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Jeffrey Stawick  
*DePaul University*

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The Effects of an Advisory Program on Middle-Level Student Learning

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Submitted in Partial Fulfillment of the  
Requirements for the Degree of

Doctor of Education

April 2011

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### **Abstract**

The purpose of this study is to explore if a middle school advisory program significantly affected student learning. Educators who advocate for the middle school concept for middle-level education claim that purposefully designed advisory programs can have specific beneficial effects. However, a limited body of knowledge and little empirical evidence supports this assumption. This study uses an ex post facto quasi-experimental design comparing three consecutive eighth grade classes in a middle school where such an advisory program was developed. The program was designed to improve student learning through improved relationships, interventions, and additional instruction time. The first eighth grade class had no advisory program; the second had one year of advisory during eighth grade; the third group had two years of advisory during seventh and eighth grade. The researcher's hypothesis is that learning improved as a result of the program and that increased exposure resulted in increased learning. To substantiate this, the study looks at ANOVA comparing differences in learning measures by year of study. The study also employs ANCOVA to compare years of study within the subgroups (covariates) of race, gender and income. Comparisons were made utilizing student grade point average, Illinois Standards Achievement Test (ISAT) scores, and Northwest Evaluation Association (NWEA) test scores for each class of students. Results indicated no significant differences in learning measures' outcomes by year. Several main effects were

found in the comparison of performance of students by race, income, and gender. Limitations of this study as well as implications for middle-level school practice and recommendations for future research are also included.

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## **Chapter 1:**

### **Introduction**

In our high-stakes environment, wasted time in schools is unacceptable. Underutilized or misused time is also disconcerting. The breadth of learning that schools are expected to impart is forever growing at the expense of depth. This results in students knowing a little about a great many things, and a great deal about little, if anything. Popham (2005), Reeves, (2002), and DuFour (2008) agree that “a common criticism of virtually all state standards is that there are far too many of them” (DuFour, et al., 2008, p. 184). DuFour (2008) continues,

Marzano (2003) estimates if schools attempted to teach all the standards that have been identified in the 49 states that have adopted standards, as well as the standards recommended by national organizations that have weighed in on the subject, it would require 23 years of schooling. He concludes, not surprisingly, that the American curriculum is not viable; that is, it cannot be taught in the amount of time available for schooling (p. 184).

More alarming perhaps is what happens when a student does not master a learning objective at first glance. The teacher, pressured to cover the uncoverable, feels she must go on. The student flounders, not yet knowledgeable, sophisticated, or self-motivated enough to seek help. When assistance is provided, it often feels like punishment because any additional instruction provided is forced, comes after the school bell and feels like detention. Middle school advisory programs are one way to utilize previously misused or unused

time during the school day to provide, among other things, meaningful remediation that feels like instruction, not punishment, and results in improved student learning. In the fall of 2005, Main School (a pseudonym) did exactly that. This study will examine the use of middle school advisory programs, and specifically, the impact that one such program had on student learning at Main School.

### **The Story**

Improved student outcomes pretty much fell into their laps at Main School. In the fall of 2004, Main School, a 7<sup>th</sup> and 8<sup>th</sup> grade building in a middle-class suburb of a major Midwestern city, hired a first year principal. The principal noticed almost immediately that there was a 42 minute period during the day that was wasted time. Almost 40% of the student population was part of band, choir or orchestra. Students who were not in one of these ensembles had “On Core,” which was not much more than a study hall. For the most part, students in On Core sat there and did homework, or chatted with classmates, or played checkers. Little learning was occurring. At the time, Main School had many middle school characteristics, but no advisory program.

The new principal had some experience with advisory programs from an assistant principalship in another district. While not an expert in middle school

philosophy or the importance of advisory programs from a theoretical standpoint, the principal's previous experience was a positive one and certainly "it would be better than checkers." As he began developing his thoughts and discussing the ideas with the assistant principal and the dean of students, and eventually the teachers throughout that first year, it became clear that they could do a number of productive things during that period of time that would improve student learning, organization, and relationships among students and between students and the adults in the building. The goal shifted from "stop wasting time in On Core," to "improve student learning."

For the 2005-2006 school year, the principal's second year at Main, the time previously used for On Core was split up. Eight minutes at the beginning of the day were set aside as "Advisory." Another 40 minutes at the end of the day were designated "Academic Lab." A few minutes were stolen from a couple of passing periods and from a couple class periods that happened to be a minute longer than the rest to make up the balance of time. Combined, the "Advisory" period and the Academic Lab" period formed a school-wide, middle school Advisory Program.

All students had Advisory first thing in the morning. Every certified staff person and every inch of instructional space in the building were utilized to keep class sizes under 15 students. All students who were not in band, choir, or orchestra returned to their advisor for Academic Lab last period. Their classmates

for Academic Lab were the same as for Advisory, less the music performance students who were meeting with their ensembles. This produced Academic Lab class sizes between six and eight students.

In Academic Lab, the students received individual attention, nurturing, and coaching. Students who needed more specific services could be temporarily referred by their advisor to one of three school-wide interventions during Academic Lab time. These academic supports included Homework Lab, Peer Tutoring and Math Lab. Layers of interventions began to take form. The organization's behavior became more and more intrusive if students continued to struggle. The idea was for all interventions to remain temporary and directed toward a very specific expectation or objective. Once a student met the expectation or objective, they immediately returned to Academic Lab. If, after a few days, the objective was still not met, the team of teachers, in concert with the student, parent, and advisor, charted a new course toward that end. There were several advantages: first, the interventions were in response to learning elements and not students personally. Secondly, since they expired once the mission was accomplished, the students interpreted the interventions as interventions, not a placement or label. In addition, the supplemental instruction took place during the regular school day, not after school or on a Saturday; therefore the interventions were not interpreted as punishment, *not* as an indicator of personal value or quality, and *not* as a reason for a student to dislike themselves or their

school. Finally, since all students in the building were learning intensely somewhere in the building at the same time, students in an intervention did not feel left out of something else.

### **The Problem**

The problem we examine in this study was the wasted time in On Core at Main School for the students who were not in a performance ensemble and the need to mainstream academic support to enhance learning without the stigma of punishment. Other considerations were the desire for improved student learning, better student organization, and more meaningful student-adult relationships. This was the problem that initiated the *change at Main School*. The desire to examine the *impact* of the change motivated the study.

### **The Rationale**

The educational community's need to understand whether introducing an advisory and academic support program can help improve student learning outcomes is the rationale for this research. The study is further motivated by the consistent, albeit subjective testimony from the players at Main School who claim that special things occurred as a result of their efforts, academic and otherwise.



What is known of pre-adolescence and adolescence suggests that caring, nurturing advocacy and non-stigmatized learning intervention are better received than anonymity and punishment. The National Middle School Association (NMSA, 1995) recommends “an adult advocate for every student,” (p. 14) and states that “the ideal school demonstrates a continuity of caring that extends over the student’s entire middle level experience so that no student is neglected” (p. 14-16). It is reasonable to suspect that such an initiative could result in improved outcomes. This study aims to examine this presumption. There is a place for this study in the literature regarding advisory programs, the middle school concept, student-adult relationships, and student learning.

### **The Significance**

If we can substantiate a positive impact of advisory programs on student learning, it would inform conscientious middle school program design. Such a finding would provide direction for middle school leaders not just in the face of our high stakes environment, but in the name of our age-old mission of improving student learning. Other implications include the possibilities of designing advisory programs to improve other school conditions besides learning such as climate, relationships, character education, public or home relations, or other

challenges. In the end, perhaps all we will illuminate are the students' impressive capacity for growth, when that is the expectation.

### **The Purpose**

This study will explore the impact of advisory programs on student learning for three consecutive 8<sup>th</sup> grade classes at Main School. The first 8<sup>th</sup> grade (class of 2005) class had no advisory program; the second (class of 2006) had advisory for one year, during their 8<sup>th</sup> grade year; the third class (class of 2007) had two years of advisory during their 7<sup>th</sup> and 8<sup>th</sup> grade years. The study will compare the academic performance of the three classes to identify the impact the advisory program had on student learning.

## Chapter 2:

### Literature Review

#### Introduction

The transition from elementary school to high school can be very difficult. Not only are the high school climate, structure, and expectations of maturity and independence significantly different than in elementary school, but also students have to make this trying transition during the tumultuous years of early adolescence. Mizelle and Irvin (2005) state:

Helping young adolescents make a successful transition into high school is not a new concern for middle level educators. In fact, one of the fundamental functions of the initial middle level education movement was to articulate young adolescents' transition into high school (Gruhn & Dougless, 1947; McEwin, 1998; Vars, 1998) (p. 1).

They continue:

Nevertheless, young adolescents today frequently have a difficult time in the making the transition into high school (Barone, Aguirre-Deandreis, & Trickett, 1991; George, 1999; Hertzog, Morgan, Diamond, & Walker, 1996). Many drop out, often shortly after they enter high school, or they fall behind and fail to graduate on time (Bureau of the Census (DOC), 1997; Green & Scott, 1995; National Center for Education Statistics (ED), 1995; Schwartz, 1995) (p. 1).

The Middle School Concept is designed to provide a *transition* between these two worlds. McAdoo (2005) shares that “at some schools...educators used the information [about the challenges of the transition] to change practices such as teaching students time-management skills” (p. 3). She also points out that “the

administrative teams in several schools spent time in each homeroom class talking about school-wide expectations as well as the support that was available to each student” (McAdoo, 2005, p. 3). Middle schools that are conscientious about the need for a transition allow students to begin to experience and experiment with some independence of thought and behavior while still receiving regular nurturing guidance. In some middle schools, much of this guidance occurs in advisory programs where small groups of students are cared for by advisors – teachers, not counselors, who are trained in early adolescent characteristics, educating the middle-level student, and advising. The advisor acts as the student’s advocate and knows more than any other adult in the school about the student’s academic standing, intellectual and social strengths and weaknesses, home life, relationships, etc. As a result, the advisor is in the best position to guide the student, as well as make recommendations to the student’s other teachers about what approaches work best to reach the student. The advisor can also most effectively refer the student to whatever interventions are most appropriate, as well as determine if the student would benefit from social work, contact with an administrator, etc.

The advisor is also best suited to be the point person for relationships with the home. Since the advisor is most informed, he or she will have the most meaningful conversations with parents and know the best ways to keep the family

involved in the child's education. The advisor can also make recommendations about what role the family can take in helping the student's education at home.

### **A Historical Perspective**

It has been the researcher's experience that most middle school educators understand the importance of advisory programs as part of the middle school structure and curriculum. The tumultuous nature of adolescence combined with the importance of focused learning during these trying years makes adult advocacy for each student and the elimination of student anonymity helpful in caring for students and facilitating positive student outcomes. Perhaps the most dramatic effort to directly address these issues is the formation of advisory programs in middle schools. Advisory programs have a unique and often inconsistent history.

As early as 1920, middle level educators alluded to the importance of care in schooling for adolescents. Briggs (1920) states, "in its essence the junior high school is a device of democracy whereby nurture may cooperate with nature to secure the best results possible for each individual adolescent as well as for society at large" (Lounsbury, 1996, p. 1). Decades later, Gruhn and Douglass (1947) established six purposes of middle level schooling: "integration, exploration, guidance, differentiation, socialization, and articulation" (Lounsbury, 1996, p. 1). In subsequent years, the foci remained relatively consistent, though

reform focused on school grade organization rather than programs within the school day. William Alexander led efforts to group middle level schools in a 5-8 or 6-8 format rather than the traditional 7-9 grouping, in an effort to distance adolescence from high school culture (Lounsbury, 1996). The National Middle School Association reopened the discussion in 1982 when it published *This We Believe*, which established ten elements of middle schools not dissimilar, though more inclusive than Gruhn and Douglass's six purposes. They are: "(1) educators knowledgeable about and committed to young adolescents, (2) a balanced curriculum based on student needs, (3) a range of organizational arrangements, (4) varied instructional strategies, (5) a full exploratory program, (6) comprehensive advising and counseling, (7) continuous progress for students, (8) evaluation procedures compatible with the nature of young adolescents, (9) cooperative planning, and (10) positive school climate" (Lounsbury, 1996, p. 2).

Another important moment in establishing relationships and advisory programs as important characteristics in middle level schooling came in 1989 when the Carnegie Task Force on Education of Young Adolescents (1989) released *Turning Points: Preparing American Youth for the 21<sup>st</sup> Century*. The work recommended we "create small communities for learning, reengage families in the education of young adolescents, and connect schools with communities" (p. 246). Finally, the National Middle School Association released *This We Believe: Developmentally Responsive Middle Level Schools* in 1995 and re-released an

updated edition in 2003 that is the standard today for middle level school frameworks. The position paper calls explicitly for “an adult advocate for every student.” (p. 14). The NMSA (1995) continues, “the ideal school demonstrates a continuity of caring that extends over the student’s entire middle level experience so that no student is neglected” (p. 16).

Despite the rather consistent understanding of the importance of nurturing relationships and advocacy in middle level schooling, the implementation of programs to address these needs has been somewhat varied. In middle level schools that have advisory programs, there are commonalities; however, there are marked differences as well. Understanding the nature of advisory programs will hopefully aid middle level school leaders in efforts to establish or improve programs in their schools and also establish opportunities for additional research on this important topic.

### **Middle School Philosophy Overview**

To understand advisory programs, one must first understand the middle school philosophy, an approach to middle level education that differs from traditional junior high models in very important ways. Although literature describing the traditional model is scarce, there were and are enough commonalities in implementation and practice to draw an understanding. We will

examine these commonalities individually below in how they differ from facets of the middle school philosophy. The National Middle School Association (1995) defines the middle school philosophy:

Developmentally responsive middle level schools are characterized by: educators committed to young adolescents, a shared vision, high expectations for all, an adult advocate for every student, family and community partnerships, a positive school climate. Therefore, developmentally responsive middle level schools provide: curriculum that is challenging, integrative, and exploratory, varied teaching and learning approaches, assessment and evaluation that promote learning, flexible organizational structures, programs and policies that foster health, wellness and safety, comprehensive guidance and support services (p. 16).

Each of NMSA's hallmarks seems to contrast characteristics of traditional junior high schools, or at least trends in actual practice within traditional junior high schools.

For example, traditional middle level educators might argue that the curriculum at their school is challenging, though few could argue that it is integrative or exploratory, at least to any practical significance. Integrative curriculum combines courses and concepts in non-traditional ways for mutual benefit. Consider the following example of an integrative lesson from the examiner's practical experience: In social science, the class may use what is known about the length (in time) of the Battle of Gettysburg and the number of soldiers killed to mathematically estimate the rate of deaths per minute or hour is integration. The teacher might continue by using math manipulatives to visually represent the loss over time, bringing the battle to life while exercising an age-



appropriate math skill. Such a lesson would integrate social studies and math and utilize a manipulative, making it more exploratory than traditional paper and pencil methods.

Traditional schools are also, for example, not known for varied instructional strategies, and tend to rely on direct instructional methods such as lecture. The traditional science teacher, for example, might lecture about seed germination, show photographs of the stages, and then do a demonstration. The exploratory teacher may roll out seeds, pots, dirt and water and have students see what they can do with it, all the while reporting back and being questioned by the teacher about their inquiry.

Assessment in junior high schools is traditionally summative in nature and not utilized to specifically inform future instruction. The middle school philosophy supports assessment as a tool for learning (NMSA, 1995). Formative assessments used to monitor growth during the instructional process contrast with summative assessments that measure total learning at the end. The purpose of formative assessments, in the spirit of NMSA's recommendation, is to inform the next day's instruction, customizing it to the progress of the students. Middle schools, contrary to traditional junior highs, often use regular electronic assessments that give immediate feedback to the teacher; others use common assessments, authored by the teacher teams themselves, to regularly adjust pacing, depth, and instructional design and delivery.

Guidance programs are not typically comprehensive in traditional middle level schools, beyond creation of course schedules and perhaps high school transition planning. The middle school philosophy suggests that each middle level child have an adult advocate and that guidance occurs continually, as part of the educational process and on a regular basis. Middle level aged students require much more guidance than about high school or career planning. The adolescent's journey from child to adult is often wrought with wildly changing feelings and behaviors, varying coping capacities, and limited judgment or magnification of the importance of social issues. Comprehensive guidance programs not only help students cope with these challenges, they can help the students develop their individual *capacity* to cope (Villalba, 2007, p. 31). However, this obviously cannot happen in the traditional scheme of a couple counselor-student meetings per year. Regularly meeting advisory programs are the key to delivering on the NMSA's recommendation for comprehensive student guidance.

Lastly, traditional junior high schools typically have somewhat rigid organizational structures. While no explicit definition of traditional junior high school was found in the literature, Cohen (1993) offers the following descriptors when framing the school in his study that he describes as traditional:

Most teachers taught from the front of the room. Class size was over 30 and students generally did the same work from textbooks. The computer room was used to teach keyboarding and the science lab and equipment was locked up...Teachers were able to go into their classrooms, close the door, and do what they wanted as long there was order. Though there was

pride in specific programs, there was no systematic support for innovation and quality improvement...Students traveled from class to class and were too often anonymous to their teachers...Teachers spoke to each other informally based on specific needs...professional dialogue occurred mainly on an as-needed basis. Staff meetings focused on procedural concerns (p.7).

Cohen (1993) paints a clear picture of what traditional means to him when describing junior high practices. This description is congruent with the common understanding of middle school practitioners. Within a middle school, the organizational structure is much different.

Anfara and Brown (1998) assume (correctly, it seems as demonstrated by actual middle school scheduling models) that “flexible organizational structures” implies middle school teaming and advisory programs in the regular school day. Teaming is another method of structuring schools in small learning communities where students will experience the same teachers throughout the day (NMSA, 1995). This structure often requires teachers to teach multiple disciplines (including advisory). Such structures require different preparation and more collaboration among teachers. “With increases in the use of interdisciplinary teaching teams in middle schools, it’s important for teachers to have two planning periods – one for individual planning and one for team planning” (Viadero, 1996, p. 7).

Such a setup is in stark contrast to the isolationist scheme Cohen (1993) describes for the traditional junior high school. In middle school teaming

structures, students will also get to know a finite group of peers in their classes from just their team and not the entire student body. This is designed to make it easier, more comfortable, and more convenient for them to make meaningful student-student and teacher-student relationships. Students will further nurture these relationships during the advisory period(s).

The structure has benefits for the teachers as well. Using a teaming organizational structure, also allows teams of teachers the flexibility of altering the daily schedule to support the day's learning most appropriately. If doing an interdisciplinary unit, the team may want to combine two courses' periods to make a double session, or combine classes and team teach.

For the purposes of this discussion, we will utilize the National Association of Middle School's definition of the middle school philosophy, assuming Anfara and Brown's presumption about flexible scheduling.

### **Middle School Advisory Programs Overview**

Advisory programs in middle schools are completely different from typical advising in schools. School advising is traditionally most common in high schools and is done by certified counselors, not certified teachers. The role of the traditional counselor is to meet with students individually and assist them in the scheduling of their classes, transition from high school to college or the

workforce, and provide intervention and guidance. Counselors typically have a hundred or more students in their caseload, assigned randomly, or alphabetically. Traditionally, high school students meet with their counselor periodically, perhaps once a semester, unless they have additional need.

Middle school advisors meet with all of their students every day, or at least several times a week. The advisor is a certified teacher, and spends most of her day teaching classes. Her advisory caseload is roughly a dozen students, all of whom she meets with as a group regularly. While student scheduling, transitions, intervention and guidance are among her responsibilities, the middle school advisor is so much more. She is the student's advocate, the adult with whom the student has the most meaningful and intimate school relationship. These programs vary greatly from school to school depending on their purpose, and look very little like traditional high school guidance counseling or advising. While it is easy to explain what middle school advisory programs are not, it is more difficult to define precisely what they are.

Rather than singling out one definition of middle school advisory programs, it is the *variety* of conceptions of advisory programs within middle schools that is central to our understanding of the current condition of such programs. Consider the following conceptualizations of advisory programs:

NMSA (1995) quoted by Deitrick (2004):

An advisory program is one established to provide an adult advocate and guide for every student (NMSA, 1995). “An advisory program is an arrangement whereby one adult and a small group of students have an opportunity to interact on a scheduled basis in order to provide a caring environment for academic guidance and support, everyday administrative details, recognition, and activities to promote citizenship” (p. 6).

The NMSA is largely regarded as the authority on middle level education. They provide a detailed yet flexible description. Important is their very specific list of possible purposes: academic, administrative, recognition, citizenship. What’s more, they qualify these objectives with important descriptors: advocate, guide, interact, caring, guidance, support. The word choice reinforces both the need for a thoughtfully designed curriculum of activities to a desired end, delivered in concert with developing nurturing relationships of care.

The belief in the importance of care in advisory programs is perhaps the most telling thread connecting multiple definitions. For example, Beane and Lipka (1987):

Advisory programs are designed to deal directly with the affective needs of transescents. Activities may range from non-formal interactions to use of systematically developed unit[s] whose organizing center[s] are drawn from the common problems, needs, interests, or concerns of transescents, such as “getting along with peers,” “living in the school,” or “developing self-concept.” In the best of these programs, transescents have an opportunity to get to know one adult really well, to find a point of security in the institution, and to learn about what it means to be a healthy human being (Anfara, 2006, p. 1).

Beane and Lipka (1987) effectively articulate the desire for care or counseling in advisory programs. However, their conceptualization deals solely with self and social issues. There is no mention of academic support. They imply advocacy, although again, they describe the role of the advocate as one of security and guidance through personal and social growth and not as an academic advocate.

Others are not as specific, such as Stevenson (1992):

An advisory is an educational program commonly found in exemplary middle-level schools. It is an organized group of one adult and a dozen or so kids that serves as the students' first line of affiliation in their school. The group meets at least once daily, usually for the first 20 minutes or so of the day (p. 293).

Stevenson's casual language makes this more of a rough description than a definition. He suggests small groups, daily meeting, and organization. The word "affiliation" lacks the responsibility that comes with the term advocacy, and suggests social and administration support. Furthermore, Stevenson (1992) clarifies his description with the purposes of the advisory program:

- Make sure every student is known well at school by at least one adult.
- Make sure every student belongs to a peer group.
- Help student find ways of being successful within the academic and social options the school provides.
- Promote communication and coordination between home and school (p.293).

Stevenson addresses all the points valued by the NMSA, though sometimes does it in a forgiving way that stops short of accountability for the advisor. "Make sure" is quite compelling in the first two purposes, however "help student find

ways” of academic and social success sound more like coaching than advocacy. “Promote” communication lacks the same punch. *Insist* on academic and social success and *initiate and sustain* communication would have been more powerful word choices.

Another definition more in line with the NMSA is Cole (1992):

A TA (Teacher Advisory) program could be defined as: an organizational structure in which one small group of students identifies with and belongs to one educator, who nurtures, advocates for, and shepherds through the school the individuals in that group (p. 5).

Cole (1992) provides a brief but flexible description that could be argued agrees with the NMSA’s above. Albeit much less detailed, Cole (1992) could be understood to imply a variety of advocacy categories when she says the advisor “shepherds [students] through the school” (p. 5). It takes much more than just personal and social health to successfully navigate a school, including academic accomplishment. Cole also describes small group nurturing and advocacy as well as belonging to one educator. In summary, a defined purpose delivered with care.

Even more flexible than Cole is the definition offered by Robinson (1992): “Advisory Program – a program within a middle school whereby students work with adults on an individual or group basis” (p. 5). While this definition does not contradict the descriptions above, it is too basic to ascertain how much or little is meant by it. Robinson (1992) examines advisory programs within New Hampshire public schools. She found such a spectrum of different definitions,



purposes, activities and behaviors that she was forced to give a simple, all-inclusive definition. This broad continuum is relevant to this study as it seems there are almost as many designs as there are programs themselves.

The definitions above range from very detailed (NMSA, Beane and Lipka) to simple (Robinson), and include a varying level of detail and attributes. The only clear commonality is the presence of an adult, and a small number of students. Cole calls the program “Teacher Advisory,” the others “Advisory” or “Advisory Program.” All of these names refer to the same type of program, though the inconsistency of their structures is independent from the inconsistency of what they are called. In other words, even programs of the same name differ greatly. For our purposes, we will call such programs “Advisory Programs,” and use the National Middle School Association’s (1995) definition, as quoted by Dietrick (2004),

An advisory program is one established to provide an adult advocate and guide for every student (NMSA, 1995). “An advisory program is an arrangement whereby one adult and a small group of students have an opportunity to interact on a scheduled basis in order to provide a caring environment for academic guidance and support, everyday administrative details, recognition, and activities to promote citizenship” (p. 6).

The definition is complete, yet general enough to accept many of the varied practices of middle school advisory programs.

### **Rationale for Advisory Programs**

Much like the similar yet varied definitions of middle school philosophy and advisory program, available literature has an array of rationales for the existence of advisory programs. Primarily, advisory programs are about adult-student relationships (Bergmann and Baxter, 1983). George and Shewey (1994) state that “middle school educators stress development of school environments in which early adolescents can belong to a nurturing group and have consistent access to adults who know and care about them” (Tomlinson, 2004, p. 4). The National Association of Secondary School Principals (NASSP), in their seminal work *Breaking Ranks in the Middle: Strategies for Leading Middle Level Reform*, encourage:

- creating structures so that students cannot remain anonymous;
- establishing schedules and priorities that allow teachers to develop an appreciation for each student’s abilities;
- creating structures in which the aspirations, strengths, weaknesses, interests, and level of progress of each student are known well by at least one adult; and
- offering opportunities to develop social, decision-making, and communication skills (The National Association of Secondary School Principals [NASSP], 2006, p. 129).

While these ideas are not provided as explicit rationale for advisory programs themselves, they certainly advocate for some of the same objectives as advisory programs, such as decreased student anonymity, and increased student-adult

relationships. Advisory programs are one very good means to achieve the NASSP's desired ends.

Wilson (1998) helps make the connection between the NASSP's suggestions and advisory programs by providing a rationale for advisory programs as an instrument for executing the middle school philosophy:

The advisory system in middle schools around the country is based on a simple concept: each child should be known well by at least one caring adult in the school...Middle school philosophy demands that middle schools be humane places where young adolescents can learn and thrive intellectually and emotionally. Advisory programs can offer support to each child navigating his or her way through the emotional turbulence of this critical stage (p. 100).

While there is much more to the middle school concept than just advisory programs, the NASSP champions the importance of the advisory program in the concept's execution. In fact, from a student's point of view, the advisory program is likely the most tangible evidence of a difference between the traditional junior high concept and the middle school philosophy. The other differences such as teacher teaming, flexible scheduling, or interdisciplinary learning, are certainly noticeable to the student, however having a regular period of time when the focus is on support and caring is quite impactful.

Clark and Clark (1994) provide a more clinical purpose for advisory programs which supports the concept of middle school philosophy vehicle:

- promoting opportunities for social development;
- assisting student[s] with academic problems;
- facilitating positive involvement between teachers and administrators and students;
- providing an adult advocate for each student in the school; and,
- promoting positive school climate.

Clark and Clark (1994) provide a clear rationale, though some in the field may argue that it lacks language accentuating the need for care and nurturing in the adult-student relationship.

Individual schools can (and should, as discussed later) provide a more specific rationale for their local advisory programs than the general provisions that scholars provide. Fort Couch Middle School in Upper St. Clair, Pennsylvania adopted the following goals for their advisory program (Deitrick, 2004):

- To interact with students on a regular basis to provide students with a sense of belonging to the school community.
- To give an additional support system to those in need.
- To build rapport and trust between students and teachers.
- To foster personal interaction with students.
- To provide additional resources for students.
- To help students reach their full potential.
- To establish an additional program for identifying possible crisis situations (p. 17).

This is a practical rationale adopted by a specific school to meet applicable building goals for their program. Based on the program goals, it seems that Fort Couch Middle School is interested in fostering student-student and student-adult

relationships, and providing support for students academically, socially, and developmentally.

The quality of these adult-student relationships likely has a positive effect on communication in the school. Alder (2002) outlines adolescence as a time of instability and vulnerability. The study found that students value communication with teachers. Adler (2002) notes that students view an adult talking and listening to students as positive. The rationale the study offers for advisory programs not only includes the need for caring adult-student relationships established by effective adult-student communication, but also includes student growth as a moral agent. Adler (2002) argues that “the ability to naturally care about one another increases self-esteem, augments sense of belonging, creates a sense of service to others, and cannot be maintained without employing intellectual inquiry and flexibility” (p. 246). Where better to nurture such intellectual inquiry for caring than in the program designed for student growth?

### **Preventing Student Anonymity**

Others consider preventing student anonymity the prevailing justification for advisory programs. Student anonymity refers to students who make their way through their education without being noticed – not celebrated for successes, nor called to task for errors in judgment, nor remediated for learning gaps. Implied in

this rationale is the need for adult-student relationships, although in practice there may be subtle differences between programs promoting adult-student relationships as primary versus those focused on eliminating student anonymity. If the relationship is the only goal, regular meetings with mutually agreeable topics are sufficient.

However, if preventing student anonymity is the goal, mechanisms need to be put in place to ensure that behaviors of all kinds are noticed. Advisors might regularly audit student attendance, academic performance, participation in extracurricular events, etc., all the while monitoring each of her advisory students' dispositions, moods, and behaviors. Goldberg (1997) says that ultimately "an advisory system [program] is a simple method that ensures that no...student...becomes anonymous" (p. 1). Burkhardt (1999) continues Goldberg's statement:

Anonymity leads to alienation; and, in the minds of many young people, a feeling of alienation sanctions anti-social behavior. Advocacy for all minimizes the number of students who fall through the cracks. Education has always been a "human" business, and an advisory program "will appeal to any...school that wishes to emphasize personalization" (Goldberg, 1997, ix). The more humane and caring the school is, the more readily a strong sense of community will flourish (p. 54).

Burkhardt (1999) utilizes Rubinstein (1994), to demonstrate advocacy as the antidote for anonymity, and may be alluding to an implicit connection to Alder's (2002) idea of student growth as a moral agent through advisory programs:

The most critical need for any person is to find meaning, purpose and significance. In order to do this, that person must feel understood, accepted, and affirmed” (Rubinstein, 1994). Advocacy for young adolescents provides affirmation and acceptance at a critical time in their lives. It is an essential element of the developmentally responsive middle level school (Burkhardt, 1999, p. 54).

In discussing a person’s “critical need for...significance,” Burkhardt alludes to service, which is regarded as a potential marker for moral agent (Burkhardt, 1999, p. 54).

Alder (2002) identifies ideas regarding growth as a moral agent that could certainly be useful in satisfying Burkhardt and Rubinstein’s motivations. Regardless, it is clear that advisory programs can be used with the intent to help establish caring adult-student relationships, and that such relationships can result in a number of benefits for students including social, moral, and self.

Advisory programs may also be a responsible choice in response to the very nature of adolescents themselves. Cole (1992) identifies the “herd instinct” as a dominant developmental characteristic of early adolescence (p.5). “Herd instinct,” or gregariousness is defined as “...the tendency to want to belong to groups or to derive satisfaction from groups activity or groups work” (Reber and Reber, 2001, p. 307). Cole (1992) states that “from an egocentric, self-centered, developmental stage in childhood, the early adolescent moves into *groupness*, a stage that often seems to parents, teachers, and others to be the early adolescent’s total focus” (p. 5). As it turns out, small and intimate environments such as

advisory programs may simply be the most comfortable and natural environments for middle school students.

Adults can be comforted too in knowing that advisory programs will help them keep tabs on all students. In this era so impacted by No Child Left Behind, it is relevant that much of the literature mentions the idea of not letting any student “fall through the cracks.” Burkhardt (1999) was an example of this above when he champions the eradication of anonymity. In addition, the NMSA refers to this phenomenon when providing a rationale for advisory programs. The NMSA promotes each student being known and cared for by an adult who is of good character. They also suggest that the adult be knowledgeable about adolescent development and middle level education. Despite the fact that advisors are not counselors, they are able to identify indicators that would trigger a referral to counselors, or to administrators, other teachers or parents.

The NMSA also states that advisors should be the communication link between school and home. Wilson (1998) agrees,

When parents are well informed about the content of the program and its goals, negative reaction is rare...Parents need to be informed about the advisory program and its purpose during their orientation to the school. The first person they meet from the school should be their child’s advisor. This link will help solidify that necessary parent-school partnership (p. 102).

Most often, there is no adult that loves, cares for, or knows as intimately a child than her parent or guardian. In middle schools with advisory programs, there is



no adult in the system who knows a child as well as her advisor. Logically, these two adults can augment their impact and influence by collaborating, partnering, and planning together for the best approaches to assist the student. The concept of school – home partnerships is not a new one. However, through an effective advisory program, this partnership can be even stronger and have a more detailed and significant impact on the child.

In summary, the NMSA describes the ideal school as one that “demonstrates a continuity of caring that extends over the student’s entire middle level experience so that no student is neglected (NMSA, 1995, p. 17). Though missing explicit language regarding growth as a moral agent or appealing to adolescents’ tendencies toward herd instinct or groupness, the NMSA provides a well-written and quite complete rationale for advisory programs.

### **Curriculum of Advisory Programs**

The designs of advisory programs are as different as the number of advisory programs that exist. It is difficult to find two that are the same as they are very individualized and therefore hard to categorize. The NASSP, NMSA and others recommend that schools develop activities according to the perhaps unique needs and goals of the school. Autonomy with regards to advisory programs is one of its most special, even valuable attributes. This autonomy however, is the

root of inconsistency among programs, as freedom of practice results in many permutations. When misguided, this variance can cause program failure. As the literature suggests, it is important that schools identify what they want to get out of their program and purposefully design activities to that end.

Cole (1992) gives an example of a program designed to build relationships. If relationship improvement is the goal she recommends activities based on “personal concerns of students, instructional concerns, school concerns, and career education” (p. 23). She also promotes the idea of breaking from the normal sequence in advisory when relationship building occasions arise. Activities or discussions about welcoming new students, sensitivity to the handicapped, community or school service projects, death or other community tragedy, or common events can at least indirectly work to that end (Cole, 1992).

Robinson (1992) recommends a more scripted approach. She outlines a school advisory program curriculum that is programmed by month before the year begins. In her program teachers offer activities on different concepts:

- September – Trust
- October – Reflections
- November – Hopes
- December – Gifts
- January – Growth
- February – Relationships
- March – Choices
- April – Visions
- May/June – Dreams (Robinson, 1992, p. 4)

These efforts may help facilitate individual and group development. They can also help establish nurturing student-student and adult-student relationships. Character development may also be nurtured. However, this framework may be lacking if the goals are academic intervention, improved school-home relations, or service.

In another example, Allen and Sheppard (1992) offer a handbook of ideas and activities compiled from 21 contributing schools in Georgia. They characterize these offerings as providing experiences that:

foster acceptance, assist students in setting personal goals, develop interpersonal relationships, provide experiences in critical thinking and problem solving, develop communication skills, build self-esteem, accept responsibility, help students become good citizens, and provide opportunities for meaningful dialogue (p. 4).

Allen and Sheppard (1992) encourage advisors to know their students as people, establish trust, communicate with the student's home, and provide social, emotional and intellectual growth activities. They summarize the advisor role as that of a caring adult that "plays a major role in a school" (p. 4). As a compilation of ideas offered from across the state, this guide is meant to have something for everyone, yet probably everything for no one. For this reason, the best recommendation is likely for individual schools to utilize the autonomy of advisory programs to address the specific needs of the school, yet heed the danger of autonomy by gathering ideas from a variety of similar settings and planning

cooperatively and purposefully to design a program best suited for specific school goals.

Pitt County Schools is an example of an organization that did exactly that with good results. In their Advisory Handbook (revised 1993), Pitt County Schools offer the following for what advisors should do in their advisory:

- Get to know each advisee on an individual basis
- Become knowledgeable about the total school program and how each advisee can gain the greatest benefit from it
- Help each advisee to recognize his/her strengths and weaknesses and to set goals for growth and self-improvement
- Implement series of predetermined advisory activities in such areas as study skills, personal development skills, communication skills, people skills, and career planning skills (Pitt County, 1993, p. 31)

The fourth bullet lists categories of activities similar to those described in the Georgia handbook. However, note that they listed such activities as the fourth consideration for advisors. Perhaps individual and group relationships, maximizing benefits from the whole-school program, and self-improvement are higher priorities for Pitt County, or maybe all four bullets are of equal priority. Regardless, meaningful, conscious decisions must be made by the school with regard to purpose, practice, and priority. A judgment of quality is not being made with regard to individual school goals. Rather, establishing such goals and designing the program to meet them is the important point.

Another possible ambition of an advisory program might be to improve the academic performance of a demographic subgroup. Camblin (2003) identifies

quality middle school practices as a means to address a disparity of outcomes in schools. “Closing the gap will require middle schools to use the most effective practices for all students, focus on interventions specific to underserved students, and develop the capacity to do both” (Camblin, 2003, p. 1). Perhaps advisory programs can assist in improving the performance of student populations that are currently underperforming their capacity.

As Kommer (2006) suggests, unfortunately, “Some middle level schools still have not embraced central concepts of middle school education such as advisory programs and interdisciplinary instruction – even when they have the ‘middle school’ name above their doors” (p. 2). Wilson (1998) offers the following critique:

Programs that are not successful or supported by faculty and parents are often those that have started without planning and with no clear set of goals, no vision or values...and no training for the faculty who will be required to implement the program...Planning groups should participate in discussions that focus on the unique needs of the adolescents in their school, the needs of the school itself, and the ways in which an advisory program could be structured to meet the needs of the school and the students (p. 101).

When such less than adequate change attempts result in unsatisfactory outcomes, “some city districts have discontinued middle schools, and the movement has been criticized by many for placing concern for the psychological development of students above concern for rigor” (Kommer, 2006, p. 2). Unfortunately, an effort in name alone will not suffice, reiterating the need for purposeful consideration,

specific goal setting, and the conscientious creation of a complete program designed toward specific, desired ends.

### **Advisory Programs' Outcomes**

An examination of the literature regarding the effects of advisory programs is predominantly qualitative. The literature supports that purposefully designed and well-implemented advisory programs yield positive results in schools. Camlin (2003), reviewing Cooney (2000) and NMSA (1995), states, "Effective advisory programs increase student achievement, promote student-teacher relationships, address general self-esteem and confidence beliefs, link parents with the school, and mediate between academic and social concerns" (p. 5). Burkhardt (1999) offers that the most common result is perhaps the most important: there is less student anonymity, and as a result less alienation in schools with effective advisory programs.

While there is little empirical data on the results of advisory programs, that which does exist suggests that advisory programs help students solve personal problems and that students report feeling more connected to the school as a caring environment. Student and teacher contact in such schools is more frequent and more positive (Braddock and McPartland, 1993). Braddock and McPartland (1993) state:

...qualitative accounts of schools that have strong adult advisory functions show the potential for helpful individual guidance and for individualized projects to help solve personal problems of middle school students and to connect them with a caring human environment at school (p. 143).

Douglas J. Mac Iver (1990), collected data in a national survey of practices and trends in middle schools conducted by CREMS. The analysis of principal survey responses indicated that:

According to principals' estimates (with other geographic, demographic, and school variables taken into account), schools that have strong group advisory programs are more successful at meeting students' needs for guidance, advice, and counseling and at lowering the proportion of students who will drop out before finishing high school (MacIver, 1990, p. 459).

Mac Iver (1990) cautions, however, for practitioners not to think of advisories as a panacea, as the results were modest, though significant:

Our data indicate that a school in which an average of nine supportive group advisory activities occur each month rather than never typically saves 2% of its students from dropping out before high school graduation and raises the principal's rating of the excellence of the schools' guidance services by just over one-fifth of a point on a four point scale (p. 459).

Connors (1986) conducted a qualitative study on the benefits and overall effects of an advisory program in Sarasota, Florida called PRIME TIME. Connors states that advisory programs have a positive impact on social and emotional growth (Connors 1992 and Wilson, 1998). In this study, Connors (1992) employed surveys and interviews of students, teachers, administrators, guidance counselors, and parents that led her to conclude that the program:

1. Helped students in their social growth.
2. Contributed to a positive school environment.
3. Helped students learn about the school.
4. Helped students learn to make friends.
5. Helped students learn how to get along with others.
6. Enhanced the teacher-student relationship.
7. Provided the advisors the opportunity to know students on a one-to-one basis.
8. Helped students develop a sense of positive self-worth.
9. Helped student acquire and improve the habits and attitudes necessary for responsible citizenship (Connors, 1992, p. 171).

The study also found an increase in average daily school attendance, and an increase of standardized test performance (Connors, 1992). There is evidence that student behavior improved as well:

Overall, the administrative staff and faculty have also seen a remarkable decrease in discipline problems, office referrals, and truancy. One teacher stated, "In the past, on the last day of school, students would leave yelling obscenities from the busses, but now the students are sad that school has ended and leave with tears in their eyes and positive remarks" proving the program can make a difference (Connors, 1986, p. 46).

James (1986) suggests that overall, the impact of advisory programs on school climate, student academic success, student behavior, student-staff and parent-teacher contact appear positive, though much more research is necessary (as cited in Ziegler, 1993). There are other possible predictable outcomes not substantiated by research. While there are no data to support it, it is reasonable to expect improved self-esteem and competence beliefs (Deitrick, 2004), improved ability to meet guidance needs of students (Esposito & Curcio, 2002), and decreased anonymity (Burkhardt, 1999 & Tomlinson, 2004). Improved self-



esteem as a result of advisory programs is particularly interesting if the assertion is correct that the correlation of the self-concept of the learner is a powerful predictor of academic achievement in school. Perhaps a middle school advisory program is an appropriate tool to that end.

### **Advisory Program Recommendations for Implementation**

The benefits to be gained from advisory programs are not without great effort. There is consensus that advisory programs are the most difficult aspect of the middle school concept to implement and sustain effectively (Anfara & Brown, 1998; Peterson, 2001). As a result, particular care must be taken if a school's advisory program is to be successful. As with all educational reforms and practices, it is best that the stakeholders agree on some principles or norms for the endeavor. Marshal and Oliva (2006) suggest that a leader's will and passion alone will not suffice. "Huge shifts in cultural understandings and ...school expectation(s) will happen only with the shared values, coalitions, networking, and mutual support that comes with the power of enlarging groups of people" (Marshal and Oliva, 2006, p. 11). Actors should decide together *what* the program should look like and *what* it should accomplish. *How* each advisory section behaves to that end should be largely up to the advisor.

So much freedom must be preceded by the advisor's deep understanding of the program's purpose. The idea of having advisors discard maps (individual impressions, constructs, lenses, expectations for behaviors, tasks) in favor of a compass (direction or principle) is not unique to advisory programs (Covey, 1992). Unlike a math class, with a relatively rigid scope and sequence, perhaps the advisory period can be more fluid. If advisors understand the purpose, the principles behind the existence of the program, they can be set free to move in that direction each according to her gifts. This way, advisors can customize their efforts in the most meaningful way to them and to their group of students. Senge (2000) endorses such autonomy and echoes Covey once stakeholders agree on principles. He suggests that educational leaders give stakeholders the key to the city to see what they do with it. Relinquish decision making and pay attention so that everyone learns. The leader has as much to learn observing the behaviors defined by the individual gifts of the stakeholders, as the stakeholders have to learn from the leader. Covey might suggest more so.

A leader must be self-confident to relinquish control in such a way and expect to grow as a result. The leader must also believe in other people. Covey (1991) offers that when leaders are principle-centered, not self-centered, they:

...don't overreact to negative behaviors, criticism, or human weaknesses. They don't feel built up when they discover the weaknesses of others. They are not naïve; they are aware of weakness. But they realize that behavior and potential are two different things. They believe in the unseen potential of all people. They feel grateful for their blessings and

feel naturally to compassionately forgive and forget the offenses of others. They don't carry grudges. They refuse to label other people, to stereotype, categorize, and prejudge. Rather, they see the oak tree in the acorn and understand the process of helping the acorn become the great oak (p. 35).

When you believe in others, special things happen. Covey (1991) continues:

Truly, believing is seeing. We must, therefore, seek to believe in the unseen potential. This creates a *climate for growth and opportunity*. Self-centered people believe that the key lies in them, in their techniques, in doing 'their thing' to others. This works only temporarily. If you believe it's 'in' them, not 'in' you, you relax, accept, affirm, and let it happen. Either way it is a self-fulfilling prophecy (p. 35).

When we apply the self-fulfilling prophecy and principled approach as Covey suggests in concert with the autonomy Senge and Marshal and Oliva advocate, the result is a program conceived by the whole and executed by invested individuals individually according to their individual gifts, but to a mutually desirable end. Collins (2001) had similar findings in his discussion about what he calls level 5 leaders. According to Collins (2001), such leaders are those that "channel their ego needs away from themselves and into the larger goal of building a great company" (Collins, 2001, p. 21). This humility guides level 5 leaders to "look out the window to attribute success to factors other than themselves, [although] when things go poorly...they look in the mirror and blame themselves, taking full responsibility (Collins, 2001, p. 39). In other words, the leader can absolve the team developing the idea from the pressure of failure by assuming responsibility for failures and encourage the team by crediting them for successes.

Once the organization agrees on principles, individuals must understand the program's purposes. Following is an examination of recommendations for what guiding principles should be considered, and what detail should and should not be established by the whole or left up to the individual. Desired characteristics include *a collaboratively identified purpose, small advisory class sizes for all students, comprehensive assessments of the program's effectiveness, and the support of strong leadership.*

Advisory programs should have a defined purpose that is created and supported by the community (NASSP, 2006). Stakeholders should collaborate, operating interdependently to establish the program. Those not involved in the inception process should be informed and have an opportunity to speak to the work of the group. The program should be organized in a manner congruent with the purpose of the program.

Consider the importance of small advisory section sizes of ideally 10-15 students (Burkhardt, 1999 and Robinson, 1992) and the inclusiveness of the program for all students (Robinson, 1992). The content of the program should advance the purpose of the program. Advisors should insist that all efforts made in the advisory period are relevant to that purpose.

All people involved with the program should continually, formatively assess the program. This includes students, advisors, administrators, and parents (NASSP, 2006).

Strong leadership should support the program (NASSP, 2006 and Robinson, 1992). This does not imply directive or coercive leadership (Blasé, 1991). The individual or team of people leading the program should continue to collaborate interdependently after inception and lead discussions with the whole regarding the results of formative assessments of the program and the best course of action that results from this continuous examination (Allen and Sheppard, 1992; NASSP, 2006; and Robinson, 1992). The specifics of the program remain fluid, only the principles remain unchanged.

### **Directions for Research**

Much has been written about the purpose and structure of advisory programs and how it relates, even facilitates the middle school philosophy. While there is much supposition about how “middle school” qualities advance student outcomes, there is little research that examines how effectively advisory programs promote these qualities or outcomes. Much more research is necessary to establish whether advisory programs indeed promote concepts like caring adult-student relationships, advocacy, improved student learning, social and emotional development, school-community relations, and students’ self-concepts, students’ propensity toward service, and improved student learning as specifically examined in this study.

The results from such research would lead scholars to begin to substantiate the characteristics of successful advisory programs. This way, the body of research would expand to include what principles and behaviors should be favored based on the local needs of the interested organization translating into informed, improved practices in schools.

### **Conclusion**

“A middle school with teachers and administrators who truly understand young adolescent development should provide a strong advisory program to support both social and intellectual growth during a pivotal stage in students’ lives” (Wilson, 1998, p. 102). Despite limited conclusive, empirical evidence to support it, scholars agree that advisory programs can improve student advocacy, promote student-student and adult-student relationships, improve school contact and relations with the home and larger community, and facilitate social and emotional development in students. To do this most effectively, schools must think and act purposefully and agree interdependently on the principles of the program. When this is accomplished, advisors can behave autonomously, each according to her gifts and that of her group of students. The best programs seem to be those that are not replicas of others, but rather incepted from local need and created with care. The program at Main School that this study examines was

designed initially to fill previously wasted time with something productive. It quickly evolved into an effort to improve relationships, eliminate student anonymity, improve work completion, and ultimately improve student learning.

## **Chapter 3:**

### **Methodology**

#### **Background – Problem Statement**

The literature suggests that high quality, conscientiously planned and implemented advisory programs can improve student advocacy, promote student-student and adult-student relationships, improve school contact and relations with the home and the larger community, improve student learning, and facilitate social and emotional development in students. However, there is little empirical evidence to substantiate these claims. Much more research is needed.

#### **Research Question**

The list of possible gains that may result from a well-executed middle school advisory program is lengthy. This study proposes to begin answering the following questions:

1. What effect did this middle school advisory program have on student learning?
2. Did the amount of time in the advisory program (one year vs. two years) substantially increase any effect?



3. Are there differences between Minority/Non-Minority, Male/Female, and Low Income/Non-Low Income students?

### **Hypotheses**

The research hypotheses are that Advisory Programs have a significant, positive effect on student learning in that:

1. Students with one year of advising will perform significantly better on measures of learning (ISAT, NWEA, GPA) than students who received no advising.
2. Students with two years of advising will perform significantly better on measures of learning than students who received no advising.
3. Students with two years of advising will perform significantly better on measures of learning than students who received one year of advising.

The study examined the above groups in aggregate as well as disaggregated by ethnicity, gender, and income to determine if the treatment had significantly different effects on different groups of students.

## **Design**

The design of this study is a quasi-experimental, ex post facto model looking at two-group comparisons. Quasi-experimental means that subjects were not randomly assigned (Creswell, 2009, p. 155). In this study, a convenience sample was used which means the groups were naturally formed (Creswell, 2009, p. 155). The study utilized all eighth grade students in the organization and they were organized naturally by grade level for three consecutive school years.

Three consecutive 8<sup>th</sup> grade classes from the same middle school were compared. The first, the class of 2005, had no advisory program in 7<sup>th</sup> or 8<sup>th</sup> grade. The second, the class of 2006, participated in one year of the advisory program in 8<sup>th</sup> grade – the year of the program's inception. The third, the class of 2007, had the advisory program for two years in 7<sup>th</sup> and 8<sup>th</sup> grade.

The design includes three, three by two comparisons. Using each dependent variable, (GPA, ISAT, and NWEA), students in each group of race, income and gender will be compared to each other. Within each subgroup, students of like race, income and gender will also be compared across years of study.

Such a design has long been regarded as a legitimate method for examining differences between groups and determining significance. Johnson (2009) used a quasi-experimental design using static group comparison and

utilized *t*-tests to compare groups. The study examined the difference between a group of students who completed a service-learning component (treatment) and one that did not. “Results indicated significant differences in student perceptions and in the achievement of learning outcomes” (Johnson, 2009, p. iii). Gibson-Cayouette (2010) examined the impact of an educator externship on knowledge and understanding of 21<sup>st</sup> century skills among teachers. The study legitimized “the externship as an authentic professional development that provides knowledge of the 21<sup>st</sup> century skills for teachers” (Gibson-Cayouette, 2010, p. iii). Furthermore, Shaw (2010) successfully employed a pre-experimental static group comparison and found that a two-way immersion program influenced significant reading gains as measured on the Standardized Testing and Reporting program test (Shaw, 2010, p. iii). Doran (2008) compared the co-teaching pedagogy with a small group classroom model for students with disabilities. End of course testing revealed substantially better performance among students in the co-teaching group (Doran, 2008, p. iii). Reel (2010) utilized a quasi-experimental, pretest-posttest, control group design and independent samples *t*-test to uncover significantly better test performance among students with unlimited access to graphing calculators compared to students in the control group (Reel, 2010, p. iii). While there are hundreds of other examples, the above represents a sampling from the most recent educational literature with designs and measures similar to this

study. The researcher found no examples of similar design that study the effects of middle school advisory programs on student learning.

### **Sample**

The school in this study, which we will refer to as Main School, is a 7<sup>th</sup> and 8<sup>th</sup> grade building in a diverse suburban community. The student population was relatively stable. The student population was 54% White, 35% African-American, and 11% other. Low-Income students made up 15% of the student body, and less than 1% was Limited English Proficient. These numbers remained relatively constant during the three school years we will examine. There were roughly 280 students in each of the 8<sup>th</sup> grade classes we examined, and we used all students in our sample.

### **Measures**

For the purposes of measuring student learning, this study considered the students' grade point average, math scores on the Illinois Standards Achievement Test (ISAT), and the students' math scores on the Northwest Evaluation Association Test (NWEA) Measures of Academic Progress (MAP) test.

### Student GPA.

Students' final grade point average from the end of their 8<sup>th</sup> grade year was the first learning measure studied. Their principal surveyed teachers at Main School before this study began to determine what criteria teachers use to determine students' grades. Thirty-four teachers responded anonymously. The results are found in Tables 1, 2, and 3 below.

**Table 1**

*Question 1: What Criteria Do You Consider in Determining a Student's Grade? (Circle All That Apply.)*

Criteria	Times Selected	Percent of Respondents (of 34)
Ability	20	59%
Performance to Standards	25	74%
Effort	34	100%
Growth	18	53%
Attendance/Tardiness	9	26%
Behavior	10	29%
Homework Completion	30	88%

**Table 2**

*Question 2: Which of the Following Do You Believe a Student's Grade Should More Accurately Reflect? (Circle One)*

Response	Number	Percent (of 34)
Student's over-all performance in class	25	74%
Student learning/growth in subject	9	26%

**Table 3**

*Question 1 Results Separated by Question 2 Responses. (Group 1 Chose "Student's Over-all Performance in Class," Group 2 Chose "Student Learning/Growth in Subject")*

<i>Criteria</i>	<i>Group 1 #</i>	<i>Group 1% (of 25)</i>	<i>Group 2 #</i>	<i>Group 2% (of 9)</i>
Ability	15	60%	5	56%
Performance to Standards	18	72%	7	78%
Effort	25	100%	9	100%
Growth	13	52%	5	56%
Attendance/Tardiness	8	32%	1	11%
Behavior	8	32%	2	22%
Homework Completion	22	89%	8	89%

The tables demonstrate how teachers' criteria varied in determining a student's grade. Some of the student attributes are direct indicators for learning while others are better characterized as student behaviors. However, most if not all of these behaviors are widely accepted as at least indirect indicators for student success or learning in schools. Teachers' varying criteria can challenge the internal validity of student grades as a measure of student learning, as there is little standardization of what a grade is to report. Despite this, student grades are still an important measure of student learning. Not only are grades the standard used overwhelmingly to report student success in schools, but also grades are widely considered an effective measure to that end. This study used three different types of learning measures.

Colliton (1996) utilized grade point average as the measure in a dissertation for Michigan State University examining cooperative learning. The study found that students with moderate exposure to cooperative learning outperformed those with low or high exposure (Colliton, 1996). Since Colliton, there have been many more recent examples of grade point average used as a measure of student learning. Some other examples include Sebald's (2010) examination of the impact of extracurricular activities impact on academic achievement, Bohanon's (2007) study regarding the impact of after-school tutoring on black middle school youth's academic achievement, and Corry's (2006) comparison of Montessori to general education students' high school performance. Finally, Stout (2005) utilized grade point average to assess the effectiveness of youth development theory in one middle school program. She found the experimental group's grade point average to be higher than the control group. This result supported her conclusion that the youth development program had a positive effect on school achievement (Stout, 2005).

### **Illinois Standards Achievement Test (ISAT) of Math.**

All 8<sup>th</sup> grade students in the state of Illinois take the ISAT math test in March. The ISAT math test is summative in nature, a snapshot look at students' understanding of math. It is utilized as the standard measure of student

performance in the State of Illinois. As the only measure mandated to virtually every Illinois student, it is naturally found throughout the literature for virtually any study considering academic performance. Whether it be Evens (2010) study examining school performance and lead poisoning, Tomei's (2010) study of the relationship between musical aptitude and academic achievement, Fech's (2009) look at moral leadership, or Grady's (2009) assessment of constructivist mathematics theory, the ISAT is a constant. Other relevant examples are Seon-Young's (2010) feature on preparatory programs for verbally talented students, Aarons' (2010) article on the Strategic Learning Initiative, and Mcgee's (2004) article on closing the achievement gap. The ISAT's pervasiveness throughout the literature specific to Illinois students is unmatched.

The long relationship the State of Illinois has with the ISAT is understandable as the ISAT is well respected for its internal consistency of overall scores. Internal consistency is quantified by an index called coefficient alpha and ranges between 0.00 and 1.00 and corresponds to a generalizability coefficient for a person by item design with one fixed occasion and randomly selected items (ISBE, 2007). Consider the reliability data in Table 4 below:



**Table 4**

*Reliability: Internal Consistency Values (Coefficient Alpha) and Sample Size (Utilized for Calculation) for the Illinois Standards Achievement Test for the Years 2005-2007*

<i>Year</i>	<i>Reliability Estimates</i>	<i>Sample Size (on which coefficients are based)</i>
2005	.96	15,946
2006	.94	10,000
2007	.93	15,000

(Illinois State Board of Education (ISBE), 2005, p. 9; ISBE, 2006, p. 14; ISBE, 2007, p. 13)

With an alpha coefficient consistently in the mid .90's, the ISAT is regarded as a reliable measure of student academic performance. The reported reliability coefficients are derived within the context of classical test theory (CTT) and provide a single measure for the test (ISBE, 2007).

The ISAT examines the test's validity in terms of dimensionality. ISBE (2007) explains:

Dimensionality is a unique aspect of construct validity. Investigation is necessary when item response theory (IRT) is used because IRT models assume that a test measures only one latent trait (unidimensionality). Although it is generally agreed that unidimensionality is a matter of degree rather than an absolute situation, there is no consensus on what defines dimensionality or on how to evaluate it (p.24).

ISBE (2007) utilizes dimensionality analysis for the ISAT. "It is defined in factor analysis that a test's total variance equals the sum of the common variance, the specific variance and the error variance. The Divgi Index measures

unidimensionality, with a value of 3.00 suggesting unidimensionality. The Divgi Index for the 2006 ISAT math test was 27.7 and for 2007 it was 30.1. The ISBE did not report a Divgi Index value for 2005.

In an attempt to validate concurrent validity, the ISBE (2006 & 2007) investigated the correlation between ISAT and SAT10 items. A correlation of .90 suggests validity. The correlation for the 2006 ISAT math test was .95 and for 2007 it was .95 (ISBE, 2006 & 2007, p. 28). Again, there were no such efforts made to validate concurrent validity in 2005.

**Northwest Evaluation Association Test (NWEA) Measures of Academic Progress (MAP) test of Math.**

The Northwest Evaluation Association (NWEA) Measures of Academic Progress (MAP) is delivered via computer and measures student growth. Students at Main School are tested in the fall (September) and the spring (May) of each year. This study will consider the students' spring performance in math for each of the three consecutive 8<sup>th</sup> grade classes. Main School's district is one of 4000 member districts that utilize NWEA MAP tests (NWEA, 2010).

The popularity of the NWEA test has increased steadily since they first offered computer delivered tests to schools in 1986. Today, the Measures of Academic Progress (MAP) test is administered to over three million students

annually (NWEA, 2008). The MAP test is growth-based test that can be given multiple times a year to the same students and utilized formatively to inform instruction. The test adapts to the ability of the student taking it getting more and more difficult as questions are answered correctly and easier when items are answered incorrectly. Since the nature of the test varies for each student, internal reliability is not reasonable to calculate. Therefore, the NWEA (2008) technical manual offers the following:

The adaptive nature of MAP tests requires reliability to be examined using methods that are different than traditional methods. Test-retest reliability as it has been commonly calculated is not possible not because the same test cannot be administered to the same student, but because dynamic item selection is an integral part of the test. In a similar vein, parallel forms are restricted to identical item content from a common goal structure, but the difficulties of the items presented are dependent on the student's responses to the items presented prior to any particular item on the test. In view of these factors, test-retest reliability of MAP tests is more accurately described as a mix between test-retest reliability and a type of parallel forms reliability, both of which are spread across several months – a much longer time frame than the typical two or three weeks. The second test (or retest) is not the same test. Rather, the second test is one that is comparable to the first, by virtue of its content and structure, differing only in the difficulty level of its items. Thus, both temporally related and parallel forms of reliability are framed here as the consistency of covalent measures taken across time.

Marginal reliabilities are studied and calculated every three years and NWEA suggests that reliability varies only negligibly between studies. A study of reliability completed by NWEA for our years of interest was completed in 2007. The marginal reliability of the 2007 MAP test of math was calculated as 0.969. A sample size of 76,265 students was used to make this calculation (NWEA, 2008,

p. 106). No independent studies on the reliability of the NWEA MAP test of math were found to compare to NWEA's claims.

NWEA is able to boast substantial sample sizes because of their 4000 member districts (NWEA, 2010). Donhost (2009) calculates that NWEA is utilized by approximately 15-20% of our nation's school districts. As a result, MAP tests are beginning to find their way into relevant educational literature.

Donhost (2009) studied whether data-driven decision making and utilization of the NWEA MAP test was associated with ISAT growth over time. While his research was studying the effect of MAP test usage, others, like the author of this study, have utilized the test to measure learning under other treatments. For example, Gray (2010) utilized NWEA MAP tests to determine if school principals were good at identifying effective teachers. Dobbins (2010) completed a case study to evaluate the efficacy of math coaching and utilized the MAP test as her measure. Finally, as MWEA is used by nearly all school districts in South Carolina, Levitt (2008) examined student performance on the test to study academic growth in that state. As their number of member districts continues to grow, NWEA can be expected to gain credibility in the educational community and will certainly continue to become more visible in the literature. The studies cited above regard the NWEA MAP test as a reliable measure of student learning.

NWEA (2004) tests concurrent validity by comparing it with other measures and testing for a correlation in outcomes. Content validity of NWEA tests is assured by mapping a test blueprint from the content standards of a particular state. Test items are selected for a specific test based on their match to the content standards as well as on the difficulty level of the test being created. One created, the NWEA test and the state test it is tailored to are both administered to the same students two or three weeks apart. NWEA (2004) suggests that strong concurrent validity is indicated when the correlations are in the mid - .80's or higher. In a 2003 study of concurrent validity with the Illinois Standards Achievement Test (ISAT), the NWEA MAP test for math indicated a strong concurrent validity ( $N = 957, r = .87$ ) (p. 4).

### **Data Collection**

With the authorization and cooperation of the Main School District, the researcher had access to all 8<sup>th</sup> grade students' GPA, ISAT, and NWEA data from the three classes considered. Since the study is ex post facto and personally identifiable information was not provided, the researcher had no direct contact with human subjects in any way.

### **Data Analysis**

The data was accumulated in a Microsoft Excel file that was imported to SPSS for Windows. SPSS was used to perform all the analysis. The results of the three assessments were analyzed for significance using Analysis of Variance (ANOVA) between means of years of study and Analysis of Covariance (ANCOVA) between means of years of study within other subgroups (covariates) of race, gender and income. A threshold of 0.05 was used to determine significance. The race subgroup will include Minority and Non-minority/White students. The Minority group will contain students who identified themselves as Black, Asian, Hispanic, Multiracial, and American Indian. All but the Black subgroup contained very small populations. Therefore, all minority groups were combined into one group called Minority as it provides a more robust sample size while preserving the purposes of the study. Exact population sizes are reported in Chapter 4, Results.

### **Limitations**

There are several limitations to this study due to the nature and condition of education and the school being considered. While the student populations in each of the three 8<sup>th</sup> grade classes were very similar, they were different students.

Even with the ample sample and population we were not comparing the same students. In addition to the inception of the advisory program that is the independent variable, there were other changes in the school over the course of the three years in question that the researcher cannot control for. Some examples include: changes in teaching faculty, minor changes in the start and end time of school and the school's master schedule (to accommodate the new advisory program within the school day).

There were limitations within each of the measures used as well. As evidenced by the survey on "What's in a Grade," it is quite clear that the criteria for assigning grades to students vary from teacher to teacher. Furthermore, at the core of this limitation is that many teachers do not believe that student learning is the primary phenomenon that grades measure. Fortunately, the faculty likely held these same beliefs through all three years in question so some invalidity should at least be partially countered by consistency. Finally, grade reporting tends to be at least somewhat subjective in nature. That being said, GPA is still widely regarded as a valid measure of learning.

The NWEA test is perhaps our best measure of student learning since it is the only one tailored to measure individual student growth. However, since the instrument is delivered on computer, the subjects' comfort with technology and experience taking tests on computers must be considered.

The strength of the measurement was in the number and varied types of measures employed to examine the same phenomenon. The study utilized a local measure of grades, a highly regarded and state sanctioned summative measure in the ISAT, and a standardized and nationally recognized growth measure in the NWEA. The limitations of individual measures exist. The researcher expects that quality of the data was improved through the variety of measures used.

### **Summary**

It is the hope of the researcher that despite the limitations of this study that the research will begin to build upon the very limited literature on the subject of middle school advisory programs effect on student learning. Such programs exist within real school environments with students realizing their own education, so controlling for all of the variables that impact student learning is a daunting task. Hopefully this effort will yield at least an inkling of the impact such programs can have that will result in other efforts to uncover the nature of advisory programs' influence and potential.



## **Chapter 4:**

### **Results**

#### **Introduction**

To help ease the transition from elementary to high school, many middle-level schools practice the middle school philosophy. The National Middle School Association (NMSA, 1995) defines the middle school philosophy:

Developmentally responsive middle level schools are characterized by: educators committed to young adolescents, a shared vision, high expectations for all, an adult advocate for every student, family and community partnerships, a positive school climate. Therefore, developmentally responsive middle level schools provide: curriculum that is challenging, integrative, and exploratory, varied teaching and learning approaches, assessment and evaluation that promote learning, flexible organizational structures, programs and policies that foster health, wellness and safety, comprehensive guidance and support services (p. 16).

Advisory programs are often used as a tool by middle schools to implement the concept and services described above. The NMSA (1995) and Dietrick (2004) describe advisory programs:

An advisory program is one established to provide an adult advocate and guide for every student (NMSA, 1995). “An advisory program is an arrangement whereby one adult and a small group of students have an opportunity to interact on a scheduled basis in order to provide a caring environment for academic guidance and support, everyday administrative details, recognition, and activities to promote citizenship” (Dietrick, 2004, p. 6).

In this study, we examine the impact one such program had on the academic performance of three consecutive 8<sup>th</sup> grade classes with progressively more exposure to the treatment (advisory program participation). The class of 2005 had no exposure; the class of 2006 had one year of exposure as 8<sup>th</sup> graders; the class of 2007 had two years of exposure as 7<sup>th</sup> graders and then as 8<sup>th</sup> graders.

### **Research Questions and Hypotheses**

Advisory programs may have many different effects on schools. This study proposes to begin answering the following questions:

1. What effect did this middle school advisory program have on student learning?
2. Did the amount of time in the advisory program (one year vs. two years) substantially increase any effect?
3. Are there differences between minority/non-minority, male/female, and low income/non-low income students?

The research hypotheses are that Advisory Programs have a significant, positive effect on student learning in that:

1. Students with one year of advising will perform significantly better on measures of learning (ISAT, NWEA, GPA) than students who received no advising.

2. Students with two years of advising will perform significantly better on measures of learning than students who received no advising.
3. Students with two years of advising will perform significantly better on measures of learning than students who received one year of advising.

We will examine the above groups in aggregate as well as disaggregated by ethnicity, gender, and income to determine if the treatment had significantly different effects on different groups of students.

As all three measures stand to test the same hypotheses, the results will be grouped, presented, and discussed by measure, one at a time. The study will discuss student grade point average (GPA) first, followed by the Illinois Standards Achievement Test (ISAT) of Math second, and the Northwest Evaluation Association (NWEA) Test of Math last. The number of participants tested with each measure varies slightly. Five of the students who received grades failed to complete the ISAT examination and subsequently did not have reported results. One of the students who received grades did not complete the NWEA test and also did not post a result.

The only other exclusions were the result of a data adaptation. It should be noted that a scoring irregularity existed in this study's three cohorts of data. More specifically, the 2006 and 2007 cohorts' ISAT performances were scored on a vertical scale, which allow a standardized metric for growth to be evaluated across multiple years and grade levels. However, vertical scaling was not adopted

until the 2006 school year, leaving the 2005 cohort on a different metric. Having different metrics across cohorts makes direct comparisons invalid.

To allow for comparison across years, 2005 ISAT scores were transformed to reflect a comparative scale to the 2006 and 2007 years. Transformation was accomplished using an equation from previous research (Illinois State Board of Education, 2007). The transformations recommended by the Illinois State Board of Education (2007) apply a grade specific equation with a separate intercept and slope for third, fifth, and eighth grades, respectively (see Table 5).

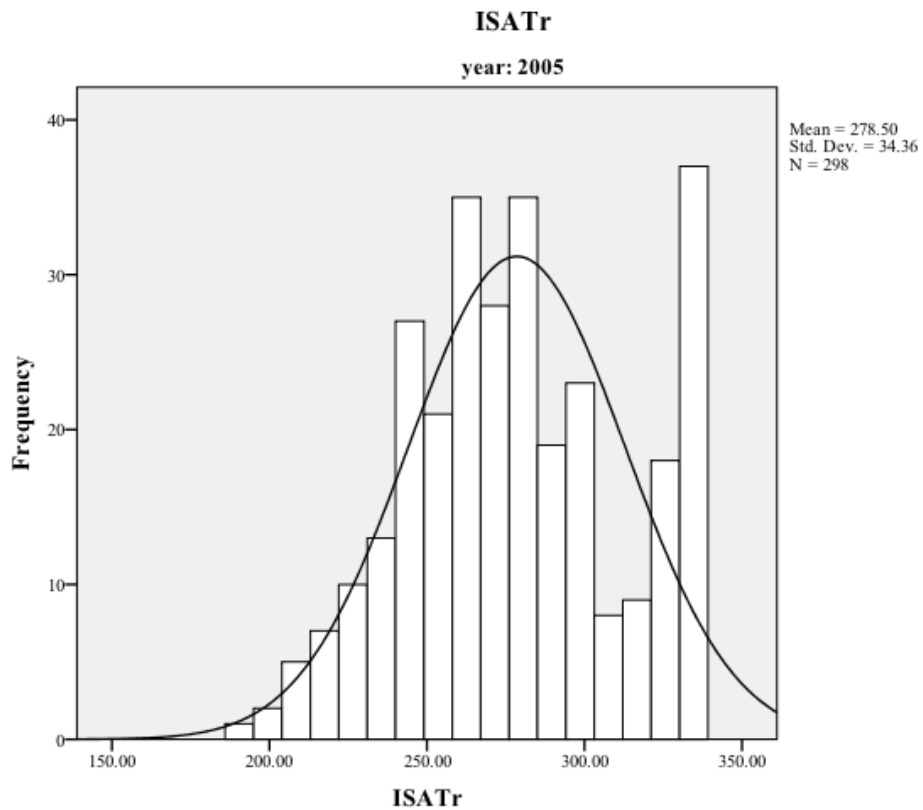
**Table 5**

*Estimating 2006 ISAT Scale Scores from 1999-2005 Scale Scores*

<b>Mathematics</b>			
	3	5	8
b	1.955397	1.718632	1.802597
a	-114.648	-57.5546	-27.6427

To convert eighth grade Math scores in the current study, the following equation was used:  $y = a + b(x)$ ; where  $a =$  intercept (-27.6427),  $b =$  slope of conversion (1.802597), and  $x =$  2005 score. The final equation that was used in SPSS syntax (see Appendix for SPSS syntax) for conversion was:  $y = -27.6427 + 1.802597(x)$ .

After transformation, a ceiling effect was evident in the 2005 ISAT data (figure 1), due to the previous limitations in scores described above. To account for this artificial ceiling, cases with scores at the ceiling value were excluded from analysis, with a similar percentage of cases (12.3%) also eliminated from the top of the 2006 and 2007 distributions. The removed students were also removed from the other analyses of all measures (GPA, ISAT, and NWEA) for consistency. Otherwise, all students present in the sample were used in all analyses.

**Figure 1***2005 ISAT Distribution*

### Population Subgroups

Subjects' scores were analyzed in aggregate and also grouped by year of study, race, income, and gender. The three Year of Study groups are 2005, 2006, and 2007 and include all students from each eighth grade class.

Race is grouped into categories of either Minority or Non-minority/White. Among the Minority races that students identified themselves as, only the Black subgroup had a substantial population. Black, Asian, Hispanic, Multiracial, and American Indian students were all combined into one subgroup. The subgroup was renamed Minority. Table 6 shows exact populations for each original Race subgroup before the combination, White (N=350), Black (N=270), Asian (N=9), Hispanic (N=36), Multiracial (N=36), and American Indian (N=1). After the combination, there were two groups, Non-Minority/White (N=350), and Minority (N=352).

**Table 6**

*Original Populations by Race*

Race	Frequency	Percent
White	350	49.9
Black	270	38.5
Asian	9	1.3
Hispanic	36	5.1
Multiracial	36	5.1
American Indian	1	.1
Total	702	100.0

Subjects were also grouped by income. Two groups were created, Low Income and Non-Low Income. Students who qualified for free or reduced lunch

status at Main School were considered Low Income. Those that did not were considered Non-Low Income.

Finally, subjects were grouped by gender, Male and Female.

### Grade Point Average (GPA)

The statistic used for this measure is the students' end of year, cumulative GPA for all subjects for all four quarters of their 8<sup>th</sup> grade year. Table 7 shows the mean and standard deviation of GPA for students in each year of study.

**Table 7**

*GPA by Year of Study*

	N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Minimum	Maximum
					Lower Bound	Upper Bound		
2005	255	3.04107	.961652	.060221	2.92248	3.15967	.130	4.000
2006	206	2.97806	.656305	.045727	2.88790	3.06821	1.000	4.000
2007	241	2.97231	.686153	.044199	2.88524	3.05938	.800	4.000
Total	702	2.99898	.789464	.029796	2.94047	3.05748	.130	4.000



The descriptive statistics for the three Years of Study were: 2005 (N=255, M=3.04107, SD=.961652), 2006 (N=206, M=2.97806, SD=.656305), and 2007 (N=241, M=2.97231, SD=.686153).

Before an ANOVA was run to compare the different years of study GPA's, Homogeneity of Variances was tested due to the substantial population size. A test of Homogeneity of Variances revealed a significant Levene Statistic  $F(2,699)=12.409$ ,  $p<.05$ . As a result, Brown-Forsythe was chosen as the robust test of equality of means. Results indicated that no mean differences in GPA were present between cohorts  $F(2,652.606)=.593$ ,  $p>.05$ .

#### **GPA, when considered by subgroup.**

Before discussing whether year of study was a predictor of the dependent variable (GPA) within each independent variable (subgroup), let us examine whether the subgroups are predictors of the dependent variable themselves.

Table 8 shows the population when all years of study are combined and then grouped by gender, Male (N=345, M=2.79392, SD=.822830), and Female (N=357, M=3.19713, SD=.702067).

**Table 8**

*GPA by Gender (All Years of Study)*

Gender	N	Mean	Std. Deviation	Minimum	Maximum
Male	345	2.79392	.822830	.147	4.000
Female	357	3.19713	.702067	.130	4.000
Total	702	2.99898	.789464	.130	4.000

There were two fewer Female students than Male students. The mean GPA of Female students was higher than of Male students. The standard deviation of Male GPA scores was higher than of Females and the Male range of scores was greater.

Table 9 shows the population when all years of study are combined and then grouped by race, Non-Minority/White (N=350, M=3.20792, SD=.736908), and Minority (N=352, M=2.79122, SD=.786112).

**Table 9**

*GPA by Race (All Years of Study)*

Recode race: Non-minority vs. Minority students					
	N	Mean	Std. Deviation	Minimum	Maximum
Non-minority/White	350	3.20792	.736908	.147	4.000
Minority	352	2.79122	.786112	.130	4.000
Total	702	2.99898	.789464	.130	4.000

There were two more Minority students than Non-minority students. Minority mean GPA scores were lower, had a greater standard deviation and a greater range of scores than Non-minority students.

Table 10 shows the population when all years of study are combined and then grouped by income, Non-Low Income (N=604, M=3.06208, SD=.782830), and Low Income (N=98, M=2.61004, SD=.718956).

**Table 10**

*GPA by Income*

Reduce	N	Mean	Std. Deviation	Minimum	Maximum
No	604	3.06208	.782830	.130	4.000
Yes	98	2.61004	.718956	.259	4.000
Total	702	2.99898	.789464	.130	4.000

Reduce = Free or reduced lunch status. A yes value indicates low income; a no value indicated non-low income.

There were many more Non-low Income students than Low Income students.

Non-low Income students had a higher mean GPA, greater standard deviation and wider range of GPA scores than Low Income students.

Table 11 shows groups sizes and code values for all between-subject factors to be considered in our analysis of covariance.

**Table 11**

*Between-Subjects Factors*

		Value Label	N
Reduce	0	No	604
	1	Yes	98
Recode race: Non-minority vs. Minority students	.00	Non-minority/White	350
	1.00	Minority	352
Gender	0	Male	345
	1	Female	357
School Year of Study	0	2005	255
	1	2006	206
	2	2007	241

Reduce = Free or reduced lunch status. A yes value indicates low income; a no value indicated non-low income.

For no particular reason other than needing to assign numeric values to groups, each group within each between-subjects factor was assigned a zero, one, or two value. The order in which they were assigned has no meaning.

The following results should be considered with caution as Levene's Test of Equality of Error Variances indicates that the data did not meet the assumption of equality of variance. Table 12 shows the effects of between-subjects tests.

**Table 12**

*Tests of Between-Subjects Effects*

Dependent Variable: GPA

Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared
Corrected Model	74.002 <sup>a</sup>	11	6.727	12.791	.000	.169
Intercept	2520.386	1	2520.386	4792.146	.000	.874
Reduce	6.860	1	6.860	13.043	.000	.019
Race	23.636	1	23.636	44.940	.000	.061
Gender	29.873	1	29.873	56.799	.000	.076
Year	.005	2	.002	.004	.996	.000
Reduce * Year	.233	2	.116	.221	.802	.001
Race * Year	.656	2	.328	.624	.536	.002
Gender * Year	1.744	2	.872	1.658	.191	.005
Error	362.899	690	.526			
Total	6750.588	702				
Corrected Total	436.901	701				

a. R Squared = .169 (Adjusted R Squared = .156)

The dependent variable, GPA shows three main effects. Tests of between-subjects effects show that income (reported on Table 11 as "reduce," since free or reduced lunch status determined who was in this group) ( $F=13.043$ ,  $p<.05$ ), race

( $F=44.940$ ,  $p<.05$ ), and gender ( $F=56.799$ ,  $p<.05$ ) were statistically significant predictors of the dependent variable (GPA). Parameter estimates show that between race groups, Non-Minority students outperformed Minority students with a higher mean when controlling for other predictors. Females outperformed Males. Non-Low income outperformed Low Income students.

GPA showed no interactive effects. Year of Study was not a statically significant predictor of GPA performance within any of the covariate subgroups (income by year of study:  $F=.221$ ,  $p>.05$ ; race by year of study:  $F=.624$ ,  $p>.05$ ; gender by year of study:  $F=1.658$ ,  $p>.05$ ).

### Illinois Standards Achievement Test (ISAT) of Math

The statistic that we used for this measure is the students' ISAT Math score from March of their 8<sup>th</sup> grade year. Table 12 shows the mean and standard deviation of ISAT for students in each year of study.

**Table 13**

*ISAT by Year of Study*

	N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Minimum	Maximum
					Lower Bound	Upper Bound		
2005	252	271.9246	28.95226	1.82382	268.3327	275.5165	190.47	327.47
2006	206	271.9078	20.91577	1.45727	269.0346	274.7809	205.00	305.00
2007	239	266.8996	22.87944	1.47995	263.9841	269.8151	218.00	308.00
Total	697	270.1966	24.81590	.93997	268.3510	272.0421	190.47	327.47

The descriptive statistics for ISAT by Year of Study are: 2005 (N=252, M=271.9246, SD=28.95226), 2006 (N=206, M=271.9078, SD=20.91577), and 2007 (N=239, M=266.8996, SD=22.87944). The class of 2007 had the lowest mean score, while the class of 2005 had the largest standard deviation and also the widest range of scores.



Before an ANOVA was run to compare the different years of study ISAT scores, Homogeneity of Variances was tested due to the substantial population size. A test of Homogeneity of Variances revealed a significant Levene Statistic  $F(2,694)=11.821, p<.05$ . As a result, Brown-Forsythe was chosen as the robust test of equality of means. This test showed a significant difference between ISAT of the different years of study  $F(2,670.826)=3.330, p<.05$ . Table 14 provides the Tamhane post hoc analysis of this result.

**Table 14***Multiple Comparisons*

ISAT

Tamhane

(I) School Year of Study	(J) School Year of Study	Mean		Sig.	95% Confidence Interval	
		Difference (I-J)	Std. Error		Lower Bound	Upper Bound
2005	2006	.01683	2.33452	1.000	-5.5782	5.6119
	2007	5.02502	2.34874	.096	-.6031	10.6531
2006	2005	-.01683	2.33452	1.000	-5.6119	5.5782
	2007	5.00819*	2.07699	.048	.0300	9.9864
2007	2005	-5.02502	2.34874	.096	-10.6531	.6031
	2006	-5.00819*	2.07699	.048	-9.9864	-.0300

Post hoc examination of the Brown-Forsythe significant result utilizing Tamhane shows individual-year results in which one comparison shows significance (2005-2006 MD=.01683, SE=.2.33452,  $p>.05$ ; 2006-2007

MD=5.00819, SE=.2.07699,  $p < .05$ ; 2005-2007 MD=5.02502, SE=2.34874,  $p > .05$ ). The significant difference lies in the decrease in mean between the years of 2006 and 2007.

**ISAT, when considered by subgroup.**

Before discussing whether Year of Study was a predictor of the dependent variable (ISAT) within each independent variable (subgroup), let us examine whether the subgroups are predictors of the dependent variable themselves.

Table 15 shows the population when all years of study are combined and then grouped by gender, Male (N=343, M=268.7288, SD=24.87821) and Female (N=354, M=271.6187, SD=24.70734).

**Table 15**

*ISAT by Gender (All Years of Study)*

Gender	N	Mean	Std. Deviation	Minimum	Maximum
Male	343	268.7288	24.87821	190.47	327.47
Female	354	271.6187	24.70734	201.29	327.47
Total	697	270.1966	24.81590	190.47	327.47

There were eleven fewer Male students than female students tested. Male students had a lower mean score and greater range of scores than female students.

Table 16 shows the population when all Years of Study are combined and then grouped by Race, Non-minority/White (N=348, M=278.8259, SD=22.70266), and Minority (N=349, M=261.5920, SD=23.85396).

**Table 16**

*ISAT by Race (All Years of Study)*

Non-minority (White) vs. Minority					
	N	Mean	Std. Deviation	Minimum	Maximum
Non-minority (White)	348	278.8259	22.70266	201.29	327.47
Minority	349	261.5920	23.85396	190.47	322.06
Total	697	270.1966	24.81590	190.47	327.47

When students from all three classes are combined and compared by Race, there was one fewer student in the Non-minority group than the Minority group. Non-minority students had a higher mean, smaller standard deviation, and smaller range of scores.

Table 17 shows the population when all years of study are combined and then grouped by income, Non-low Income (N=600, M=272.5440, SD=24.51667), and Low Income (N=97, M=255.6765, SD=21.60749).

**Table 17**

*ISAT by Income (All Years of Study)*

Reduce	N	Mean	Std. Deviation	Minimum	Maximum
No	600	272.5440	24.51667	190.47	327.47
Yes	97	255.6765	21.60749	195.88	309.44
Total	697	270.1966	24.81590	190.47	327.47

Reduce = Free or reduced lunch status. A yes value indicates low income; a no value indicated non-low income.

When students from all three classes are combined and compared by Income, there were many more Non-low Income students (N=600) than Low Income students (N=97). Non-low Income students had a higher mean score, a greater standard deviation and a larger range of scores.

Table 18 shows groups sizes and code values for all between-subject factors to be considered in our analysis of covariance.

**Table 18**

*Between-Subjects Factors*

		Value Label	N
Reduce	0	No	600
	1	Yes	97
Non-minority (White) vs. Minority	.00	Non-minority/White	348
	1.00	Minority	349
Gender	0	Male	343
	1	Female	354
Year of Study	0	2005	252
	1	2006	206
	2	2007	239

For no particular reason other than needing to assign numeric values to groups, each group within each between-subjects factor was assigned a zero, one, or two value. The order in which they were assigned has no meaning.

Table 19 shows the effects of between-subjects tests.

**Table 19**

*Tests of Between-Subjects Effects*

Dependent Variable: ISAT

Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared
Corrected Model	72231.062 <sup>a</sup>	11	6566.460	12.621	.000	.169
Intercept	2.130E7	1	2.130E7	40941.670	.000	.984
Reduce	7813.843	1	7813.843	15.019	.000	.021
Race	35826.246	1	35826.246	68.861	.000	.091
Gender	2220.520	1	2220.520	4.268	.039	.006
Year	1463.466	2	731.733	1.406	.246	.004
Reduce * Year	607.099	2	303.549	.583	.558	.002
Race * Year	4325.269	2	2162.635	4.157	.016	.012
Gender * Year	640.990	2	320.495	.616	.540	.002
Error	356385.998	685	520.272			
Total	5.131E7	697				
Corrected Total	428617.060	696				

a. R Squared = .169 (Adjusted R Squared = .155)

There are three direct effects present in ISAT performance comparisons. Tests of between-subjects effects show that income ( $F=15.019$ ,  $p<.05$ ), race ( $F=68.861$ ,  $p<.05$ ), and gender ( $F=4.268$ ,  $p<.05$ ) were statistically significant predictors of the dependent variable, ISAT. Parameter estimates show that between race groups, Non-minority students outperformed Minority students with a higher mean when

controlling for other predictors. Females outperformed Males, though only approaching significance ( $p=.079$ ). Non-low Income outperformed Low Income.

Year of Study was not a statically significant predictor of ISAT performance within income and gender covariate subgroups (income by Year of Study:  $F=.583$ ,  $p>.05$ ; Gender by Year of Study:  $F=320.495$ ,  $p>.05$ ). Year of Study was a significant predictor of ISAT performance within Race ( $F=4.157$ ,  $p<.016$ ) showing an interactive effect.



**Table 20***Estimated Marginal Means: Race \* School Year of Study*

Dependent Variable: ISAT

Non-minority vs. Minority students	School Year of Study	Mean	Std. Error	95% Confidence Interval	
				Lower Bound	Upper Bound
Non- minority/White	2005	276.686	2.804	271.182	282.191
	2006	274.300	3.440	267.547	281.054
	2007	270.631	2.753	265.226	276.036
Minority	2005	254.607	2.515	249.670	259.545
	2006	264.597	2.745	259.208	269.986
	2007	257.303	2.200	252.984	261.622

Results of a comparison of marginal means (Table 20) revealed a significant decrease in performance between Non-Minority students from the 2005 (M=276.686, SE=2.804) and 2007 (M=270.631.49, SE=2.753) cohorts ( $p < .05$ ). By contrast, no significant differences were evident between the 2005 and 2006 (M=274.300, SE=3.440) cohorts of Non-Minority students, nor were differences found between 2006 and 2007.

We also see that Minority students showed a significant change in score from each year to the next. There was a significant increase in performance from 2005 (M=254.607, SE 2.515) to 2006 (M=264.597, SE 2.745), followed by a significant decrease in performance from 2006 to 2007 (M=257.303, SE 2.200).

**Northwest Evaluation Association (NWEA) Measures of Academic Progress  
(MAP) Math Test**

The statistic that we used for this measure is the students' spring performance on the NWEA MAP for math test of their 8<sup>th</sup> grade year. Table 21 shows the mean and standard deviation of NWEA for students in each year of study.

**Table 21**

*NWEA by Year of Study*

	N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Min	Max
					Lower Bound	Upper Bound		
2005	254	232.58	14.794	.928	230.75	234.41	181	261
2006	206	232.34	12.739	.888	230.59	234.09	198	255
2007	241	230.71	15.896	1.024	228.69	232.73	191	261
Total	701	231.87	14.628	.552	230.78	232.95	181	261

The descriptive statistics of the dependent variable NWEA by Year of Study are: 2005 (N=254, M=232.58, SD=14.794), 2006 (N=206, M=232.34, SD=12.739), and 2007 (N=241, M=231.87, SD=14.628). The class of 2007 had the lowest mean score and the greatest standard deviation.

Before an ANOVA was run to compare the different years of study NWEA scores, Homogeneity of Variances was tested due to the substantial population size. A test of Homogeneity of Variances revealed a significant Levene Statistic  $F(2,698)=5.735, p<.05$ . As a result, Brown-Forsythe was chosen as the robust test of equality of means. This test showed no main effect as there was no mean difference between NWEA of the different years of study  $F(2,690.035)=1.188, p>.05$ .

#### **NWEA, when considered by subgroup.**

Before discussing whether Year of Study was a predictor of the dependent variable (NWEA) within each independent variable (subgroup), let us examine whether the subgroups are predictors of the dependent variable themselves.

Table 22 shows the population when all years of study are combined and then grouped by Gender, Male (N=345, M=231.45, SD=15.137), and Female (N=356, M=232.27, SD=14.126).

**Table 22**

*NWEA by Gender (All Years of Study)*

Gender	N	Mean	Std. Deviation	Minimum	Maximum
Male	345	231.45	15.137	181	259
Female	356	232.27	14.126	189	261
Total	701	231.87	14.628	181	261

There were eleven fewer Male students tested than Female students. Males had a lower mean score, a higher standard deviation and a greater range of scores than Female students.

Table 23 shows the population when all Years of Study are combined and then grouped by Race, Non-Minority (N=349, M=236.87, SD=12.956) and Minority (N=352, M=226.91, SD=14.521).

**Table 23**

*NWEA by Race (All Years of Study)*

RACE	N	Mean	Std. Deviation	Minimum	Maximum
Non-Minority	349	236.87	12.956	189	261
Minority	352	226.91	14.521	181	259
Total	701	231.87	14.628	181	261

There were three fewer Non-minority students than Minority students. Non-minority students had a higher mean score, smaller standard deviation and smaller range of scores overall.

Table 24 shows the population when all Years of Study are combined and then grouped by Income, Non-Low Income (N=603, M=233.28, SD=14.284), and Low Income (N=98, M=223.16, SD=13.747).

**Table 24**

*NWEA by Income (All Years of Study)*

Reduce	N	Mean	Std. Deviation	Minimum	Maximum
No	603	233.28	14.284	189	261
Yes	98	223.16	13.747	181	252
Total	701	231.87	14.628	181	261

Reduce = Free or reduced lunch status. A yes value indicates low income; a no value indicated non-low income.

When all Years of Study are combined and students are compared by income, there are far fewer Low Income students than Non-low Income students. Non-low Income students had a higher mean score, a greater standard deviation and a similar range of scores that Low Income students.

Table 25 shows groups sizes and code values for all between-subject factors to be considered in our analysis of covariance.

**Table 25**

*Between-Subjects Factors*

	Code	Value Label	N
Reduced Lunch	0	No	603
	1	Yes	98
Non-minority vs. Minority students	0	Non-minority/White	349
	1	Minority	352
Gender	0	Male	345
	1	Female	356
School Year of Study	0	2005	254
	1	2006	206
	2	2007	241

For no particular reason other than needing to assign numeric values to groups, each group within each between-subjects factor was assigned a zero, one, or two value. The order in which they were assigned has no meaning.

Table 26 shows the effects of between-subjects tests.

**Table 26**

*Tests of Between-Subjects Effects*

Dependent Variable: NWEA

Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared
Corrected Model	23993.543 <sup>a</sup>	11	2181.231	11.947	.000	.160
Intercept	1.599E7	1	1.599E7	87572.241	.000	.992
Reduce	2758.723	1	2758.723	15.110	.000	.021
Race	12180.613	1	12180.613	66.717	.000	.088
Gender	226.499	1	226.499	1.241	.266	.002
Year	458.896	2	229.448	1.257	.285	.004
Reduce * Year	650.521	2	325.260	1.782	.169	.005
Race * Year	829.909	2	414.954	2.273	.104	.007
Gender * Year	535.605	2	267.803	1.467	.231	.004
Error	125791.119	689	182.571			
Total	3.784E7	701				
Corrected Total	149784.662	700				

a. R Squared = .160

There are two main effects within NWEA performance. Tests of between-subjects effects show that Income ( $F=15.110$ ,  $p<.05$ ), and Race ( $F=66.717$ ,  $p<.05$ ) were statistically significant predictors of the dependent variable (NWEA). Gender ( $F=1.241$ ,  $p>.05$ ), and Year of Study ( $F=1.257$ ,  $p>.05$ ) were not statically



significant predictors of NWEA performance. Parameter estimates show that between Race groups, Non-Minority students outperformed Minority students with a higher mean when controlling for other predictors. Non-Low Income students outperformed Low Income students.

Year of Study was not a statically significant predictor of NWEA performance within any of the covariate subgroups (income by year of study:  $F=1.782$ ,  $p>.05$ ; Race by Year of Study:  $F=2.273$ ,  $p>.05$ ; Gender by Year of Study:  $F=1.467$ ,  $p>.05$ ) showing no interactive effects.

**Additional Exploratory Research**

Additional research was completed to try to explain the seemingly uncharacteristically high performance of the class of 2005 despite the fact that only a few, moderate outliers were found. What was found is that there were differences across Years of Study of racial make up. Consider Table 27:

**Table 27***Year of Study by Race*

		Recode race: Non-minority vs. Minority students			
		Non- minority/White	Minority	Total	
School Year of Study	2005	Count	140	115	255
		Expected Count	127.1	127.9	255.0
	2006	Count	106	100	206
		Expected Count	102.7	103.3	206.0
	2007	Count	104	137	241
		Expected Count	120.2	120.8	241.0
Total		Count	350	352	702
		Expected Count	350.0	352.0	702.0

*Chi-Square Tests*

	Value	Df	Asymp. Sig. (2-sided)
Pearson Chi-Square	7.139 <sup>a</sup>	2	.028
Likelihood Ratio	7.157	2	.028
Linear-by-Linear Association	6.786	1	.009
N of Valid Cases	702		

a. 0 cells (.0%) have expected count less than 5. The minimum expected count is 102.71.

Looking at the crosstabs table above, the differences between the counts observed and what was expected based on the distribution of the sample as a whole, was that there were fewer Minority students in 2005 (N=115) than would be expected compared to the other Years of Study (Expected N=127). The number of Minority students in 2006 (N=100) was close to the expected number compared

to the other classes (Expected N=103.3). In 2007, 120.8 Minority students were predicted, when in reality there were more (N=137). As race was a significant predictor of performance on all three measures, differences of race distribution may be a factor in the performance results.

## **Chapter 5:**

### **Discussion**

#### **Introduction**

This research study examines the academic performance of three consecutive 8<sup>th</sup> grade classes at Main School. The second and third 8<sup>th</sup> grade classes (the graduating classes of 2006 and 2007 respectively) had an increasing exposure to Main School's newly created advisory program. The class of 2005 had no exposure; the class of 2006 had one year of exposure as 8<sup>th</sup> graders; the class of 2007 had two years of exposure in their 7<sup>th</sup> and 8<sup>th</sup> grade years. The literature on middle school advisory programs is limited, and empirical study is scarce. The research that is present is primarily qualitative. This study sought to begin to fill a gap in the literature by providing some quantitative data on the subject.

The purpose of this study was to determine if the advisory program had a measurable effect on student learning. The researcher hypothesized that the increased exposure to advisory would result in later classes demonstrating stronger performance on learning measures than their predecessors who had less advisory program exposure. The study considers race, gender, and income as

well to see if the advisory program affected different groups of students differently.

The specific questions that the study aimed to begin answering are:

1. What effect did this middle school advisory program have on student learning?
2. Did the amount of time in the advisory program (one year vs. two years) substantially increase any effect?
3. Are there differences between minority/non-minority, male/female, and low income/non-low income students?

The stakeholders at Main School were enthusiastic about the changes that resulted from the installation of the Advisory Program. The principal believed that improved student learning must have occurred as well. This enthusiasm was also a motivator for this study and for the following hypotheses:

1. Students with one year of advising will perform significantly better on measures of learning (ISAT, NWEA, GPA) than students who received no advising.
2. Students with two years of advising will perform significantly better on measures of learning than students who received no advising.
3. Students with two years of advising will perform significantly better on measures of learning than students who received one year of advising.

### **Summary of Findings**

There was a statistically significant difference in population between Years of Study with regard to race. This difference was not expected and not discovered until the data was examined. There were fewer minority students in the class of 2005 than expected and more minority students in the class of 2007 than expected. Otherwise, the three classes were very similar. Their size, subgroup characteristics, and academic performance were more often than not statistically the same. While performance within subgroups varied little, there were many significant differences *between* subgroups when it comes to academic performance. When all three years of study are combined and students are divided and compared by race, gender, and income, significant difference are found.

The first main effect found was in the comparison of Non-Minority/White students to Minority students. This main effect was present in all three learning measures. Non-minority/White students outperformed Minority students on GPA, ISAT and NWEA.

The second main effect was found in the comparison of Non-Low Income students to Low-Income students. This main effect was present in all three learning measures as well. Non-Low Income students outperformed Low Income students on all three measures as well.

The third main effect was in the comparison of students of different genders. Females outperformed males on GPA, but not on NWEA. The difference between genders on ISAT approached significance in favor of female students.

When separated by Year of Study, in general, there are very few differences between the academic performance of the three graduating 8<sup>th</sup> grade classes. When considered as a whole, none of the classes differed significantly in their grade point average (GPA). Furthermore, none of them differed significantly in their performance on the Northwest Evaluation Association (NWEA) Measures of Academic Progress (MAP) test for math. There was no difference between the classes of 2005 and 2006 on the Illinois Standards Achievement Test (ISAT), nor between the classes of 2005 and 2007. The only significant difference on ISAT performance for all students by Year of Study was between the classes of 2006 and 2007, and that difference was negative. The class of 2006 performed better than the class of 2007.

This study also compared each of these classes to the other classes within each subgroup.



**Performance by year of study, within race.**

Students of like race in each Year of Study performed similarly on GPA and on NWEA. On ISAT, Minority students showed a difference in the performance of students in the class of 2005 compared to the class of 2006, and when comparing the class of 2006 to 2007. Minority students in the class of 2006 outperformed the class of 2005 and 2007. Also within race, Non-Minority/White students in the class of 2005 outperformed the class of 2007. Otherwise, there were no differences between the performance of Non-Minority/White students between other years of study (2005, when compared to 2006; nor 2006, when compared to 2007).

**Performance by year of study, within income.**

When comparing students of like-income classification in different years of study, no differences were found on any measure. Non-Low Income students from each year of study performed similarly on GPA, ISAT, and NWEA. The same held true for Low Income students from each year of study on all three measures.

**Performance by year of study, within gender.**

When comparing students of like-gender in different years of study, no differences were found on any measure. Female students from each year of study performed similarly on GPA, ISAT, and NWEA. The same held true when comparing Male students from each year of study on all measures.

**Discussion**

The study's hypotheses state that Advisory will result in better GPA, ISAT, and NWEA performance and that increasing exposure to Advisory will result in increasingly better performance. The results do not support the hypotheses. Only one main effect was found for Year of Study when considering all students from each class in aggregate on all measures. The only statistically significant effect was found on ISAT performance where the class of 2006 outperformed the class of 2007. This decrease in performance is not substantiated by either of the other two measures.

While it may be tempting to conclude that Advisory had a negative impact on the performance of Non-Minority/White students as a result of our ISAT findings, the same group's GPA or NWEA performance does not substantiate such a conclusion. While comparing all other subgroups in each year to their

counterparts in other years on all academic measures, only one other interactive effect was found. That difference was for minority students in the class of 2007 in their outperformance of like students in the class of 2005. When comparing all students together within each graduating class, the ISAT showed the only difference, and only between 2006 and 2007, and that difference was negative. A reasonable conclusion is that the three graduating classes' performance on these three measures was largely the same, failing to support the researcher's hypotheses of increasing performance.

Failing to support the hypotheses makes answering the research questions difficult. It is impossible to say whether or not learning increased as a result of exposure to Main School's Advisory Program, although it is quite clear that performance on these measures did not. While the three classes were similar, except for the increasing minority population, they were indeed *different students*. This study did not compare Student A's academic performance after one and two years of exposure to the Advisory Program to Student A's academic performance before the exposure. It compared the class of 2005, who had no Advisory to the class of 2006, who had a year of exposure to the class of 2007, who had two years of exposure. Perhaps these three groups of students were dissimilar enough to begin with for it not to be a fair comparison. Perhaps student performance in later classes would have been significantly *lower* had it not been for their Advisory exposure. This is impossible to say. Perhaps, and even more likely, exposure to

the advisory program at Main School did not have the dramatic effect on student learning that they thought it did.

Perhaps the advisory program at Main School brought other things besides improved academic outcomes. The anecdotal observations of Main School's principal detail many of the other results that are so often found and substantiated throughout the qualitative literature. These accounts describe improved student-student and teacher-student relationships, improved school-home relationships, improved teacher morale, improved school climate, reduced student anonymity and improved student behavior. However, these effects are empirically unsubstantiated, and further not necessarily attributable to the advisory program itself.

While the research questions focused on uncovering main effects between Years of Study or interactive effects within subgroups by Year of Study to substantiate the effects of the Advisory Program treatment that students were exposed to, many other important main effects were discovered. When students from all three Years of Study were combined and then separated by subgroup and compared, the results were Non-Minority/White students' outperformance of Minority students on all three measures, Non-Low Income students' outperformance of Low Income students on all three measures, and Female students' outperformance of Male students on one measure (GPA) and approaching significant outperformance on ISAT. The threshold for significance

in this study was .05; on ISAT, Female students outperformed Males with a  $p$  value of .079. Hence the research considers this a value that *approaches significance*.

Regarding gender, the outperformance of Males by their Female classmates on GPA, but not on NWEA and only approaching significance on ISAT is telling. Perhaps this suggests some gender bias by teachers. The survey of what teachers consider when determining student grades is telling. Teachers at Main School, and perhaps at other schools, based their grades on a variety of student behaviors seemingly only tacitly related to student learning. This suggests that Female outperformance of Males on GPA and not on less subjective measures may imply that they outperformed their Male classmates in favorable classroom behaviors and not necessarily learning outcomes. More research is needed with regard to gender differences and teacher gender bias.

In addition to gender considerations, there has been much research regarding the achievement gap between races and students of different income status in education. Perhaps there is a disparity of expectations. Certainly, in many instances there is disparity of resources. Perhaps there is sometimes a difference in trust of the educational system altogether. Within the spectrum of this study, these theories are conjecture and very likely incomplete. However, an inability to explain the effects satisfactorily does not weaken their importance.

Much more research is necessary to learn about these phenomena and ultimately inform practice to address them.

### **Recommendations for Further Research**

This study needs to be repeated both within the walls of Main School as well as throughout middle schools everywhere. Too often practitioners rely on speculation without substantiating quality through research. It is possible, even likely that there are gains to be made in student learning through conscientiously conceived, planned and implemented advisory programs. However, without diligent research it will remain unclear what attributes affect what outcomes. More research is needed to examine whether goal-focused Advisory Programs can produce desired outcomes. There is much qualitative research that suggests that such programs can improve student learning, school climate, communication within the school among students and adults, communication between the school and home, student behavior, and morale. The body of knowledge lacks quantitative evidence of the same. As there are almost as many Advisory Program designs as there are programs themselves, the opportunities for research are many.

There are virtually endless opportunities for additional study within each individual program as well. Pretest-posttest studies, growth studies, case studies,

and longitudinal studies would all serve the literature and practice of middle-level learning.

These examples of future research would be appropriate at Main School as well. As previously stated, the anecdotal information provided by Main School suggests that this study may have failed to uncover some important improvements that the Advisory Program produced. Perhaps a different model would have been more apt to do so. It is simply impossible to say how Main School's class of 2007 would have performed compared to the other classes had it not been exposed to the advisory program. Perhaps it would have compared unfavorably. Perhaps the advisory program was the key to *maintaining* high student performance at Main School amidst changing demographics. Or, perhaps the program had no effect at all. Perhaps a growth measure throughout the advisory program treatment, or a pretest/posttest design would provide clarity.

Despite the wealth of qualitative literature on the subject, certainly there is also still much room in the literature for additional qualitative studies of such programs. While certainly conjecture, it is the researcher's opinion that a qualitative study into the impact of the Advisory Program at Main School would have uncovered substantial findings. The anecdotal evidence that motivated this study was moving. The administration, faculty, students and parents insisted that Main School changed for the better as a result of the Advisory Program and predicted that the improvement also resulted in learning gains. Perhaps it did in

ways that this study's measures failed to substantiate, or perhaps not. More research is needed.

In addition to studying the impact on student learning, there is much to gain in studying the effect advisory programs have on climate, relationships, student anonymity, and student behavior. These are all attributes that support learning and they are desired attributes of schools in and of themselves. Perhaps these types of outcomes were what occurred at Main School and the returns on student learning occurred later. This suggests that studies at Main School for Years of Study after 2007 are appropriate, as well as studies focusing on the high school performance of the classes of 2005, 2006, and 2007.

### **Practical Implications**

Regardless of the outcome of this study, the preponderance of literature and the anecdotal accounts at Main School suggest that conscientiously planned Advisory Programs can have positive effects on middle-level schools. The main effects found at Main are consistent with the literature regarding the underperformance of Minority and Low-Income students in public schools. It is the responsibility of educational scholars to continue to improve the understanding of this phenomenon and the charge of educational practitioners to affect it.



Perhaps Advisory Programs can be a vehicle to that end. If programs can be designed to improve communication, climate, relationships, behavior or learning, it is reasonable to suggest that they could be designed to improve academic performance of underperforming students. Additional instructional time, in-school interventions and remediation, and additional guided practice are examples of advisory-like efforts that may positively affect student outcomes.

### **Conclusions**

Conscientious middle-level educational leaders should carefully consider whether advisory programs have a place in their middle schools. If so, it is important that they be conscientiously and collaboratively conceived, designed to specific, desired ends, implemented by well-trained faculty, and assessed frequently to be sure they are having the desired effect. Perhaps the advisory program at Main School improved climate and relationships. However, the goal of improving student learning is still unsubstantiated after this study. Perhaps someone will venture to take a second look at this program within this fine school.

## Appendix

### Table A1

*SPSS Syntax for ISAT Data Conversion*

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IF (year=2005) ISATr= (isat\*1.802597)-27.6427

IF (year=2006) OR (year=2007) ISATr=VALUE(isat).

EXECUTE

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