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An Action Research Project Aimed at Enhancing the Executive Skills of a Departmentalized Seventh Grades Class

Jacqueline M. Gilson
Loyola University Chicago

LOYOLA UNIVERSITY CHICAGO

AN ACTION RESEARCH PROJECT AIMED AT ENHANCING THE EXECUTIVE SKILLS OF A DEPARTMENTALIZED SEVENTH GRADE CLASS

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JACQUELINE M. GILSON

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ABSTRACT

Executive skills are developed and refined throughout childhood and adolescence. Many of these critical functional skills are consolidated in early adolescence. Utilizing action research methodology, surveys were administered to the adult stakeholders of a departmentalized seventh grade class at a suburban parochial school. Survey results informed the development of executive skill strategies to be explicitly taught to all students across the seventh grade curriculum. Specifically, strategies included presentations to school staff and administrators describing executive skill development and survey findings, a semi-structured discussion with the seventh grade class regarding executive functions, and the implementation of an integrated online assignment calendar as well as reinforcing the students' daily use of planners to record assignments and due dates. Pre- and Post-intervention questionnaires completed and scored by the seventh grade students (N=27) indicated statistically significant findings ($t=1.785$ (26), $p<0.05$). The discussion describes variables that may have contributed to this statistically significant result as well as opportunities for further research.

CHAPTER I

INTRODUCTION

Executive functioning skills are defined as the cognitive processes required to plan and organize activities. These include the ability to initiate and follow through on tasks, a solid working memory and attention span, skills at performance monitoring, inhibition of impulses, and goal-directed persistence (Dawson, 2010). Another way to define executive function is to contrast it with general knowledge. Reynolds and Horton (2008) explain that executive functions involve decision making, planning actions, and generalizing novel motor outputs. While executive functions are cognitively active, general knowledge is described as more cognitively passive.

Executive skill attainment is a developmental process and the specific skills comprising executive functioning are often presented within a developmental context. For example, Dawson and Guare (2009) propose that specific executive skills are attained in the following developmental progression: response inhibition, working memory, emotional control, sustained attention, task initiation, planning/prioritization, organization, time management, goal-directed persistence, flexibility, and finally, meta-cognition.

A more specific developmental course of executive skill attainment has been outlined by Cantin, Mann, and Hund (2012). Citing collective research, the authors note that executive functioning skills have been described as the single best predictor of school readiness and implicated in numerous facets of functioning such as academic,

social, psychological, and behavioral domains. Executive functioning develops over the life span; emerging in the first few years of life, becoming fully mature by late adolescence, and then declining with normal aging. Focusing on three splinter skills of executive functioning – attention, memory, and inhibition – Cantin et al. describe the developmental course of these abilities through childhood. Specifically, attention develops and improves in a linear fashion between the ages of 6 and 12 years, working memory skills also improve in a linear manner from ages 4 to 15 years, and the ability to inhibit responses emerges in the first year of life and becomes more refined throughout middle childhood, adolescence, and early adulthood.

There is a great deal of variance in the presentation and development of executive functioning skills across both typical and atypical learners. As a school psychologist working with middle school and high school aged students, the direct impact of executive functioning on school performance has been overly apparent. For example, some students with learning challenges are able to perform within or above grade level expectancies due to the consistent application of strong executive functioning skills such as time management, planning, and goal-directed persistence. On the other hand, some students who present with strong academic skills struggle with the functional aspects of the curriculum such as recording assignments in a planner or breaking long-term projects into manageable pieces. Often, the supports for students struggling with these developmental executive challenges are reactionary and inefficient, supports are provided to these students on an individual basis and after a significant problem has been identified. Due to the tremendous need for preventative and developmentally appropriate executive skill instruction directly observed across student populations, the goal of the

present research is to seek universal, tier 1 evidence-based solutions that would meet this need described above.

Given the wide array of executive functioning models that exist, as well as the "splinter-skill" approach to developing and enhancing specific executive skill challenges, it became important to identify what particular executive skills should be targeted for this grade-wide intervention approach. There appears to be a gap in the body of research that examines the development of universal evidence-based procedures for strengthening executive skills across a grade level. Because of the vast field of abilities and aptitudes that fall under executive functioning, it became important to conduct a needs assessment to identify what executive skills were the most valued by adult stakeholders in a given school. Action research provides a methodology that supports this line of inquiry.

Action Research

Action research has been defined as a systematic approach to investigation that enables people to find effective solutions to problems they confront in their everyday lives (Stringer, 2013). Under an action research model, the researchers are regarded as a resource person who acts as a catalyst to assist stakeholders to define their problems clearly and to monitor and support their activity as they work toward effective resolution of the issues that provide the focus of their investigations (Stringer, 2013). As such, this study was conceived as an opportunity to facilitate meaningful responses to the concerns voiced by stakeholders. The goal was to provide an individualized and participatory process for a departmentalized seventh grade community to do the work of problem solving. Researchers simply facilitate this process.

In its simplest form, action research is a collaborative approach built around a simple yet powerful framework – Look, Think, Act – that enables people to commence their inquiries in a straightforward manner and build greater detail into procedures as the complexity of issues increases (Stringer, 2013). Action research appeared to be a reasonable approach to the development of universal executive skills across a departmentalized seventh grade class.

CHAPTER II

REVIEW OF RELATED LITERATURE

Strands of Executive Functioning Research

Literature searches have revealed different foci of executive skill development. One strand of research examines interventions for specific executive skills such as emotional self-regulation or meta-cognition. Flook et al. (2010) found that a school-based program teaching mindful awareness practices led to improvements in executive functioning skills such as behavioral regulation and meta-cognition among elementary school aged children. Another study by Kubesch et al. (2009) determined that executive attention skills were enhanced among middle school aged children when they were provided with a 30-minute physical education program.

There is also a line of inquiry that studies the executive functioning abilities for individuals with various exceptionalities. Examples include researchers examining facets of executive functioning in individuals with ADHD (Field, Parker, Sawilowsky, & Rolands, 2013; Langberg, Dvorsky, & Evans, 2013), intellectual disability (Danielsson, Henry, Messer, & Ronnberg, 2012), and individuals who were delivered preterm (Anderson & Doyle, 2004).

Finally, yet another strand of research examines the developmental aspects of executive skill development across the lifespan. For example, a study by Prencipe et al. (2011) sought to better understand emerging adolescent executive functioning skills from a developmental perspective. Specifically, they delineated the differences between

"cool" and "hot' executive functioning skills. Hot skills describe executive tasks that are motivationally and emotionally significant while cool tasks are more abstract and absent of emotional value. In an experiment, the researchers concluded that while higher-order executive skills such as inhibitory control, cognitive flexibility, and meta-cognition skills continue to develop in adolescence, the hot executive skills tend to develop relatively slowly. The researchers suggested that the slower emergence of emotionally based executive skills has implications for the risky behaviors often observed in adolescence. The researchers suggest that this developmental difference may begin to explain why, in real life situations, teens don't necessarily exhibit the healthy decision making skills and insight to successfully manage challenges in and out of school.

Early childhood has received a large share of the developmentally focused executive functioning research. Ciccantelli and Vakil (2011) describe a case study involving a kindergarten student displaying some profound executive skill weaknesses including distractibility, hyperactivity, impulsivity, difficulty transitioning, disorganization, and poor work habits. Following a comprehensive assessment, a many-sided intervention involving behavioral techniques, reorganization of work space, modified work load and presentation, and home-school collaboration led to marked improvements in student functioning by the end of the academic year.

Executive Functioning and Adolescence

Literature searches specifically targeting adolescence and executive functioning revealed some indication of the current body of knowledge addressing these topics. A large, representative national sample was used to examine the relationship between executive function and academic achievement in children aged 5 to 17 (Best, Miller &

Naglieri, 2011). These researchers cited prior longitudinal research that suggested executive functioning skills contributed directly to academic achievement. They concluded that, generally, the magnitude of executive function improvement was large across the youngest age groups, became more moderate in late childhood, and diminished further during adolescence. It was concluded that executive functioning continues to develop into adolescence, with possibly a focus during adolescence on fine tuning skills acquired during the rapid changes during the elementary school years.

Another study by Miller, Nevado-Montenegro and Hinshaw (2012) also indicated that childhood executive functioning skills were predictive of later academic and occupational outcomes. These researchers concluded that it is important to assess and develop interventions that target executive functioning impairments early in life in order to prevent long-term difficulties across a range of important functional domains.

Reynolds and Horton (2008) performed a meta-analysis of available executive function data across the life span and noted a positive trajectory of executive functioning skill attainment during the middle school years. Dawson and Guare (2009) also point out that beginning around age 11 or 12 there is a consolidation of mental skills that occurs setting the stage for the onset of rapid learning and development. The results of these studies suggest that early adolescence is an important place within the larger developmental context to provide direct executive functioning support and instruction as this is a point of substantial growth.

Executive Functioning and Middle School

Armstrong (2006) discusses the unique developmental needs of middle school students. This author describes the emergence of the middle school movement in the

1960s, which was a response to an understanding that the biological milestone of puberty led to a disruption of the relatively smooth development of children through the early elementary school years. This developmental stage is marked by an educational need to direct those surging emotional impulses into productive channels rather than focus on academic skill attainment. To support this disruption, educators and researchers recognized the need for this population of students to take part in mentoring relationships between teachers and students, engage students in smaller learning communities, and establish a flexible interdisciplinary curriculum that encourages active and personalized learning. Developmentally appropriate middle school practices also include meta-cognitive strategies integrated into all courses, emotionally meaningful curriculum, student roles in decision making, honoring and respecting student voices, and facilitating social and emotional growth. Armstrong, by comparison, describes some developmentally inappropriate educational practices for this age group. They include large, impersonal school settings offering impersonal adult interactions, a fragmented (departmentalized) curriculum with complete focus on academic learning and neglect of social and emotional development, and a teacher and administrator controlled learning environment where student voices are not heard or respected.

Dawson (2010) also points out an important functional change that occurs when students transition out of elementary school. Many students with underlying executive skill weaknesses are able to navigate the demands of the smaller elementary school with some success, partially because teachers and parents can readily provide supports for under-developed skills. Beginning in middle school two things happen that exposes the vulnerabilities of these students: First, entering an environment with multiple teachers

and expectations can place significant stress on already weak personal organizational structures. Second, the built-in supports of teachers and parents tend to drop off as there are limited opportunities for home-school communication and teachers tend to expect students to be more organizationally independent.

Executive Functioning Interventions

Dawson (2010, 2014) puts forth some whole-class (tier 1) universal interventions aimed at helping all students develop executive skills. They include the establishment of organizational routines, development, explanation, and review of class rules, establishment of class wide electronic information systems, explicit instruction of study and organizational skills incorporated into the subject matter being taught, and fun activities contingent on whole class goal attainment. Teachers are encouraged to transfer to students more self-directed activities such as long-term project planning as these functional skills are attained. Considering the aims of this action research project, some of these recommended strategies can be extended across the school day and in all subject areas. It is important to understand that the multi-tiered systems of support (MTSS) outlined by Dawson are best practices and explicit strategies. While middle school aged children would logically benefit from explicit instruction, repetition, and supports, a literature review revealed no *evidence based* universal instruction practices targeting executive skill building of middle school students within the school setting.

Cantin et al. (2012) suggest that intervention should come after a comprehensive assessment process. Interventions should then target specific executive functioning skill components. The authors suggest that interventions should be multi-faceted. Recommended components include computerized training and specialized curricula,

physical exercise, character training, and best practices in teaching such as classroom routines, a supportive environment encouraging independent thinking and problem solving strategies, behavior management, and stress reduction. Teachers "should strive to create a classroom environment of low stress, high confidence, and social bonding."

Taken together, these researchers suggest that executive skills are associated with the attainment of academic skills and can be developed and enhanced during childhood and adolescence. A multi-faceted approach to executive skill attainment and refinement is also suggested. The literature that currently exists focuses on various splinter skills of executive functioning. There does not appear to be a large body of peer-reviewed research addressing the methods of enhancing executive skills or the practical challenges of applying executive functioning theories to the school setting.

A tremendous opportunity exists for the development of evidence-based universal (tier 1) approaches to the instruction of executive skills embedded within the core curriculum. In that way, all students, regardless of their place on the executive skill development continuum, can glean the benefits of high quality universal instruction. Therefore, the current study attempts to answer the following research question: *Can the implementation of universal strategies to a departmentalized seventh grade class contribute to a significant improvement in overall executive skills?*

CHAPTER III

METHOD

Setting and Participants

This study took place at a small, parochial elementary school located outside of a major U.S. city. Preliminary interviews with school administrators indicated they were receptive to this participatory process of developing grade wide executive skill development interventions. The participants were the 40 seventh graders enrolled at the school during the 2014-15 academic year as well as their teachers, administrators, and parents. The seventh grade program is academically challenging and departmentalized, with students transitioning from class to class throughout the academic day. Over the course of one week, seventh grade students transition through math, science, social studies, language arts, computer technology, world language (Spanish), physical education, art, music, and religion classes. With 40 students enrolled in the grade, the students are divided into two separate classes. There are 12 teachers and two administrators who work directly with the seventh grade class.

Procedures and Measures

In the spring of 2014, the author conducted interviews with different stakeholder groups representing middle school including parents, current and former students, teachers, and administrators. At that time, the author received Institutional Review Board Approval from Loyola University Chicago to conduct this action research project at this Catholic school located in a suburb outside of a major U.S. city. The Institutional

Review Board Approval contained informed consent forms for the stakeholder survey and administration of the Executive Skills Questionnaire-Teen Version (Guare, Dawson & Guare, 2013) as well as informed assent for the questionnaire (see Appendices D, E, and F). The school principal's consent for this action research project was also granted (see Appendix G).

In the summer of 2014, the author provided a PowerPoint presentation to school administrators and seventh grade teachers (see Appendix A). The purposes of the PowerPoint presentation were to introduce the educators to the concept of executive functioning and the developmental aspects of this skill, explore the ways that these skills can be explicitly taught to the entire seventh grade, and reviewed the purpose and time line of this study.

The stakeholder survey was piloted and then fully administered to incoming seventh grade parents, school administrators, and seventh grade staff (see Appendix B). The online stakeholder survey was open from August to September 2014. At that time, the stakeholder survey link was made available to all seventh grade parents, teachers and administrators. The goal was to identify the functional and academic needs of seventh grade students as identified by key adult stakeholders. This was a means to an end and regarded as essential to the action research process; therefore, the stakeholder survey should be considered methodology for the purpose of performing a needs assessment. The survey was constructed to include Likert Scale responses for quantitative data as well as open-ended questions for text analysis.

Among the 19 respondents, 68% self-identified as parents and the remaining 32% self-identified as school staff. Question 2 asked, "How important is it for middle school

students to develop each of these executive skills?" Respondents were then presented with nine different "splinter skills" to consider.

Using a seven-point Likert Scale, nine different types of executive skills were listed and the respondents were asked to characterize each one along the scale from "very unimportant" to "very important." Results are illustrated in Figure 1 as follows:

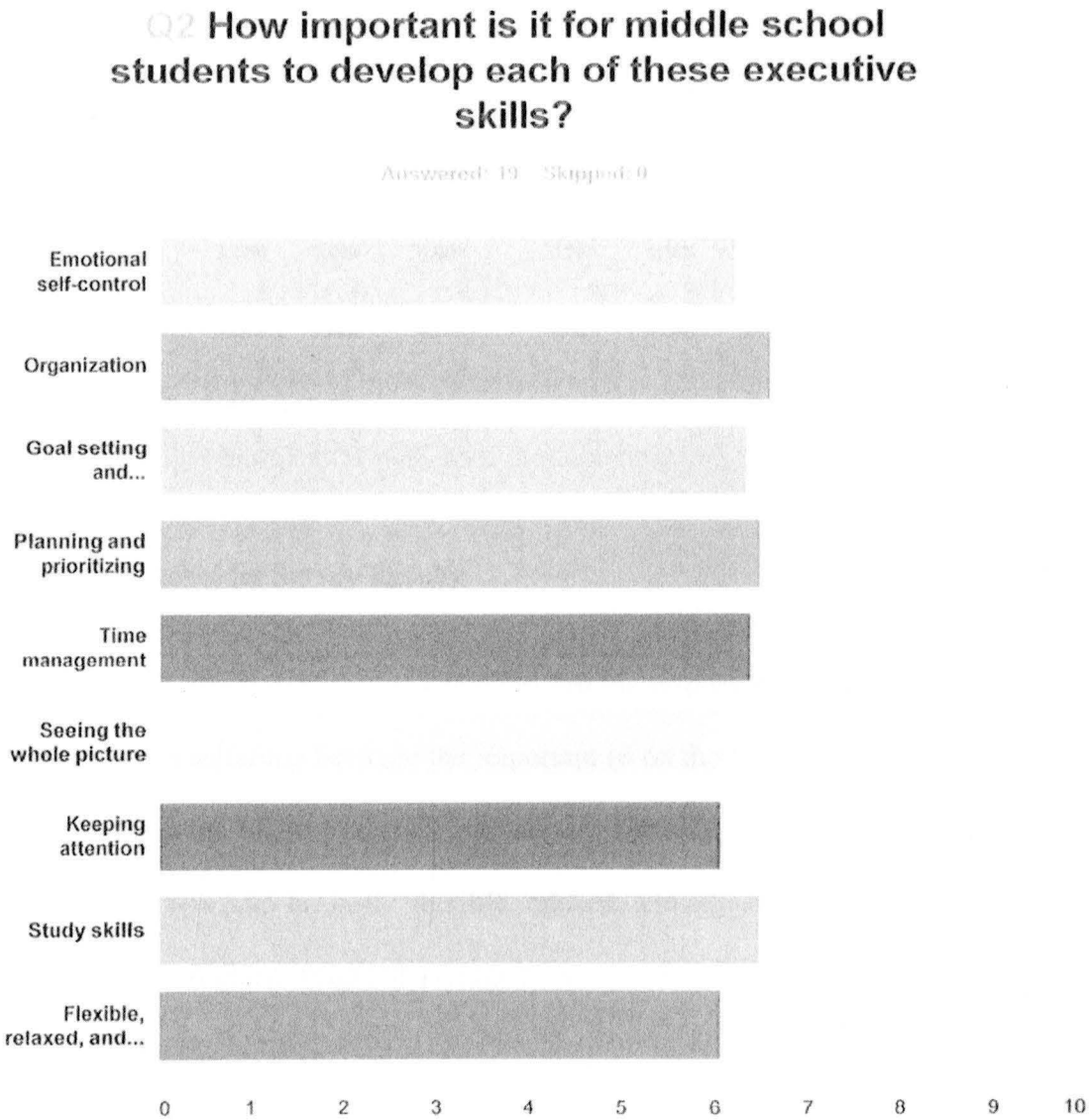


Figure 1. How important is it for middle school students to develop each of these executive skills?

	Very unim-portant	Unimpor-tant	Some-what unim-portant	Neither important nor unim-portant	Some-what impor-tant	Important	Very Important	Total	Weighted Average
Emotional self-control	5.26% 1	0.00% 0	0.00% 0	0.00% 0	5.26% 1	36.84% 7	52.63% 10	19	6.21
Organization	5.26% 1	0.00% 0	0.00% 0	0.00% 0	0.00% 0	10.53% 2	84.21% 16	19	6.58
Goal setting and follow-through	5.26% 1	0.00% 0	0.00% 0	0.00% 0	0.00% 0	36.84% 7	57.89% 11	19	6.32
Planning and prioritizing	5.26% 1	0.00% 0	0.00% 0	0.00% 0	0.00% 0	21.05% 4	73.68% 14	19	6.47
Time management	5.26% 1	0.00% 0	0.00% 0	0.00% 0	0.00% 0	31.58% 6	63.16% 12	19	6.37
Seeing the whole picture	5.26% 1	0.00% 0	0.00% 0	0.00% 0	5.26% 1	47.37% 9	42.11% 8	19	6.11
Keeping attention	5.26% 1	0.00% 0	0.00% 0	0.00% 0	5.26% 1	52.63% 10	36.84% 7	19	6.05
Study skills	5.26% 1	0.00% 0	0.00% 0	0.00% 0	0.00% 0	21.05% 4	73.68% 14	19	6.47
Flexible, relaxed, and adjustable thinking	5.26% 1	0.00% 0	0.00% 0	0.00% 0	15.79% 3	31.58% 6	47.37% 9	19	6.05

Figure 2. Stakeholder Survey Results

Overall, the survey results indicated that the respondents viewed all of these executive skills as falling between the important (6 on the Likert Scale) and very important (7 on the Likert Scale) classifications. Specifically, the lowest weighted average score was 6.05 for both "flexible, relaxed, and adjustable thinking" and "keeping attention." The highest weighted average score was 6.58 for "organization."

When stakeholders were asked Question 4: "How satisfied are you with the way (this school) prepares students for the ACADEMIC transition to high school? (Examples: Knowledge, study skills, time management skills, and test preparation)" the responses

yielded a weighted average of 5.37, which falls between "somewhat satisfied" (5 on the Likert Scale) and "satisfied" (6 on the Likert Scale).

Similarly, Question 6 asked: "How satisfied are you with the way (this school) prepares students for the NON-ACADEMIC transition to high school? (Examples: Managing stress, developing good relationships with classmates and teachers, having good coping strategies)". The responses yielded a weighted average score of 5.95.

Some survey questions asked respondents to provide open-ended written responses. Specifically, stakeholders were asked to elaborate on each quantitative question: Question 3: "Please look at the skills listed in question #2. Which executive skill do you think is the most important to teach?" Questions 5 and 7 asked respondents to elaborate on their satisfaction with the school's academic and non-academic preparation of students for the transition to high school. Finally, question 8 was open-ended: "Is there anything else you would like to add?"

The small sample size of stakeholder survey respondents (N=19) and the wide range of written responses to the open-ended questions did yield some common themes. Using text analysis capabilities, the most frequently used executive functioning vocabulary words and phrases (occurring at least four times) were "organization" and "study skills." Taken together, the stakeholder survey did not yield any clear direction in terms of a grade-wide strategy to address executive skill development.

In October 2014, this author reviewed the survey results with the seventh grade teachers and administrators. Collaboratively, the educators developed three executive skill-enhancing strategies that would be provided to all seventh grade students across the core curriculum. They were:

- Request that all 7th grade students use their planners throughout the academic day as they transition from class to class.
- Select three moments during the day when all students will be asked to pull out their planners to increase adherence to this strategy.
- Have all 7th grade teachers upload all assignments and assessments onto a universal online calendar.

The seventh grade teachers agreed to implement these executive skill-enhancing strategies immediately. There was a brief discussion as to whether these strategies should be held off until the seventh grade students completed the executive skills questionnaire as a pre-intervention measure. However, given the collective enthusiasm around these strategies as well as the ethical consideration of withholding strategies that would support the students' learning, the decision was made to proceed straightaway.

All seventh grade students completed and scored the Executive Skills Questionnaire-Teen Version (Guare et al., 2013) in November 2014 as a pre-intervention measurement. This two-page questionnaire asks students to evaluate their own executive skill development on a 7-point Likert Scale. Descriptive responses range from "strongly disagree" (Likert value of 1) to "strongly agree" (Likert value of 7). The questionnaire is comprised of 33 statements. Each of the 11 executive skills identified by Dawson and Guare (2009) are addressed separately within the questionnaire in three-statement clusters.

It is important to understand that Guare et al. (2013) created this questionnaire for exploratory purposes only. The Executive Skills Questionnaire was designed to be a tool within a larger toolkit towards the development of self-understanding and personalized

strategies. This questionnaire was not developed for the purposes of standardization or clinical research. As such, after completing the questionnaire, all students were instructed to score and record their own executive skill strengths and weaknesses in their planners.

In January 2015, this author visited the two seventh grade classes during the school day and engaged in open-ended discussions about executive skills. The list of the open-ended discussion topics is provided in Appendix C. Specifically, the following themes were discussed in the two 45-minute sessions with the students:

- Defining executive skills
- Time management skills for middle school
- Different learning preferences within the class
- Breaking down large assignments into parts
- Importance of using planner and calendar
- How these implemented strategies have been helpful (or not)

Following these trimester long interventions, the executive skills questionnaire was re-administered to the seventh grade class in February 2015. Then, the aggregate average score was calculated for the November 2014 and February 2015 administrations of the Executive Skills Questionnaire-Teen Version. Since only three questions on the questionnaire contributed to each of the executive skill developmental stages, the decision was made to analyze the averages of all 33 questions.

Individual student questionnaire responses had to meet certain criteria to be included in this study. First, only students and families that provided informed assent and consent were included in the study. Also, only students that completed both pre and post

intervention questionnaires were included. All of the seventh grade students completed and scored the questionnaires in religion class in November and again in February; however, only the questionnaire responses that met these two inclusionary criteria (N=27) were measured for the purposes of this study.

CHAPTER IV

RESULTS

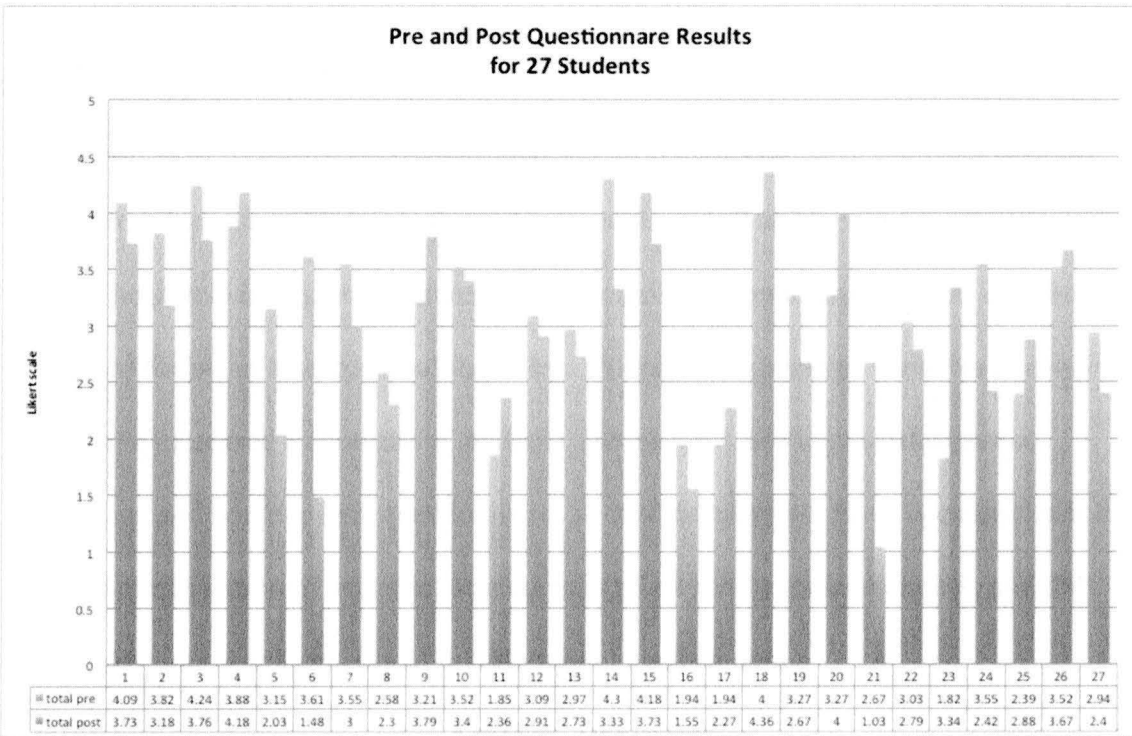
The results of the adult stakeholder survey did not identify a specific set of executive skills targeted for school based universal intervention. The survey did reveal that the school staff, administrators, and parents generally valued all of the developmentally attained executive skills identified by Dawson and Guare (2009) equally. In response to this ambiguous result, a follow up meeting with staff and administrators took place in October 2014. At the meeting, the results of the survey was shared and staff discussed their concerns regarding students skills and the school-wide systems that support and hinder overall executive skill development in the seventh grade class. A consensus was reached. These educators developed a set of strategies and techniques that would be initiated immediately and provided to all of the seventh grade students throughout the departmentalized middle school curriculum.

Executive skill development was measured with the use of the Executive Skills Questionnaire-Teen Version. The aggregate average scores were based on the averages of each of the 27 students whose results were included in this study.

Figure 3 provides a summary of the results. Specifically, the mean questionnaire scores of each student included in the study (N = 27) were combined into an aggregate average score for the pre (M = 3.199) and post (M = 2.937) intervention phases. This was a one-group pre-post test design.

An independent-samples t-test was conducted to compare these two mean scores. There was a significant difference between the mean scores: t =1.785 (26), p = < .05.

These results suggest that the cluster of independent variables identified in the methods section did support the hypothesis. Therefore, based on questionnaire results, executive skills did improve overall for this departmentalized seventh grade class.



	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27
total pre	4.09	3.82	4.24	3.88	3.15	3.61	3.55	2.58	3.21	3.52	1.85	3.09	2.97	4.3	4.18	1.94	1.94	4	3.27	3.27	2.67	3.03	1.82	3.55	2.39	3.52	2.94
total post	3.73	3.18	3.76	4.18	2.03	1.48	3	2.3	3.79	3.4	2.36	2.91	2.73	3.33	3.73	1.55	2.27	4.36	2.67	4	1.03	2.79	3.34	2.42	2.88	3.67	2.4

Figure 3. Pre and Post Questionnaire Results

CHAPTER V

DISCUSSION

Our research question sought to answer the following: *Can the implementation of universal strategies to a departmentalized seventh grade class contribute to a significant improvement in overall executive skills?* These results suggest that the application of an assortment of environmental, experiential, and developmental modifications brought about overall measureable improvement in executive skill abilities in the seventh grade class. The statistically significant result of this universal intervention effort may be accounted for by an assortment of variables. Possible independent variables to consider include the increased awareness of students and teachers, the impact of students completing and scoring their questionnaires as well as engaging in an open discussion in class, implementation of universal strategies in all departmentalized classes, and the natural developmental process of middle school aged students.

Teacher Awareness

Teachers were made aware of the importance of executive skill functioning through the use of shared articles, a power point presentation, participating in and reviewing the results of the stakeholder survey, and the development and implementation of strategies to the entire seventh grade class.

Student Awareness

Similarly, students became more aware of these critical functional skills throughout the action research experience. Many imbedded opportunities for awareness

included the completion and scoring of the Executive Skills Questionnaire and participation in a class wide discussion as well as the implementation of executive skill enhancing strategies across the entire seventh grade classes.

Completion and Scoring of the Executive Skills Questionnaire

In this study, seventh grade students each completed a questionnaire and then scored their responses. These responses were itemized according to the eleven developmental stages of executive skill development according to Dawson and Guare (2009). In developmental order, these are: Response inhibition, working memory, emotional control flexibility, sustained attention, task initiation, planning/prioritizing, organization, time management, goal-directed persistence, and metacognition. It is possible that the experience of completing and scoring these questionnaires in November and again ten weeks later in February may have provided insights that hastened the development and refinement of these executive skills.

Strategies Implemented Across All Classes

The purpose of the adult stakeholder surveys was to gain a collective understanding of the executive skill priorities of parents and school staff. In reviewing the survey results, school administrators and the departmentalized seventh grade team developed some specific strategies to be implemented and reinforced in all classes throughout the school day. Presumably, these strategies were meaningful to these educators; therefore, more likely to be implemented regularly and with fidelity.

Student Discussions

Students engaged in open discussions with the principal investigator in their seventh grade classes. The discussions were semi-structured and covered topics such as

the definition of executive functioning, time management techniques, learning and study preferences, breaking down large assignments and tasks into smaller and more manageable parts, and the ways that using a planner can support academic performance in middle school.

Human Development

Finally, it is possible that the significant executive skill growth captured in the student self-administered questionnaires would have happened absent of any other strategies or interventions. From a developmental perspective, these enhanced skills typically emerge in middle school. Without a control group and a more robust sample size, we do not know if the significant difference measured over the 10 weeks is a direct consequence of all of the procedures put into place.

Because this was an action research study, the stakeholders largely developed their own specific universal intervention strategies. As such, it would not have been proper to create an experimental design that would have exposed only some of the students to the strategies. The stakeholders expressed in the survey the magnitude of importance they all place on overall executive skill development. Therefore, this study provided significant results paired with an ambiguous understanding of the effects of each independent variable.

It is also important to consider that the statistical significance was gleaned from a self-report measure. Therefore, the differences in scores, over time, are based on the subjective experiences of each student. While we argue that questionnaire completion and scoring can be a valuable learning opportunity in and of itself, it would be important to consider other measures of executive skill growth. These can include structured

observations and norm referenced executive functioning checklist results as well as measureable performances of executive tasks such as recording assignments in planners and homework completion rates.

Future Directions and Implications

At the local level and from an action research perspective, this study has been the catalyst for some substantial changes at the Catholic school. To date, the educators have implemented the same seventh grade tier 1 strategies with the current sixth grade students and intend to implement the intervention across the entire middle school program (sixth, seventh, and eighth grades) for the 2015-16 academic year. Additionally, they intend for the sixth grade to participate in a similar open discussion about executive skills and learning and study styles. The online calendar, which was initially discussed as a strategy for the seventh grade in October 2014 is now fully operational and contains posts for the entire middle school program. It would be important at this point to consider data that can be gathered to evaluate the implementation of these strategies.

In more general terms, this study allowed for the expansion of knowledge about the importance of executive skills for the school community. At this point in time, the identification of evidence-based executive skill strategies within a multi-tiered system of support is just emerging. Next steps should be a collaborative effort among researchers and educators in developing a dense framework of proven universal, targeted, and intensive supports across childhood and adolescence.

This study offered an initial examination of some of the contributing variables towards an evidence-based universal (tier 1) intervention. It is possible that this significant finding is the result of the cumulative mindfulness and efforts of students and

school staff. It is also possible, as discussed earlier, that these developmental improvements would have come about organically—without any explicit instruction or universal strategies. Further study is needed to identify and isolate all of these variables to determine what single strategy or combinations of strategies are the most efficacious.

APPENDIX A

POWERPOINT PRESENTATION FOR SEVENTH GRADE TEACHERS AND ADMINISTRATORS

AN ACTION RESEARCH PROJECT AIMED AT ENHANCING THE EXECUTIVE SKILLS OF A DEPARTMENTALIZED SEVENTH GRADE CLASS

Jackie Gilson
August 19, 2014

Today's Overview

- Introductions and gratitude
- Development in middle school
- Explanation of executive skills
- Explanation of action research
- This action research project
- Brainstorming session

The Middle School Brain

- 1960s middle school movement
- Developmental disruption of puberty
- Develop self-control and self-understanding

Best Practices:

- Teachers monitoring students
- Engage students in smaller learning communities
- Flexible interdisciplinary curriculum that encourages active and personalized learning
- Meta-cognitive strategies integrated in all content
- Emotionally meaningful curriculum
- Student roles in decision making
- Honoring and supporting student voices
- Facilitating social and emotional growth

Executive Functions

- How they're educator and psychology
- Prefrontal cortex
- Last part of brain to fully develop
- Individual executive functioning
- Disorders or developmental
- Middle school transitions
  - Less direct supervision and communication with parents
  - Departmentalized
  - Greater need for organizational and self-advocacy skills
  - Need explicit instruction of these skills

Developmental Progression of Executive Skills

- Response inhibition
- Working memory
- Emotional control
- Sustained attention
- Task initiation
- Planning/prioritization
- Organization
- Time management
- Goal-directed persistence
- Flexibility
- Meta-cognition

Action Research

"Action research is a systematic approach to investigation that enables people to find effective solutions to problems they confront in their everyday lives." (Stringer, 2013)

- Stakeholders direct the project
- Local focus
- Collaborative approach
- Democratic, equitable, liberating

Example at Lake Tech Academic Center

Loyola and Ascension approvals

This action research project timeline

- June 2014-Preliminary meeting with administration
- Summer 2014-Brief 7th grade parent notification
- August 2014-Meet with the 7th grade team
- First trimester-Administer the online survey, review data, and decide on strategies that can be implemented across the curriculum
- Beginning of second trimester-Administer Executive Skills Questionnaire and implement strategies
- End of second trimester-Re-administer Executive Skills Questionnaire

Brainstorming Session

Resources

- Armstrong, T. (2006). *The best schools: how human development research should inform educational practice*. Alexandria: ASCD.
- Dawson, P. (2010). Last or not? *Educational Leadership*, October 2010, 68(2), 35-38.
- Dawson, P. & Guare, R. (2009). Executive skills: the hidden curriculum. *Principal Leadership: High School Edition*, March 2009, 9(7), 10-14.
- Dawson, P. & Guare, R. (2012). *Coaching students with executive skills deficits*. New York: Guilford.
- Stringer, E.T. (2013). *Action research* (4th Ed.). Los Angeles: SAGE.

Online Survey:

https://www.surveymonkey.com/s/9QXRPFC

Executive Skills Questionnaire-Teen Version:

http://cbs.peabody.vanderbilt.edu/wp-content/uploads/modules/ss/pdfs/ss_01_link_Executive_Skills_Questionnair_Teen.pdf

- Questions?
- Comments?
- Concerns?

Thank you!

Jackie Gilson
jgilson@luc.edu
Work phone: 773-534-5684
Cell phone: 773-490-7102

APPENDIX B

ADULT STAKEHOLDER SURVEY

(This) Catholic School Incoming 7th Grade Survey

1. Please Identify Yourself

Parent

School Staff

2. How important is it for middle school students to develop each of these executive skills?

	very unimportant	unimportant	somewhat unimportant	neither important nor unimportant	somewhat important	important	very important
Emotional self-control							
Organization							
Goal setting and follow-through							
Planning and prioritizing							
Time management							
Seeing the whole picture							
Keeping attention							
Study skills							
Flexible, relaxed, and adjustable thinking							

3. Please look at the skills listed in question #2. Which executive skill do you think is the most important to teach?

4. How satisfied are you with the way (this school) prepares students for the ACADEMIC transition to high school? (Examples: Knowledge, study skills, time management skills, and test preparation)

very dissatisfied | dissatisfied | somewhat dissatisfied | neither satisfied nor dissatisfied | somewhat satisfied | satisfied | very satisfied

5. Please Explain

6. How satisfied are you with the way (this school) prepares students for the NON-ACADEMIC transition to high school? (Examples: Managing stress, developing good relationships with classmates and teachers, having good coping strategies)

very dissatisfied | dissatisfied | somewhat dissatisfied | neither satisfied nor dissatisfied | somewhat satisfied | satisfied | very satisfied

7. Please Explain

8. Is there anything else you would like to add?

Thank You!

Done

APPENDIX C

DISCUSSION QUESTIONS FOR SESSIONS WITH SEVENTH GRADE STUDENTS

Discussion Questions:

What do you think of when you hear the term "executive skills"?

According to the questionnaire that you all took, what are some of your executive skill strengths? Weaknesses?

Did any of the results surprise you? Why?

Where do you think that you learn these skills?

Can you think of a time when you figured out a way to make studying/organizing/planning easier for you?

What strategies would you like to share with your classmates?

How do you prepare for a test?

How do you use your time when you get home from school?

How do you keep track of all of your assignments, appointments, and responsibilities?

What advice can you give a younger Catholic school student about managing seventh grade?

What lessons have you learned so far about what it takes to be organized for middle school?

What do you think that you still need to work on?

How can your teachers support your executive skill growth?

APPENDIX D

STAKEHOLDER CONSENT FOR SURVEY

[redacted]

XXXXX
CATHOLIC SCHOOL

Dear XXXXX staff and incoming 7th grade families,

As a school psychologist and a doctoral student in school psychology at Loyola University Chicago. I am involved in an action research project involving Xxxxx School. The project is under the supervision of Dr. Pesce from the School of Education at Loyola University Chicago and titled "An action research project aimed at enhancing the executive skills of a departmentalized seventh grade class." The project is being conducted as a requirement for my doctorate.

Specifically, the purpose of the study is to understand which executive skills are the ones most valued by xxxxx parents and staff and to understand the ways xxxxx prepares students for the transition to high school. With this understanding, we plan to implement some instructional and systemic changes within Xxxxx and then measure executive skill development in the 2014-15 seventh grade class.

Toward this end. I am asking you for your voluntary participation in this action research study. Should you decide to participate, you will be asked to complete a survey that is estimated to take no more than ten minutes to complete. Your participation would be greatly appreciated and your responses will be confidential and anonymous. If you do not want to be in this study, you do not have to participate. Even if you decide to participate, you are free not to answer any question or to withdraw from participation at any time without penalty. If you complete and submit this anonymous survey we will be unable to extract this anonymous data from the database should you wish it to be withdrawn.

There are no foreseeable risks involved in completing this survey beyond those experienced in everyday life. You will benefit in knowing you have participated in shaping the *way* Xxxxx teaches executive skills and prepares students for the transition to high school.

If you are interested in participating, you may either complete the survey attached to this letter *or* complete this survey online. Completed paper surveys can be placed in the attached envelope and returned to a labeled bin in the Parish office. These secure survey responses will be held in a locked location and destroyed following collection and scoring.

The online survey, which may be accessed at https://www.surveymonkey.com/s/9QX2RFC is a secure site operated by surveymonkey.com. Your IP address will be suppressed to insure there is no way you can be identified.

Whether you are completing the attached paper survey *or* the online survey, please sign and date here. Your signature below indicates that you have read and understood the information provided above, have had an opportunity to ask questions, and agree to participate in this research study. You will be given a copy of this form to keep for your records.

You may place this signed consent in the attached envelope and return it to the labeled bin in the Parish office.

Signature: _____

Date: _____

If you have any questions, please contact me at JMGilson@cps.edu or my Loyola sponsor for this research, Dr. Ross Pesce at Rpesce@luc.edu. Moreover, should you have any questions about your rights as a research participant, you may contact the Loyola University Office of Research Services at 773-508-2689.

Thank you for your voluntary participation in this action research project.

Sincerely,

Jacqueline Gilson

(signature) _____

School psychologist and doctoral candidate in school psychology at Loyola University Chicago

Loyola University Chicago: Lakeside Campuses
Institutional Review Board for
The Protection of Human Subjects

Date of Approval: 06/01/2014

Approval Expires: 04/27/2015

APPENDIX E

INFORMED CONSENT FOR QUESTIONNAIRE

[redacted]

XXXXX
CATHOLIC SCHOOL
www. xxxxxschool.com

Dear Xxxxx Catholic School seventh grade parents,

As a school psychologist and a doctoral student in school psychology at Loyola University Chicago, I am involved in an action research project involving the seventh grade class at Xxxxx. The project is under the supervision of *Dr.* Pesce from the School of Education at Loyola University Chicago and titled "An action research project aimed at enhancing the executive skills of a departmentalized seventh grade class." The project is being conducted as a requirement for my doctorate. You are being asked to give permission for your child to take part in a research study

Specifically, the purpose of the study is to understand which executive skills are the ones most valued by Xxxxx parents and staff and to understand the ways Xxxxx prepares students for the transition to high school. With this understanding, we have implemented some instructional and systemic changes within Xxxxx's seventh grade program. Now we are hoping to measure executive skill development in the 2014-15 seventh grade class. Your child is being asked to participate because we would like to measure the executive skills your child possesses at the beginning of the school year and again in the winter.

Please read this form carefully and ask any questions you may have before deciding whether to allow your chi::tto participate in this study. If you agree to allow your child to be in the study, he/she will be asked to complete and score the Executive Skills QuestionnaireTeen Version two times-at the start of this school year and again inthe winter.

There are no foreseeable risks involved in completing the questionnaire beyond those experienced in everyday life. Your child will benefit from gaining insight into his/her executive strengths and weaknesses now and over time. The responses will be confidential Questionnaires for both administrations will be coded so that no names appear on the questionnaires. A randomly assigned number will be placed on your child's questionnaire each time the questionnaire is filled out the list of participants and their assigned numbers will remain confidential and stored ina secure manner. These secure questionnaire responses will be held in a locked location and destroyed following the last questionnaire administration and score collection.

Participation is voluntary. If you do not want your child to be in this study, he/she does not have to participate. Even if you decide to allow your child to participate, he/she is free not to answer any question or to withdraw from participation at any time without penalty. The decision to not cooperate will have no effect on the provision of education and supports to your child

If you *have* any questions, please contact me at JMGilson@cps.edu or my Loyola sponsor for this research, Dr. Ross Pesce at Rpesce@luc.edu. Moreover, should you have any questions about your child's rights as a research participant, you may contact the Loyola University Office of Research Services at 773-508-2689.

Your signature below indicates that you have read and understood the information provided *above,* have had an opportunity to ask questions, and agree to allow your child to participate in this research study. You will be given a copy of this form to keep for your records.

Thank you for your consideration.

Jacqueline Gilson

Lane Tech school psychologist and doctoral candidate in school psychology at Loyola University Chicago

_____ _____

Parent's/Guardian's Signature Date

_____ _____

Researcher's Signature Date

Loyola University Chicago: Lakeside Campuses
Institutional Review Board for
The Protection of Human Subjects

Date of Approval: 06/02/2014

Approval Expires: 06/22/2015

Love ✝ Kindness ✝ Respect

APPENDIX F

INFORMED ASSENT FOR QUESTIONNAIRE

XXXXX SCHOOL

Project Title: An action research project aimed at enhancing the executive skills of a departmentalized seventh grade class

Principal Investigator: Jackie Gilson, school psychologist

We are doing an action research study to improve the executive skills (such as decision making, planning, and organizing) of the xxxxx seventh grade class. The xxxxx seventh grade team is doing this because we think these skills are important for success in middle school and beyond. We administered surveys to all xxxxx teachers as well as your families last spring. We used these survey results to improve the way we teach and support the growth in these skills.

Now it is time to measure your executive skills as you see them. If you decide to that you want to be part of this study, you can complete the *Executive Skills Questionnaire Teen Version* on the next two pages. It will take about ten minutes to complete and score. You will be administered this questionnaire now and again this winter.

We think that you will benefit from thinking more about your own executive skills and knowing that your skill development really matters to us. We also hope that your teachers will learn more about the way 7th graders develop these skills over time. When we are finished with this study, we will write a report about what we learned. This report will not include your name or that you were in the study. Your responses are anonymous. We will not know how you personally answered these questions. After recording your anonymous scores, the questionnaires will be destroyed. You do not have to be in the study if you do not want to be. If you decide to stop after we begin, that's also okay. Your parents know about this study, too.

Thank you!

APPENDIX G

SCHOOL PRINCIPAL CONSENT FOR ACTION RESEARCH PROJECT

May 21, 2014

To whom it may concern:

As the principal at xxxxx School, I have been communicating with Jackie Gilson, a school psychologist and Loyola University Chicago graduate student, about her action research project planned for our school. The project is titled "An action research project aimed at enhancing the executive skills of a departmentalized seventh grade class."

This participatory action research project is a collective effort engaging our seventh grade team administrators and staff as well as the 2014-15 academic year seventh grade students and families.

Two Loyola faculty members have also been providing guidance to Ms. Gilson in the design and implementation of this project. I understand that this project is outlined in the Loyola University IRB application. I also understand and approve of all procedures outlined in the proposal, including but not limited to, the survey contents, survey administration to all identified stakeholders, and storing and analyzing the data obtained.

If I can provide any additional information, please do not hesitate to contact me.

Sincerely,
xxxxxxxxxxxx
Principal

REFERENCE LIST

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VITA

Jacqueline Mink Gilson is the daughter of Bayla Mink and Yehezkel Mink. She was born in Brooklyn, New York on December 10, 1970 and currently resides in Chicago, Illinois with her two children.

Jacqueline Gilson attended the New York City Public Schools; specifically, Public School 158, Intermediate School 167, and Stuyvesant High School. She graduated from the University of Wisconsin-Madison in 1992 with a Bachelor of Arts in both Anthropology and Psychology. In 1995, Jacqueline earned a Certificate of Advanced Graduate Study in School Psychology from Tufts University.

Jacqueline has worked as a school psychologist her entire professional career and has performed that role in Massachusetts, California, and Illinois. The majority of her career, she has been employed by the Chicago Public Schools (CPS). During her tenure at CPS, she has served in early childhood, elementary school, middle school, high school, and therapeutic day school settings.

Currently, she is assigned to two Chicago public high schools, Lane Tech College Prep and DeVry University Advantage Academy. Her professional interests include providing high quality tiered interventions within the urban school setting, the delivery of restorative and executive skill building opportunities for students within a multi-tiered system of support, and transition planning.

Jacqueline has been an active volunteer for various organizations throughout her lifetime. Her experiences as an adult literacy volunteer and as a counselor for children

with developmental disabilities have been particularly transformative. Since 1995, Jacqueline has coordinated the Feed the Hungry program at Temple Shalom of Chicago.

On a personal note, Jacqueline has been grateful for her graduate education at Loyola and its focus on social justice. This doctoral degree represents the completion of a life-long dream. She is thankful for the guidance of her professors, classmates, and colleagues as well as the support she has received from family and friends. Most of all, she would like to recognize her "symphony"—her children Grace and Michael.

DOCTORAL RESEARCH PROJECT APPROVAL SHEET

The Doctoral Research Project submitted by Jacqueline M. Gilson has been read and approved by the following committee:

Rosario C. Pesce, Ph.D., Director
Clinical Assistant Professor and School Psychology Coordinator of Clinical Training
School of Education
Loyola University Chicago

Lynne Golomb, Ed.D.
Clinical Assistant Professor
School of Education
Loyola University Chicago

Anna Hamilton, Ph.D.
School Psychologist and Coordinator
Niles Central High School
Niles Township High School District 219

The final copy has been examined by the director of the Doctoral Research Project and the signature which appears below verifies the fact that any necessary changes have been incorporated and that the Doctoral Research Project is now given final approval by the committee with reference to content and form.

The Doctoral Research Project is therefore accepted in partial fulfillment of the requirements for the degree of Doctor of Education.

8/19/15
Date

Director's Signature