school in educating the same group of students. Most parents make school selection by their residency choices. The parents who reported making residence selections according to school viewed their children's achievement more positively than parents who reported less residency choice (Falbo, Glover, Holcolombe & Stokes, 2005).

Magnet programs which draw students from other attendance areas results in a competition between schools. Using a variety of measures, WoBmann (2007) found that students perform better when there is more competition between institutions, when there is more parental interest, and where more choices are available.

The other possibility for scale-up would be to expand the program to other schools. Doing this would eliminate some of the competition that may work to improve all competing schools. However, the cost of training staff at one or more additional schools, as well as the cost of fees and time required to train teachers and complete the IB



authorization process may make this option prohibitive. The research school still has room for additional growth, and expansion of the IBMYP to other schools may not be cost effective until the research school has reached maximum enrollment.

*Student achievement.* What can be done to close the gap between the IBMYP and TAP students' achievement scores? Burris and Wellner (2005) suggest that *de-tracking* the IBMYP students would be a start. Although the practice of *de-tracking* is thought, by some parents and educators, to help higher achievers by surrounding them with other high achieving students others believe that if all students are exposed to the more rigorous program, achievement will rise for all students. Although the two programs in this study use the same curriculum, the increase in writing and higher level questioning methods used with IBMYP students could be expanded to both groups. Results of *de-tracking* studies show that exposing all students to a higher set of standards caused achievement to rise for all groups (Burris & Wellner, 2005). One International Baccalaureate Program moved to *de-track* in order to improve achievement for the lower achieving students. The decision was to maintain the higher IB standards while encouraging more students to enroll in the IB courses which resulted in heterogeneous

groups, accelerated curriculum, support for teachers working with struggling students, and maintenance of high standards for every student which ultimately benefited all students (Burris, Welner, Wiley & Murphy, 2007).

The other advantage to *de-tracking* and expanding the IBMYP to all within the school is the increase in cultural understanding for the TAP students that the IBMYP students are finding within their program. As with citizens throughout the world, students come to regard themselves as global citizens, regardless of their place of residence. The need for workers who are literate in global trade, and can converse in more than one language is increasing (Wallis & Steptoe, 2006). The need for students to understand how to obtain and use information and to work with people from many different cultural backgrounds is essential. This new cultural and informational literacy is necessary for all students, and should not be limited to the IBMYP students. Since all students take the same curricula, including a foreign language, it is only the instructional strategies and expectations that are different between IBMYP and TAP. Although the instruction in a foreign language may not produce bi-lingual students, it should help to encourage communication and respect for those who speak other languages (Walker, 2004). The IBMYP

program helps students to raise their sights beyond their own borders towards a global future (Walker, 2004).

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Appendix A: Letter of Millard Public Schools Research  
Approval



Appendix B: Letter of Institutional Review Board for the  
Protection of Human Subjects Research Approval