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# Stagnation of Secondary Student Achievement: An examination of the Instructional Core

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# Stagnation of Secondary Student Achievement: An examination of the Instructional Core

Joseph P. Macary

University of Connecticut, 2016

This study explored the stagnation of secondary student achievement through the examination of the instructional core. The problem of practice this study addresses is the stagnation of student achievement (as measured by CAPT - Connecticut Academic Performance Tests) at the secondary level in one comprehensive Connecticut high school. The problem of practice is rooted in the black box theory (Black & William, 1998) and explored through the instructional core (Elmore, 2000). The instructional core is comprised of the interactions among student, teacher and content. This study explored the problem of practice using four theoretical frames of adult learning, leadership, policy and social justice as outlined in the University of Connecticut doctoral program. This study's research question was "what are the educator perceptions of the barriers between the instructional core and student outcomes." The methods represent an exploratory case study that triangulates multiple sources of evidence (Yin, 2004) and uses program theory (Rodgers et al., 2000) as an analytic technique to examine the components of the instructional core. The findings determined that three barriers affected the instructional core that stagnated student achievement at the secondary level. The barriers were 1) beliefs about intelligence (teacher-student); 2) academic tasks (student-content); and 3) instructional practices (teacher-content). The implications of the four analytic frames determined issues for each: adult learning- performance; leadership- accountability; policy- resistance; and social justice- inequality. The recommendations were to formally identify the barriers within the instructional core and to create an action plan to remove those barriers within the relationships between student, teacher and content.



# Stagnation of Secondary Student Achievement

Stagnation of Secondary Student Achievement:

An examination of the Instructional Core

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B.A., University of Connecticut, 1994

M.A., Quinnipiac University, 2005

A Dissertation

Submitted in Partial Fulfillment of the

Requirements for the Degree of

Doctor of Education

at the

University of Connecticut

2016

# Stagnation of Secondary Student Achievement

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Joseph P. Macary

2016

# Stagnation of Secondary Student Achievement

## APPROVAL PAGE

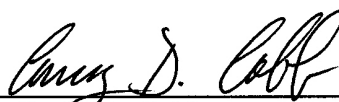
### Doctor of Education Dissertation

#### Stagnation of Secondary Student Achievement: An examination of the Instructional Core

Presented by

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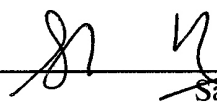
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Sarah Woulfin

University of Connecticut  
2016

## Stagnation of Secondary Student Achievement

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## Stagnation of Secondary Student Achievement

### **Stagnation of Secondary Student Achievement in the Instructional Core**

Preparing students for a twenty-first century global economy is the mission of every public high school in the nation. In his address to Congress on February 24, 2009, President Barack Obama commented, “In a global economy, where the most valuable skill you can sell is your knowledge, a good education is no longer just a pathway to opportunity, it is a prerequisite.” Connecticut’s secondary school reform act (CT Public Act 10-111) is at the heart of high school reform for the graduating class of 2020. This public act allows for education reform and sets higher standards for schools across the state. Numerous studies of high school achievement indicators (e.g., overall graduation rate, four-year graduation rate, drop-out rates) illustrate the need for school reform in the United States. The most notable school reform initiative has been the curricular shift to the Common Core State Standards (deployed in 45 states, including Connecticut), intended to properly prepare high school students for college and career success. This sense of urgency for high school reform is evident by the numerous studies and policy-related legislation (CT Public Act 10-111) across the nation.

The graduation rate for the high school class of 2004 was 91% in the state of Connecticut, while 77% went on to 2- or 4-year colleges that year (State Department of Education, Strategic School Profile, 2004-2005). In comparison, looking at 9<sup>th</sup> grade students in Connecticut, only 24 out of 100 earn a college degree (Commission for the Advancement of 21st Century Skills and Careers, April, 2009). The Connecticut P20 Council report (October 2011) commissioned by the Connecticut Board of Regents indicates that only forty-one percent (41%) of the members of the Connecticut Class of 2004 received a post-secondary degree (Bachelor’s or Associate’s) or technical certificate, six years after completing high school. This disconnect between a student’s completion of a high school education and successful post-secondary

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(college and career) attainment is linked to a student's academic achievement at the secondary level in public schools. In order to meet the demands of the twenty-first century global economy and to lead productive and contributing lives, high school graduates need to demonstrate significantly high levels of achievement.

### **Problem Statement**

The problem of practice this study addresses is the stagnation of student achievement at the secondary level in one comprehensive Connecticut high school. The Connecticut Business and Industry Association (CBIA) advocated for the CAPT (Connecticut Academic Performance Test) in the 1990s as a means of assessing the preparation of high school graduates for the successful college and career readiness by having prerequisite academic skills. In an eight-year period, from 2002 to 2009, the goal<sup>1</sup> scores (levels 4 or 5) on the CAPT Science Test remained flat for this one high school, while the goal scores on the CAPT Reading Test showed only minimal growth. The CAPT goal scores (levels 4 or 5) in writing and mathematics showed minimal gains over that same period of time. Using a data analysis measure, a correlation test was conducted and the results showed that the writing and mathematics scores were not statistically significant. In other words, the small gains in writing and mathematics were within the variance over the eight-year period being reviewed.

The scoring trends for this particular high school was not unlike that of the average trends for high schools across the state, which exhibit CAPT performance trajectories over the eight-year period that are relatively flat. The data presented in Table 1, and then graphically portrayed in Figure 1, indicates the percentage of students achieving at goal on the CAPT between 2002-

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<sup>1</sup> Students who score at a level 4 or 5 on the CAPT are considered to perform "at goal." Performing at goal is equivalent to achieving at a mastery level.

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2009 in the areas of reading, writing, math and science. The scores in the table represent the average scores of all 10<sup>th</sup> grade students from 169 towns in Connecticut. The data represented in Figure 1 shows a pattern of stagnation in the scores of students at goal level in the four areas tested. This trend supports the relevance that there is stagnation in student achievement at the secondary level throughout the State of Connecticut.

**Table 1: Percentage of Students Meeting Goal (Level 4 or 5) on the State Standardized Assessments (Connecticut Academic Performance Tests) in the State of Connecticut**

Year	Reading	Writing	Mathematics	Science
<b>2009*</b>	<b>47.5</b>	<b>55.0</b>	<b>48.0</b>	<b>43.0</b>
<b>2008*</b>	<b>45.5</b>	<b>57.9</b>	<b>50.2</b>	<b>46.5</b>
<b>2007*</b>	<b>45.5</b>	<b>55.0</b>	<b>45.3</b>	<b>44.5</b>
<b>2006</b>	<b>46.5</b>	<b>52.4</b>	<b>46.3</b>	<b>44.6</b>
<b>2005</b>	<b>49.1</b>	<b>55.2</b>	<b>47.8</b>	<b>47.3</b>
<b>2004</b>	<b>48.0</b>	<b>53.7</b>	<b>46.1</b>	<b>47.4</b>
<b>2003</b>	<b>47.0</b>	<b>52.8</b>	<b>45.1</b>	<b>43.2</b>
<b>2002</b>	<b>44.8</b>	<b>51.0</b>	<b>44.0</b>	<b>43.2</b>

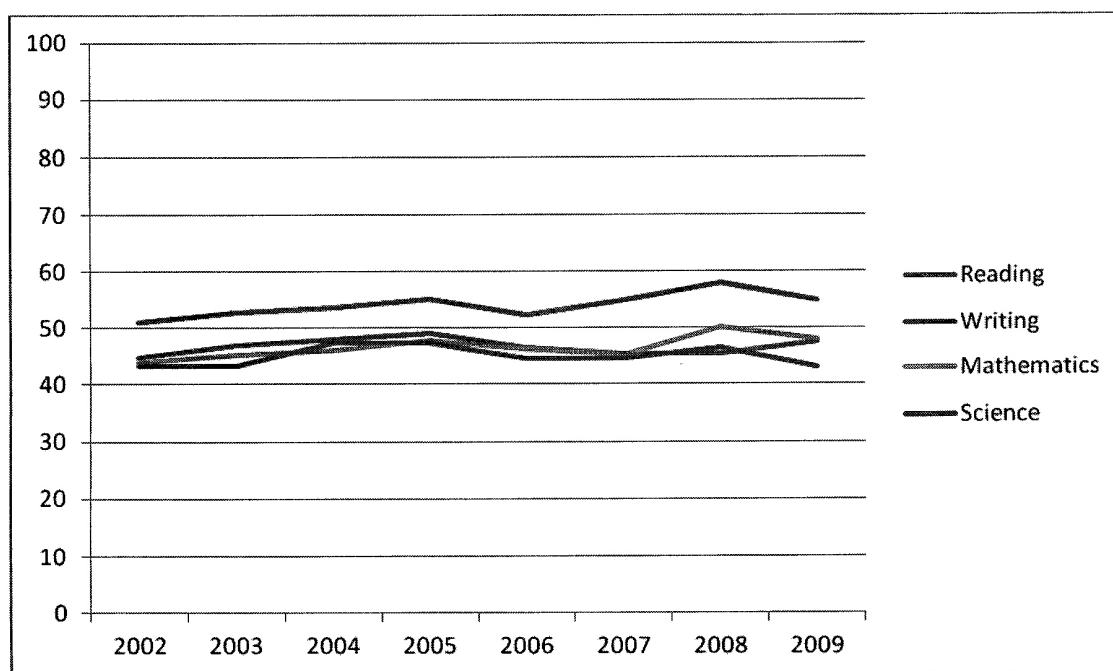
\* Third Generation of the Connecticut Academic Performance Test

The Nutmeg Public Schools, a district in the State of Connecticut, reflects this trend of stagnation in student achievement at the secondary level. This study focuses on the results at Nutmeg High School. Nutmeg district data illustrates that there is a decrease in student achievement in the areas of reading and science over an eight-year testing period. The student performance results measured by the CAPT show no growth in two out of the four areas tested. While the results of the CAPT math test have increased 7.5% over the eight year period, there are a series of fluctuations ranging from 5 to 10% from the baseline. This data trend led to the identification of the stagnation of secondary student achievement in the Nutmeg Public Schools as my problem of practice for this Capstone Project.



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**Figure 1. Percentage of Students Meeting Goal (Level 4 or 5) on the State Standardized Assessments (Connecticut Academic Performance Tests) in the State of Connecticut**



The data outlined in Table 2 indicates the percentage of students achieving goal level and above in the secondary level on the CAPT in the areas of reading, writing, math and science between the years 2002-2009 at Nutmeg High School. In CAPT reading achievement, which is comprised of response to literature and reading for information tests, there has been no measurable growth. In 2002, the percentage of students at the goal level in reading was 50.0% and in 2009 the achievement level was lower at 46.7%. During the eight year testing period, the CAPT tests were re-focused and the scaled scores adjusted for to allow for data analysis<sup>2</sup>. In 2006, the last year of the second generation CAPT, the reading level was 50.2%. In 2007, the first year of the third generation CAPT, the reading level was the same at 50.2%. Proficiency in reading comprehension is widely considered as the most important predictor of a student's

<sup>2</sup> The CAPT has had three generations of student testing since its inception. After the tests in the four subject areas of reading, writing, math, and science are developed and re-focused, the scaled scores are adjusted to align with the previous generational tests to allow for continuity to review the data over a period of time.

## Stagnation of Secondary Student Achievement

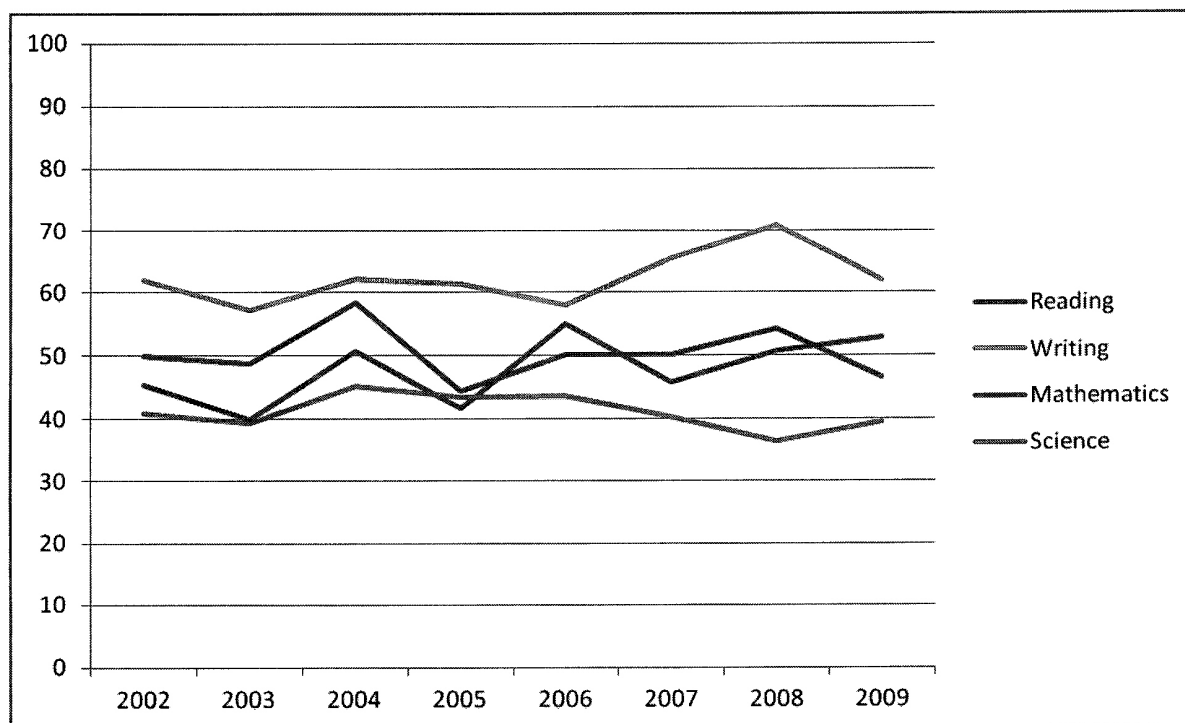
overall educational proficiency and success in other subject areas. For these reasons, the CAPT scores in Nutmeg Public Schools warrant further review and research to resolve apparent stagnation.

**Table 2: Percentage of Students Meeting Goal (Level 4 or 5) on the State Standardized Assessments (Connecticut Academic Performance Tests) in the Nutmeg Public Schools**

Year	Reading	Writing	Mathematics	Science
2009 *	46.7	61.9	52.9	39.5
2008 *	54.2	70.8	50.7	36.4
2007 *	50.2	65.4	45.9	40.3
2006	50.2	57.9	55.1	43.7
2005	44.4	61.2	41.8	43.4
2004	58.4	62.1	50.7	45.2
2003	48.7	57.1	39.9	39.4
2002	50.0	61.8	45.4	40.9

\* Third Generation of the Connecticut Academic Performance Test

**Figure 2: Percentage of Students Meeting Goal (Level 4 or 5) on the State Standardized Assessments (Connecticut Academic Performance Tests) in the Nutmeg Public Schools**



## Stagnation of Secondary Student Achievement

Figure 2 displays the stagnation of secondary student achievement at Nutmeg High School, in terms of CAPT achievement. Essentially, there is no or limited growth in three of the four areas of the CAPT (reading, writing, and science). The increase in math achievement is noteworthy. The major issue for this study is the flat pattern of achievement scores exhibited over an eight year period of time. Other determining factors have been considered, however teaching and learning is the predominant one that needs to be further examined.

As stated, this study addresses the issue of stagnation of secondary student achievement by focusing on one district, Nutmeg High School. This district data parallels the trend of stagnation that is evident in the State CAPT results. In direct contrast with this CAPT pattern of results, the Connecticut Mastery Tests (CMT) administered in Grades 3-8 in the four subjects areas showed significant improvement from period of 2002 to 2009, as seen in Table 3. The students meeting goal on the CMTs in reading and mathematics made substantial growth. To understand the cause of such stagnation, this study will explore factors that may have contributed by examining the interacting elements of the instructional core (Elmore, 2000). The results of this exploration may help other districts in their efforts towards high school reform by directly addressing the issues of student learning (and achievement) in schools.

Table 3: Percentage of Students Meeting Goal (Level 4 or 5) on the State Standardized Assessments (Connecticut Mastery Tests) in the State of Connecticut in Grade 5

Year	Reading	Writing	Mathematics	Science
2009 *	66.0	66.6	69.0	58.3
2008 *	62.2	64.6	66.2	55.2
2007 *	61.5	64.6	66.0	n/a
2006 *	60.9	65.0	60.7	n/a
2005	n/a	n/a	n/a	n/a
2004	60.5	61.3	60.9	n/a
2003	61.9	62.2	62.0	n/a
2002	64.1	60.8	61.1	n/a

\* 4th Generation of the Connecticut Mastery Test

### **Conceptual Framework**

Present education policies seem to treat the school as a black box (Black & Wiliam, 1998). In other words, from a systems approach, the school is treated as if certain inputs from the outside—such as students, teachers, resources, management, policies, requirements, standards, testing—are all inputted into the school (i.e. "fed into the box"). Some outputs are then expected in the form of results, like students who are more knowledgeable and competent, better tests scores, and increased teacher satisfaction (Black & Wiliam, 1998). The school, then, is where the inputs are processed and outputs are produced. The enduring question is what mediating variables between the inputs and outputs at the school level cause differentiated effects. These mediating variables need to be researched, analyzed, and documented so that their identification can assist in providing better student outcomes.

Raising the performance of all students in every school that are achieved through schooling is an important national priority (Black & Wiliam, 1998). The constantly changing inputs into the black box (school) are expected to yield improved student learning and a closing of the achievement gap. I mentioned mediating variables within a school: positive mediating variables can be identified as enablers and negative mediating variables identified as barriers. Each affects the outputs in differing ways; barriers inhibit schools from providing an optimal learning environment and improved outputs, like student achievement.

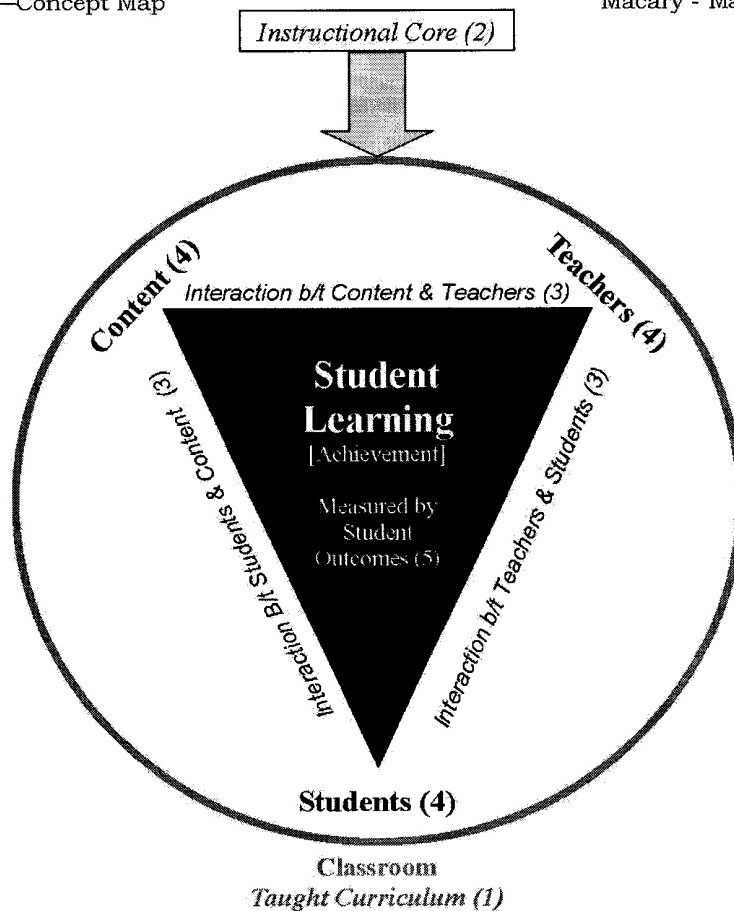
The analysis of student learning that often flows from viewing schools as the black box is itself limited, and can often lead to inaccurate and distorted conclusions. However, one method deployed by Elmore (2000) uses the concept of the instructional core that is defined by the interactions among the teacher and the student in the presence of content.

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The instructional core as defined by Elmore (2000) is comprised of the interactions among student, teacher, and content; these interrelationships are depicted in Figure 3. The instructional core provides a framework for analysis of what we would expect to see happening to student learning over time (City et al., 2009). The stronger the interactions among each of the three components of the instructional core (Cohen & Ball, 1999), the greater the student learning.

Figure 3—Concept Map

Macary - March 2015



1. Brophy (1982); 2. Elmore (2000); 3. Cohen and Ball (1999);  
4. City, Elmore, Fiarman & Teitel (2009); 5. Lemons & Helsing (2008)

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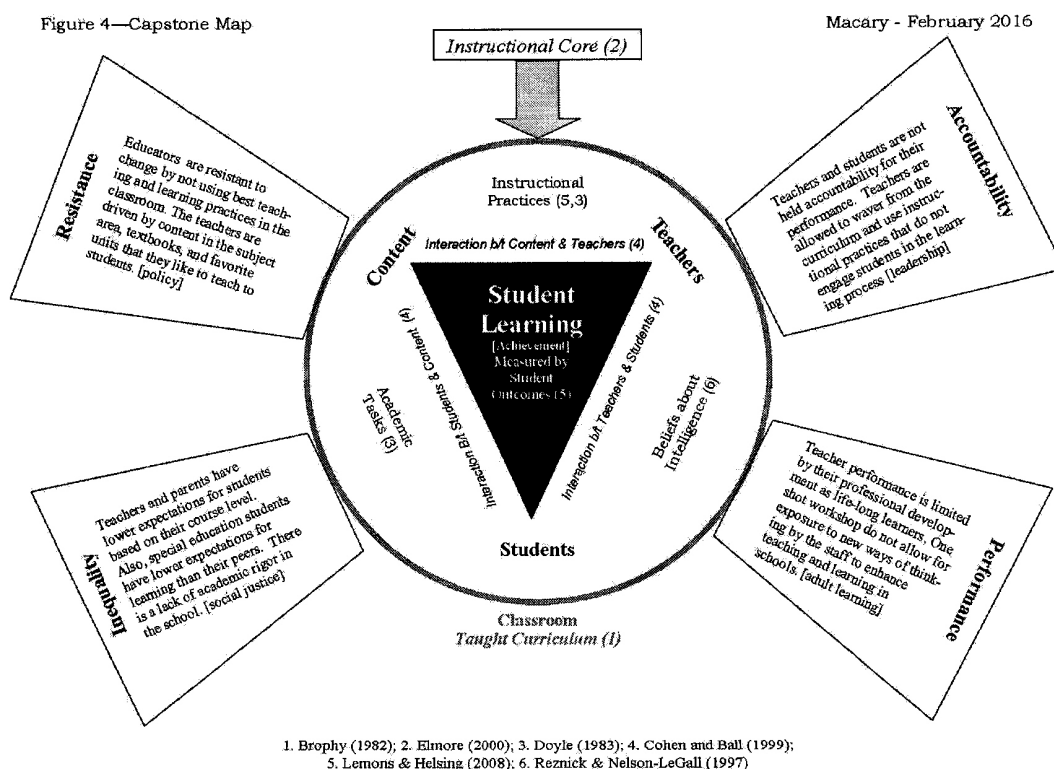
For example, if the relationship between the student and teacher is strong through rapport, connections, and understanding a stronger interaction will occur, which will assist in enhancing student learning. In addition, the interaction between the teacher and the content is enhanced, meaning the teacher has an informed and strong grasp of the subject area being taught, which will *also* assist student learning. The stronger the interactions among each of these three relationships, the more likely student learning will improve through a focus on the instructional core. Conversely, negative barriers within the instructional core inhibit improving student outcomes in schools.

The conceptual framework depicted in Figure 3 illustrates the premise that guides this study. The stagnation of student achievement in the secondary level (as measured by state standardized assessments) is linked to the instructional core (Elmore, 2000). At the heart of the instructional core is student learning, which is most often defined through standardized assessments such as the CAPT in Connecticut schools during the period of this study. This study will focus on the barriers perceived by educators that hinder or impede key interactions associated with the instructional core, leading to negative effects on student outcomes in schools.

As portrayed in Figure 4, this problem of stagnation in secondary student achievement is linked to the instructional core (Elmore, 2000) due to the barriers that inhibit or deter student learning and negatively affect student outcomes. These barriers may inhibit the interactions (Cohen & Ball, 1999) within the instructional core in high schools (e.g., interactions between teachers, students, and content). The barriers are directly linked to the interactions in the instructional core. One example is the interaction between content and students – the academic task that the student completes has the potential to strengthen a student's knowledge and skills to "learn" that subject. However, an academic task that requires low cognitive demand and implies

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low expectations can be a barrier within the instructional core and negatively affect student outcomes. The conceptual framework, in Figure 4, will assist us in examining the instructional core to determine the barriers that are contributing to the stagnation of secondary student achievement.



**Analytic Frame.** The University of Connecticut doctoral program model explored educational "problems of practice" in four theoretical frames: adult learning, leadership, policy, and social justice. Semester courses and educational research in these four frames allowed for examination of the problem of practice from each perspective. In researching the instructional core, through these four frames, problems such as accountability from a leadership perspective (Abelmann & Elmore, 1999), performance for adult learning (Barber & Mourshed, 2007),

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inequality for social justice (Ladson-Billings, 2006), and resistance for a policy perspective (Honig, 2006) were identified and revealed. These four frames allow this study to examine the problem statement from different points of view embedded in educational research.

*Adult Learning.* The adult learning frame provides one perspective on why stagnation in student achievement occurs at the high school level in districts such as Nutmeg. According to this frame, teachers matter; they have a central role in enhancing student achievement (Barber & Mourshed, 2007). As teachers face increasing demands in their classrooms (e.g., increasing diversity among students, increasing role of information technology), their ability to provide effective instruction is often related to the quality of the professional development opportunities available to them. When professional development takes the form of one-shot workshops, teachers' growth and development is often limited (Sheckley et al., 2008). In contrast, when teachers have opportunities to collaborate with other teachers in a way that prompts them to reflect deeply on ways to improve their teaching, teachers typically improve their professional practice (Eckert & Bell, 2005). Because teachers have such a critical role in enhancing students' learning, the opportunities for teachers to improve their skills through professional learning programs becomes a key issue.

One area of focus for professional development programs, for example, could be teachers' beliefs about how students learn. Despite differences between students of different age levels (e.g., older learners have a richer experience base than younger learners), teachers often instruct students at the secondary level using the same methods teachers use in the primary grades (Reznick & Nelson-LeGall 1997). Ingrained practices (e.g., using a one-size-fits-all approach to instruction) are not usually changed when teachers attend a one-time workshop (Sheckley et al., 2008). A more involved, collaborative process may be required to have teachers



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reflect deeply on ways to refine their teaching practice to match the capabilities of high school students (Saylor & Kehrhahn, 2001). If districts such as Nutmeg are going to help teachers develop a wider array of skills to work with high school students, these districts may have to devise ways to offer more effective the professional development opportunities for teachers. Teachers are one of the three components of the instructional core and implementing professional development programs designed to increase the level of knowledge and skill that the teacher brings to the instructional core (City et al., 2009) will increase student learning. Increasing the capacity of teachers within the instructional core would assist in negating barriers that create a stagnation of secondary student achievement.

*Leadership.* Research suggests that the purpose of instructional leadership is to improve practice and performance in schools (Elmore, 2000). School leaders can promote student learning by ensuring that positive relationships exist in the instructional core. In cases where (a) teachers and students are not held responsible for their performance in the classroom, (b) teachers are allowed to waver from the curriculum, (c) teachers are allowed to use instructional practices that do not engage students in the learning process, and student achievement often falters (Abelmann & Elmore, 1999). This issue of establishing a focus on accountability for student achievement within the instructional core is a second frame on the problem of practice in the Nutmeg district.

What can school leaders do to bring accountability for student learning to the instructional core (Abelmann & Elmore, 1999)? Effective school leaders can create an environment where relevant curriculum and the effective delivery of instruction maximize student learning. The isolation of secondary teachers by classroom and departments often compartmentalizes teachers and, in effect, creates silos of teaching and learning. With this

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concept, the classroom becomes a teacher's universe. When this happens, school leaders have limited influence over the instructional practices (Lemons & Helsing, 2008) that occur in schools.

School leaders set the tone and attitude for their schools and classrooms in terms of holding staff and students more accountable for the learning process. If the school leader has a proactive belief about students' learning potential (Reznick & Nelson-LeGall, 1997) and related instructional practices (Doyle, 1983), then that school leader may have a profound impact on the instructional core in the secondary classroom. For example, principals can create the structures of data teams (i.e. professional learning communities) to examine and analyze student outcomes. These outcomes can be linked to the teaching practices in the instructional core. When school leaders fail to hold teachers accountable for student learning, these leaders may contribute to teachers' use of instructional practices that negatively affect the instructional core. Leadership ties in all three components of the instructional core that will increase learning and negate barriers related to the stagnation of secondary student achievement.

*Policy.* A third way to identify the stagnation of secondary student achievement in districts such as Nutmeg might be to align policy initiatives with the issue of the instructional core. Ideally, policies are not just written rules and regulations adopted by a board of education. Instead, they represent practices and procedures for schools to follow each day to ensure that student learning in the classroom is maximized (Honig, 2006). Policy and practices are used on many levels such as the school, department, team, classroom, teachers, and students (Honig, 2006). These practices make up the culture of the school environment more so than formal board policy. For example, every classroom has a lesson objective clearly stated; however, there

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is no formal policy requiring that practice. These types of practices make up the culture of learning in our schools and classrooms.

Two questions related to policy should be explored in addressing the problem of stagnation in secondary student achievement within districts. First, are teachers following the formal curriculum and its components in the instructional core? Research suggests there is a difference between the taught curriculum and the actually written curriculum (Brophy, 1982). In When there is variance in the “taught” versus “written” curriculum among teachers who are instructing the same courses at the high school, it results in problematic inconsistency within the curriculum frameworks, according to Brophy. This inconsistency, such as when teachers’ “personal” lesson units are emphasized more than the standardized curriculum, may contribute to stagnation in student performance as measured by standardized assessments.

Next, are the assessments that are being used to measure student learning aligned with policies? In Nutmeg, for example, common departmental examinations for midterms and finals (as set forth in the policy for the curriculum) are not always used. According to one administrator, although common examinations are given to teachers, there is no follow-up to see if the teachers actually used these exams. The lack of alignment between curriculum and assessment makes it difficult to accurately identify the instructional core. Policy and practices in terms of curriculum and assessment needs to be aligned (Honig, 2006) and educators must follow these integral practices to promote student learning. Alignment and coherence of policies will allow the instructional core to improve student achievement at the secondary level.

*Social Justice.* Finally, research suggests that addressing issues related to social justice could also help to address declines in achievement in districts such as Nutmeg (Ladson-Billings, 2006). According to preliminary research conducted in the district, this issue of inequality

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appears to be a critical one. Interviews with professionals within the Nutmeg district suggest that when students are placed in lower level classes, both teachers and parents have lower expectations for student learning.

In examining the breakdown of the instructional core from a social justice perspective, two essential questions can be explored to assist in addressing the problem of declining achievement among high school students in districts such as Nutmeg. First, are all students given the same level of instruction in all classrooms? Tracking students into a certain level of classes is a widespread practice in high schools (Noguera, 2006)—including Nutmeg High School. In such cases, based on their past performance, students are placed into “lower” ability classes to complete content specific work. Interviews with teachers at Nutmeg High indicate that teachers often set lower expectations for student learning in these lower level classes. In turn, the situation is further complicated when the achievement of the students enrolled in such classes is weighted with a lesser quality point ratio for graduation and class rank. As related to the issue of social justice, tracking students into lower-level classes results in reduced opportunities for high quality instruction and for the recognition of student achievement in these classes.

A second question is: In what ways are teaching and district practices creating different opportunities and outcomes for student learning? For example, at Nutmeg High, even though best practice supports hands-on learning in science, especially for those with an average ability level of learning, students in the lowest level of science classes do not have a laboratory period for experiments and hands-on learning. Students in these non-laboratory science classes do not have the same learning opportunities as students in the laboratory-based science classes. These types of inequality in the high school courses and teaching practices can create a breakdown of the instructional core through lower expectations and lesser quality teaching methods. This

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discrepancy of teaching practices (Lemons & Helsing, 2008) creates a climate of inequality from a social justice perspective affecting the instructional core. Treating students with equality within the instructional core is critical for student learning, as not doing so may create stagnation in secondary student achievement by reinforcing class stratification and stagnation.

**Summary.** The educational research and the analytic frames from the UConn Doctoral Program support the examination of the barriers that impede the instructional core. Each barrier is linked to the student-teacher-content interactions depicted in Figure 4. A barrier of beliefs about intelligence exists within the interaction between teacher and students. Teachers' beliefs about their students' ability to learn is a barrier within the instructional core. The barrier of the academic task exists in the interaction between student and content. The academic task predicts student performance and if the task is not rigorous, learning may be hindered. The barrier of instructional practices exists in the interactions between teacher and content. Teacher pedagogy is not conducive to learning as high school students should now be consider more like adult learners. Collectively, these barriers would disrupt the interactions (between teacher, student, and content) within the instructional core and negatively affect student outcomes, thus producing a stagnation of student performance.

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### Research Question

The research reviewed above suggests that the examination of the stagnation of secondary student achievement should be focused on the instructional core and student outcomes. Student learning (Lemons & Helsing, 2008) will increase if negative barriers affecting the instructional core are identified. Identification of these barriers increases the likelihood of a more optimal learning environment that leads to improved student achievement for all students. An examination of the barriers that impede or hinder the instructional core is the major focus on this study.

The research question that guides this study is:

- What are educator perceptions of the barriers between the instructional core and student outcomes?

### Methods

The study represents an exploratory case study that triangulates multiple sources of evidence (Yin, 1004) and uses program theory (Rodgers et al., 2000) as an analytic technique to examine the components of the instructional core. The student performance data was initially collected from the Connecticut Academic Performance Test (CAPT) in years ranging from 2002 to 2009. This study is bound between the 2002 to 2009 school years; however, the data was collected from 2009 to 2012. This retrospective analysis has its limitations in evaluating the data; however, the potential to learn from this research about the instructional core is significant. In this section, I will describe the study's setting, participants, data sources, analytic frame, data analysis, validity, and limitations.

**Setting.** The Nutmeg Public Schools serves 2,600 students and the school district has one high school, one middle school, and three elementary (K-5) schools. Nutmeg is in

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Connecticut District Reference Group (DRG) F<sup>3</sup>, along with 16 others districts, grouped by socio-economic factors such as median home incomes, population of college graduates, and other demographic factors. The student composition is 93% white, with a student population of 22% eligible for free/reduced meals, and approximately 9.5% of the students receive special education services. The district is transforming from a rural community into a suburban one, located between two urban areas.

**Data Sources.** Research and developed understandings from my work in the Neag School of Education's Ed.D. Program from 2007 to 2012 helped frame the problem of practice for this study. As part of the Ed.D. program course work, two sets of structured interviews were conducted with administrators during the doctoral courses in adult learning and leadership. Interviews were used to find out what is on someone else's mind in relation to the stated problem of practice and to gather their stories (Patton, 2002). Two principals and two central office administrators were interviewed from the Nutmeg Public Schools about the instructional core. The structured interviews focused on an approved modified protocol. The structured interviews provided a set of prepared questions, yet allowed for some follow-up by asking probing questions to develop rich responses, and explore connections that are not necessarily aligned to the interview protocol. All the interviews were conducted in person. Interview questions included those like, "Are there elements of teaching that are particularly challenging?" The interview transcript and field notes provided a comprehensive interpretation of the data. In addition, public document records were used during the Ed.D. coursework for the policy and social justice classes. The data used was attained from the public domain to assist in determining

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<sup>3</sup> District Reference Group (DRG) is a classification of school district that students' families are similar in education, income, occupation, need, and have roughly similar enrollment. The nine groups are labeled A through I. The most affluent and low-need districts, as measured by the indicators, are grouped in DRG A while the poorest and highest need districts are grouped in DRG I.

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some of the issues in the Nutmeg Public Schools. Data audits and reviews of policy documents helped inform the problem of practice at hand.

**Participants.** Interviews were used to find out participants' thoughts and to gather their stories (Patton, 2002). Four interviews were conducted: two building-based principals and two central office administrators from the Nutmeg Public Schools were asked about the barriers affecting the instructional core. The subject of Interview One held multiple administrative positions in the Nutmeg Public Schools. At the time of the interview, interviewee one was the Assistant Superintendent of Schools for Curriculum & Instruction for the past three years. However, she also served as the Nutmeg High School Principal for five years, and a district elementary principal for four years. She has 13 years experience as an administrator in the Nutmeg Public Schools and represents a critical perspective from both the building and central office perspectives. Her experience at Nutmeg High School provides critical insights into the barriers of the instructional core. The subject of Interview Two was the second district administrator who was the Supervisor of Special Education, and had been in the position for two years. This person brought a different perspective about the instructional core, from the lens of special education services and programs. Being new to the district, the interviewee allowed for a different view on the barriers affecting the instructional core at Nutmeg High School.

The next interviews were from building based administrators, one from the elementary school and the second from the middle school. The subject of Interview Three was an elementary principal who served 13 years in this position. He worked in the district for more than 33 years and worked at Nutmeg High School as a math teacher for ten years. This administrator was grounded in data-driven decision making as a math teacher, and tracked his students' performance until high school graduation. His experience at Nutmeg High School as a teacher



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and interim administrator provided a rich perspective into the barriers affecting the instructional core. As the Principal of a CAS Elementary School of the Year, he had a research-based perspective on student outcomes and the effects of the instructional core. The subject of Interview Four was the assistant principal at the middle school, a position he served for three years after being a teacher at the middle school for five years. As a middle school teacher, he had first-hand knowledge of the students who were transitioning into Nutmeg High School and their learning styles. The mission of the middle school was to prepare students for high school and student outcomes were a priority for the administration. The drop in student achievement scores from Grade 8 to Grade 10 was a discussion point for all administrators in order to improve teaching and learning in the Nutmeg Public Schools.

Table 4: Educator Interviewers and their relationship to the Nutmeg Public Schools

	Current Position	Admin Experience	Years in District
Interview One	Assistant Superintendent for Curriculum & Instruction	4 Years	13 Years
Interview Two	Supervisor of Special Education	2 Years	2 Years
Interview Three	Elementary Building Principal	13 Years	32 Years
Interview Four	Middle School Assistant Principal	3 Years	8 Years

**Data Analysis.** A program theory model was used to analyze the district's data and the interview evidence, with respect to how the four frames of adult learning, leadership, policy, and social justice relate to the instructional core. Inductive qualitative research technique was used to analyze the data and unpack the meaning that participants attribute to it (Marshall & Rossan, 1999). Quantitative data was examined through a longitudinal perspective to determine trends and patterns. The four frames, through the doctoral coursework, allowed for an examination of the negative barriers within the instructional core that impacted student outcomes. By

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identifying these barriers, recommendations can be made to mitigate them from adversely affecting the instructional core, and thus student outcomes in schools.

In analyzing the interview data, a coding process was used in the grounded theory approach to qualitative research (Strauss & Corbin, 1998). This research model assisted in categorizing the data as it supported the research question. This is a two-prong process with open and closed coding. Open coding allows for emerging topics from the data, while closed coding is the process of pre-selecting topics and categories based on the literature review. Lastly, axial coding brought both sets together and explored connections between topics and categories. In the end, all the research already collected (interviews, documents, student data) were triangulated to answer the research question. The process of triangulation strengthens a study by combining methods or data (Patton, 2002).

The four analytic frames designed by the UConn Ed.D. Program were used to examine the instructional core at Nutmeg High School, as depicted in Figure II. Through the interview analysis, a portion of the problem of practice was identified in the instructional core. Through the frame of adult learning, the issue of (teacher) performance existed. Through the leadership frame, the issue of (teacher and student) accountability arose. The issue of resistance was identified through the policy frame, and inequality through the social justice frame. These issues were identified in relation to each frame's impact on the instructional core. From a systems approach, the three barriers found to be embedded within in the instructional core at Nutmeg High School were important factors in understanding a stagnation of secondary student achievement over the course of the years of this study.

The Capstone Map (Figure 4) graphically depicts three identified barriers: beliefs about intelligence, academic tasks and instructional practices within the instructional core and through

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the analytic frames. Figure II combines the analytic research from the UConn Ed.D. Program and the educational concept of the instructional core (Elmore, 2000) to determine the barriers identified by educator perceptions from the interview evidence. The educator interviews were coded using the following relationships: teacher-student, student-content, and teacher-content. Based on data analysis, the aforementioned barriers existed at Nutmeg High School. This supports that both the quantitative evidence (achievement scores) and qualitative evidence (educator interviews) are correlated, with the effect being a stagnation of secondary student achievement at Nutmeg High School.

**Validity.** The interviews have been transcribed and specific quotes from participants are documented to promote authenticity, validity of assertions, and transferability of the research (Creswell, 2007). The interview data was coded in terms of the relationships between 1) student and teacher, 2) teacher and content, and 3) student and content within the instructional core. The interview data along with student outcomes (achievement scores) allowed an analysis of the barriers that affect the instructional core. This triangulation of interview documents and student data enhances the validity of the findings because it allows me to corroborate the key findings of specific data points (Creswell, 2007). The research question - what are educators' perceptions of the barriers between the instructional core and student outcomes? - guides my research methods.

**Limitations.** There are two major limitations of this research that should be acknowledged. First, it should be noted that I am an active participant and researcher in this capstone. Between 2009-2015, I was the superintendent of schools for the district that is being studied; however, the data was collected between 2007-2009, before I began my tenure as superintendent. My knowledge of the district and the preceding leadership positions, having served as Director of Student Services, and Assistant Superintendent for Curriculum and

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Instruction, provides me with a unique perspective on the issues at hand. However, the challenges preventing against biases of being a part of the district may serve as a limitation to being impartial of the data or results. Secondly, the interviewees may not have interpreted the questions in the same lens that I did, and may have responded with a different set of meanings in mind. Although the triangulation and analysis of multiple responses, I attempted to mitigate this possible limitation.

### Findings

The focus of this study is to determine the barriers that affect secondary student achievement within the instructional core. The Capstone Map (Figure 4) depicts the three barriers within the instructional core that negatively affects student outcomes, creating a stagnation of secondary student achievement at Nutmeg High School. The three barriers were identified through the educator interviews, and grounded in the educational research through the Ed.D. Program's four analytic frames. The four interviews were initially coded by using the following relationships: student-teacher; teacher-content; content-student, all within the instructional core. Each barrier is linked to the paired relationships of student-teacher-content interactions as depicted in Figure 4. The beliefs about intelligence (teacher-student), academic tasks (student-content), and instructional practices (teacher-content) are the three barriers that will be examined in this study's findings. After the identification of the barriers through the educator evidence, educational research was used to acknowledge the barriers within the instructional core.

**Beliefs about Intelligence.** A barrier of beliefs about intelligence exists within the interaction between teacher and students. Teachers' beliefs about their students' ability to learn is a barrier within the instructional core. Students will rise to the expectations set before them; however, if teachers set low expectations due to a negative belief about the students' intelligence, then the students will meet them. "Individual differences exist in people's beliefs about intelligence and that these beliefs are related to people's tendency to engage in the social practices of intelligence" (Resnick & Nelson-LeGall, 1997). The difference in people's beliefs, primarily a teacher's beliefs in a student is a critical issue, as each classroom has a different teacher with their own set of beliefs. Social practices of intelligence are institutionalized in

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American school systems and they can be analyzed through the instructional core. The relationship between the student and teacher is one of the three that promotes student learning (i.e. achievement) in the instructional core.

The beliefs about intelligence in the instructional core and, specifically, the teachers' beliefs about student intelligence in schools is a barrier for student outcomes. When discussing with educators their perceptions about the gap between instructional strategies and student learning, one central office administrator (Interview Two) commented:

Part of my current and former jobs is trying to assess or determine what are different learning styles that kids have through assessment diagnostic evaluations. And how does my information help a teacher best understand how kids learn and what their needs are. In my past or present life, I'm trying to give teachers information about how kids learn. I guess I would trust teachers to know how to instruct children based on how best they learn and where their strengths and weaknesses are.

This central office administrator's background focused on special education and his ability to identify student learning styles and teaching strategies. The educator assumed that the teachers will take that information and use it in the instructional core to increase the relationship between the student and teacher. In a follow-up question, when asked if the teacher received this information and it was "explained" to them, the educator was not aware of that type of follow-up occurring in the district. As evidenced through the educator's interview, if the student learning style data was not reviewed or analyzed, then the teacher would be making assumptions about a student's intelligence based on their own perceptions of intelligence within the instructional core.

The teacher's ability to correctly identify a student's learning style in the instructional core is important. One of the components about intelligence is a student's ability to learn and how they can learn. The educator was asked this question, "So you use the testing that you have to determine learning styles, strengths and weaknesses, and then the teachers take it to the next

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part, correct....in what area in which you both have the knowledge of this gap and how you can skillfully apply it?" The central office administrator (Interview Two) further explains:

I think my proficiency area relates to more learning how kids learn than and lesser to how to instruct learning than teaching to these learning styles. But I think both needs to be addressed. I think you need to know how kids learn; I think you need to understand how to instruct toward those learning styles. I think the buzz words have been kinesthetic learner, visual learner, auditory learner; but, there may be a new type of learner that we are not tapping into.

This educator (Interview Two) clearly states that there is a gap between the identified student learning styles and teacher learning strategies in the instructional core in Nutmeg Schools.

While student learning styles are identified through standardized assessments, especially for those with special needs, the needs are not clearly explained to teachers in schools. There is no system in the school district for explicit communication of the student learning styles in the instructional core. There is a clear disconnect between the teachers' knowledge of their students due to the school structure. This disconnect between the interaction of students and teacher is a barrier in the instructional core identified as the beliefs about intelligence.

The barrier of beliefs about intelligence is rooted in the premise that the teachers' belief of student intelligence is the learning expectation that they have set in the instructional core. At the secondary level, most core courses (English, math, science, social studies) are heterogeneously grouped (honors, academic, remedial). This leveling of students in different classes is a standard practice in most Connecticut high schools. When asked how to overcome this barrier, one central office administrator (and former high school principal) cited:

When you first start a process like this, you have to build a trust and you have to build a relationship. I think the way you do that is to listen to people. Because then over time they'll listen more and more to you.

Teachers' beliefs about intelligence can change in the classroom when a relationship is built with

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the students. This relationship is an integral part of the instructional core and once built leads to trust with the students. The first step is listening to the students and being able to set high expectations for their learning. Not setting expectations based on the course (i.e. English remedial) and listening to the student is a critical practice that teachers must embrace. The teachers' beliefs about student intelligence needs to be rooted in the individual students and their learning style, by setting high individual expectations for every student in the classroom.

**Academic Tasks.** The barrier of the academic task exists in the interaction between student and content. The academic task predicts student performance and if the task is not rigorous, learning may be hindered. Although this barrier is identified between the student and content, it is the teacher who determines the academic task within the instructional core. A “review of recent research in cognitive psychology on the intellectual demands of the tasks contained in the school curriculum, with particular attention to the inherent complexity of most of the tasks students encounter” (Doyle, 1983, p. 3). Doyle explained the academic task within the instructional core in his research and how it needs to be challenging to student and rigorous in content. The academic task is a predictor of student learning (Lemons & Helsing, 2008) and can be a barrier within the instructional core if it is not rigorous. The relationship between the content and student is one of the three that promotes student learning (i.e., achievement) in the instructional core.

The academic task is assigned to the student by the teacher in the presence of content within the instructional core. An important focus of the academic task is rigor. Academic rigor is best defined as teaching and learning that promotes student growth in the discipline and the ability (skills) to analyze, synthesize, and critically evaluate the content. Rigor is best accomplished by increasing the level of academic tasks in schools that students need to master.



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Educator evidence from a build-based administrator (Interview Four) discussed how he monitors rigor in the school and then addresses it with the teacher:

Monitoring. For me, my most effective would be walk-throughs or what I tell the teachers is “eavesdropping” but not in a bad way. When I’m walking the halls, I don’t stay long walking the halls eavesdropping. If I see a pattern of all lower level thinking ten times in a row then I have one of those collegial conversations that I mentioned before about “What have you been doing for higher order of thinking?”

The classroom walk-throughs this building-based administrator uses to gather data about rigor in the school shows the need for rigor within the academic tasks in Nutmeg school. This need for increased rigor assists in minimizing the barrier of academic task in the instructional core.

Schools need to provide academic tasks that elevate the complexity, richness, and rigor of the intellectual work teachers put before students. Based on the four educator interviews, there is a cultural difference between elementary and secondary schools. The school culture (including the interaction between student and content) with teachers across grade levels (elementary, middle, high) is examined. This study focuses on the stagnation of secondary school achievement in the Nutmeg Public Schools, which seems to exist only at that level. Evidence from educator interviews (Interview One) gives us some insights into this disparity among schools:

The high school was more problematic. Just by nature, I think elementary people work together and are honestly more agreeable people to try and step out of the box and try some different things. At the high school you tend to get departmentalized...you have your silos and in departments sometimes you don’t converse with each other or even within departments person-to-person depending on the leadership of the department. So problematically, in the instance with the high school, when you focus on something as critical as reading and writing that affect every subject area, the problem becomes... people that don’t understand that they are supposed to be teaching students how to write and how to read in their content areas.

This evidence from the Interview One gives us a unique perspective into the high school culture

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and some of the reasons why there may be a stagnation in student achievement. Teachers were not interested in learning from a skills or competencies standpoint – like reading comprehension or expository writing. Instead, teachers' use of department structure (i.e., math, science, English) created fragmentation at Nutmeg High School. The departmentalization of the school structure limited collaboration and planning time with teachers who had common students. For example, in the social studies department, every student had only one social studies course; therefore the teachers would be working with only one set of unique students. Collaboration teams by student were not in the high school structure at Nutmeg. This created a barrier of academic tasks within the instructional core as the rigor towards student work was isolated by departments.

Re-focusing teaching strategies in the instructional core by using different teaching practices is one way to increase rigor in an academic task. One aspect of creating rigor in the academic task is asking teachers to re-define their learning outcomes in their classrooms. The shift in learning strategies moves from content to competencies by using content as background knowledge and teaching students the competencies they need for higher-order thinking skills.

Interview One follows-up on the previous question:

We had this discussion first; what is it in your content area that you can use to teach kids to read or write more efficiently? I'm not asking you to do something that is not part of your normal instruction. I'm asking you to take instruction and focus it in a different way. In that discussion, it was those teachers that realized that they could be teaching students to read and write informational writing, expository, how to perform a certain task, how a certain process created evolves. Reading; they have to read manuals. How do you teach them to read them, because some of the content, the vocabulary, may be over the heads of some of these kids. What evolved from there was the use of the reading consultant in the content area, modeling lessons on how to teach kids to read non-fiction in that instance.

Reading and writing are important competencies that students need in the twenty-first century global economy. These reading and writing skills are already embedded in many content-

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knowledge courses. The shift is for the teacher to move from teaching knowledge and information to facilitating learning of skills and competencies for every student. The students' mastery of these competencies to promote higher order thinking skills is one aspect of creating rigor with the academic task. Increasing rigor in the student's academic task will negate this barrier in the instructional core and reduce the possibility for stagnation in secondary student achievement.

**Instructional Practices.** The barrier of ineffective instructional practices exists in the interactions between teacher and content. Effective instructional practices within the instructional core are critical to schools in terms of student learning outcomes. By improving the quality of instruction in the classroom, student learning improves (Lemons & Helsing, 2008). The instructional practices are determined by the teacher based on the content. "Teacher quality matters — it helps explain the relative differences in student achievement across nations, and it helps explain variation of student learning across classrooms" (Lemons & Helsing, 2008, p. 15). A teacher's capacity to utilize best teaching practices and effective instructional strategies in schools is critical to strengthening student learning. The relationship between the teacher and content is one of the three that promotes student learning (i.e., achievement) in the instructional core.

Ineffective instructional practices within the instructional core serves as a barrier for positive student outcomes. Ineffective or poor instructional practices may inhibit the relationship between teacher and content. When discussing with educators their perceptions about the gap between instructional strategies and student learning, one building-based administrator (Interview Three) responded to a probing question about instructional practices through his observations:

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Well I learned it from my own observations and coming to know the staff and looking at the scores. And then looking at the scores in terms of classroom by classroom, grade level by grade level. Then putting the pieces together in terms of the people getting the scores, what were they doing. Where was I seeing success in the classroom? Where was I not seeing success? And then you want to have people doing more of what those successful people are doing. Then you have to, at the other side of that same coin, is getting people who don't have those successes come to understand why they are not. If these practices are not giving us the outcome we want, we may want to just put some of those practices aside. Only because there are others that are more effective and more efficient that we may want to move on to.

The principal noticed a correlation between student outcomes (achievement scores) and the instructional core (through teacher observations). The longevity of the principal and the philosophy of data-driven decision-making allowed for a culture of high standards of instructional practices based on the standardized and curriculum-based assessments given by the school. This evidence demonstrates a strong relationship between instructional practices and student outcomes in schools.

Teacher pedagogy is at the heart of instructional practices within the instructional core. Instructional practices within the classroom are monitored and supervised through a district evaluation plan implemented by administrators. One component of the evaluation process is feedback from the administrator and reflection from the teacher. The observation-feedback-reflection process is the essence of the Nutmeg teacher evaluation plan. One building-based administrator (Interview Four) discussed his experiences after the administrator feedback was completed and its impact on teachers' instructional practices in the instructional core.

You know what. Based on individuals whether they change their teaching or not based on my conversations with them; and unfortunately I can think of four or five cases right now where it's been ineffective; but I can also think of four or five cases where it's been effective. So could it be better, my implementation, absolutely; however, I will say that with this current leadership team I don't know if it could be.

This educator's perceptions about using the teacher evaluation plan as the only source of change

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for instructional practices is problematic at best. The administrator's feedback to the teacher was taken (i.e. incorporated) by some teachers and not by others. Pedagogy is the work between the teacher and content and how it affects instructional practices within the instructional core.

Instructional practices do have an impact within the instructional core and in the case of Nutmeg High School a negative relationship for student outcomes.

Conversations with classroom teachers about instructional practices are difficult ones to have with administrators (i.e. evaluators). Ineffective instructional practices are created by weak teacher pedagogy. In order to change a teacher's instructional practices, there needs to be a conversation between the teacher and administrator, usually their evaluator. Interview Four gives an example of an initial conversation to start changing the teacher's instructional practices:

My most often used approach is, I try to disarm them with a story, usually about me struggling in the classroom to differentiate and then usually they'll end up agreeing and say that I'm having trouble now with... and then we'll do a collegial conversation, professional conversation regarding how do we address it somewhat or some way and then some common suggestions are "I never taught math but you know who I think is really good at differentiation, you should talk to this person or go observe their class." We start on ways in which they can better themselves.

The initial conversation about changing a teacher's instructional practices is a critical first step. This is an important finding, as the evidence demonstrates that the teacher admits that their ability to differentiate instruction in the classroom is problematic. This evidence of ineffective instructional practices is corroborated by the classroom teacher in this instance. This evidence shows the need for differentiated instructional in the classroom as a means of creating an effective instructional practice. Differentiated instruction is a concept that should be examined in a future, follow-up study. Ineffective instructional practices lead to negative student outcomes in the instructional core.

The three barriers that negatively affect student outcomes in the instructional core —

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beliefs about intelligence, academic task, and instructional practices — were identified by the educator interviews in this study. However, upon further review, these three barriers were evident in the educational research and found to be linked to relationship with the instructional core. The above findings demonstrate that these three barriers found in the Nutmeg Public Schools reinforced stagnation in secondary student achievement at Nutmeg High School, as defined by the CAPT results from 2002-2009. These findings demonstrate the need for optimal relationships within the instructional core between teacher, student and content. These relationships were the foundational work of the findings in this study through the educator interview. The findings are rooted in educational research from the UConn Ed.D. program and evidenced through the educator interviews.

### **Implications of the Ed.D. Program's Four (4) Analytic Frames**

Based on the educational research and data analysis for this study on the relationships within the instructional core, the four frames of this research study (adult learning, leadership, policy, and social justice) can clearly identify four issues: performance, accountability, resistance, and inequality, respectively. The four analytical frames are grounded in educational research and explored through the Ed.D. Program coursework. The program courses in each of the four areas included a practicum for doctoral candidates to explore educational research and built a foundation of work for each frame. As depicted in Figure 4, the four frames analyze the instructional core and student outcomes as the conceptual model to identify the negative barriers that cause the stagnation of secondary student achievement.

*Performance.* From the adult learning frame, the issue of performance emerges as a problem for schools. Teacher performance is limited by their professional development as life-long learners. One-shot workshops do not allow for exposure to new ways of thinking by the

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staff to enhance teaching and learning in schools. In order to build the capacity of the teachers and their learning strategies, job-embedded professional learning was needed in Nutmeg Schools. Interview evidence identified this issue and acknowledged that there was no professional learning plan to build the capacity of teachers within the instructional core. The educator interviews showed that teacher performance was limited.

*Accountability.* From the leadership frame, the issue of accountability emerges as a problem for schools. Teachers and students are not held accountable for their performance. Teachers were allowed to waver from the curriculum and use instructional practices that did not engage students in the learning process. The interview evidence identifies that the taught curriculum (Brophy, 1982) varied from the district curriculum at Nutmeg High School. The differences were evident both between teachers in the same school and between course levels by the same teacher. In addition, there was limited to no accountability for student performance (i.e. achievement) on any type of curriculum-based or standardized assessments. This lack of accountability within the system created problems within the leadership frame at Nutmeg High School.

*Resistance.* From the policy frame, the issue of resistance emerges as a problem for schools. Educators were resistant to change by not using best teaching and learning practices in schools; instead, the teachers were driven by content in the subject area, textbooks, and favorite units that they liked to teach to students. Although policy initiatives and best practices call for effective teaching strategies among all teachers and subject areas, there was a lack of innovation and student-center learning at Nutmeg High School. Interview evidence clearly identified the high school teachers as subject-area specialists, focusing on content more than student skills or competencies to master critical thinking skills. The interviews showed that certain teachers

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taught favorite units and many teachers in a department did not use the same resources (i.e. textbooks, etc) for all students in their classes. Teacher resistance at the school level (and department level) created problems from a policy perspective.

*Inequality.* From the social justice frame, the issue of inequality emerges as a problem for schools. Teachers and parents had lower expectations for students based on their course level. Also, special education students had lower expectations for learning than their peers. There is a lack of academic rigor in the school. Educator interviews identified a difference in the academic expectations between honors, college-prep and special education classes in terms of teaching and learning strategies. There were lower student expectations in non-honors classes. For example, level three (lowest level) classes in science did not have a laboratory period, because department leaders felt the students cannot handle lab work, as it was too difficult. This belief about the student intelligence became a philosophy that drove the school structure. From a social justice perspective, inequality became a problem about teacher expectations of learning for all students.

## Summary of Findings

Collectively, these barriers disrupted the interactions (between teacher, student and content) within the instructional core and negatively affected student outcomes, thus producing a stagnation of student performance at Nutmeg High School. Academic tasks, instructional practices, and beliefs about intelligence are perceived by educators as negative barriers within the instructional core. Each barrier is negatively affecting a relationship within the instructional core: academic task (student-content); instructional task (teacher-content), and beliefs about intelligence (student-teacher). These negative barriers within the instructional core have created a stagnation of secondary student achievement at Nutmeg High School. The student outcomes



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(based on achievement scores) did not show growth as measured by standardized assessments.

In addition, there are examples of negative growth in the instructional core at Nutmeg High School. The findings of this study are grounded in educational research and the educators perceptions of the instructional core.

### **Recommendations**

Based upon an analysis of the research question in this study and an examination of the educational research and interview evidence, there are two recommendations derived from this capstone. The recommendations are: 1) the formal identification of the barriers within the instructional core that negatively impact student outcomes; and 2) the removal of these barriers within any of the relationships (teacher-student-content) affecting the instructional core. These two recommendations may consist of a comprehensive school action plan to identify and remove the barriers. The action plan should be constructed and implemented from a district leadership perspective to analyze the instructional core at a high school. The district leadership team should include central office and building-based administrators and teachers to assist in the identification and removal recommendations. The barriers embedded in the relationships within the instructional core are adversely impacting student outcomes, thus creating a stagnation of secondary student achievement.

The first recommendation is to create a school action plan to identify the barriers affecting the instructional core. These negative barriers can be examined from the four frames of the UConn Ed.D Program (adult learning, leadership, policy, and social justice) grounded in educational research. The action plan should be initiated by the district leadership team and use a variety of inquiry based protocols, like educator interviews, school surveys, and district documents. One example of an action plan may be to utilize the questions from the four frames outlined in the analytic frame of this study. These essential questions, grounded in educational research, may assist the district in beginning the process of identification of the barriers within the instructional core by using them as an interview protocol to ask administrators and teachers, both in and out of the school staff. The next step in the first recommendation is to identify the

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barriers that negatively impact the relationship between student, parent, and content.

Identification of the barriers includes sharing those findings with all stakeholders in schools – teachers, parents, students, principals, and district administrators. The identification and acknowledgement of the barriers negatively affecting student outcomes are critical steps towards solving the problems of stagnation of secondary student achievement.

The second recommendation is to create a school action plan to remove the barriers negatively affecting the instructional core, by either removing or minimizing barriers that deter or weaken the interactions between student, teacher, and content in the classroom. Using the researcher lens of adult learning, leadership, policy and social justice, there should be multiple action plans needed to enhance the instructional core. Some of these actions and strategies may be one in the same; however, they should be examined from the perspective of the instructional core. One example of an action plan may be to increase the rigor of academic tasks given to students by teachers in the presence of content. The increase in rigor for all students will set higher standards of student learning, measured by outcomes. By minimizing the impact of the barriers within the instructional core, the relationship between teacher, student and content will be allowed to strengthen, thus promoting a positive impact on student outcomes. The second recommendation of the removal of the barriers will have a secondary impact of allowing the relationships within the instructional core to strengthen.

These recommendations have the potential to assist in countering the problems of stagnation in secondary student achievement in schools. Creating an optimal instructional core without any negative barriers will assist in improving student learning. The results of this study may help other districts in their efforts towards high school reform by directly addressing the issues of student learning (and achievement) in schools through the instructional core.

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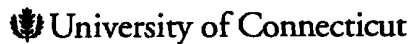
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Appendix A – IRB Protocol Approval

Consent Form for Participation in a Research Project



**Course Instructor:** Professor Barry G. Sheckley, PhD.

**Student Researcher:**

**Study Title:**EDLR 337 Professional Learning Interview

1. Invitation to Participate  
Good afternoon/evening. My name is \_\_\_\_\_. Before we begin, I would like to thank you for taking the time to talk with me today.  
  
I am working on a research project for a course offered in the Adult Learning Program at the University of Connecticut.
2. Purpose  
We are interested in knowing more about adults' professional learning experiences.
3. Description of Procedures  
During the next hour or so, I will ask you some questions about professional learning with an emphasis on your proficiency and how you developed it. I'd also like your consent to tape-record your response so that I may review your words at a later time.
4. Risks and Inconveniences  
We believe this interview does not involve any risk to you. This should take approximately 45 minutes of your time.
5. Benefits  
Although you may find it interesting to participate in this study, there will be no direct benefit to you from your participation.
6. Confidentiality  
All of your responses will be anonymous. Only I will know your name. Your answers will be combined with those from other people we interview to get an overall picture of about how adults develop proficiency.  
  
You should also know that the UConn Institutional Review Board (IRB) and the Office of Research Compliance may inspect study records as part of its auditing program, but these reviews will only focus on the researchers and not on your responses or involvement. The IRB is a group of people who review research studies to protect the rights and welfare of research participants.
10. Voluntary Participation  
You do not have to be in this study if you do not want to. If you agree to be in the study, but later change your mind, you may drop out at any time. There are no penalties or consequences of any kind if you decide that you do not want to participate.

Summer '08

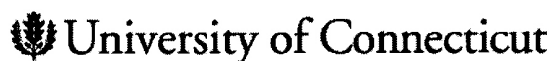
UCONN IRB	
Approved On	5/21/08
Approved Until	5/21/08
Approved By	[Signature]

1



Appendix B - Consent Form (Adult Learning)

Consent Form for Participation in a Research Project



**Course Instructor:** Professor Barry G. Sheckley, PhD.

**Student Researcher:** Joseph Macary

**Study Title:** EDLR 337 Professional Learning Interview

1. Invitation to Participate

Good afternoon/evening. My name is \_\_\_\_\_. Before we begin, I would like to thank you for taking the time to talk with me today.

I am working on a research project for a course offered in the Adult Learning Program at the University of Connecticut.

2. Purpose

We are interested in knowing more about adults' professional learning experiences relative to a [particular problem of systemic improvement].

3. Description of Procedures

During the next hour or so, I will ask you some questions about professional learning with an emphasis on your proficiency and how you developed it. I'd also like your consent to tape-record your response so that I may review your words at a later time.

4. Risks and Inconveniences

We believe this interview does not involve any risk to you. This should take approximately 45 minutes of your time.

5. Benefits

Although you may find it interesting to participate in this study, there will be no direct benefit to you from your participation.

6. Confidentiality

All of your responses will be anonymous. Only I will know your name. Your answers will be combined with those from other people we interview to get an overall picture of about how adults develop proficiency.

You should also know that the UConn Institutional Review Board (IRB) and the Office of Research Compliance may inspect study records as part of its auditing program, but these reviews will only focus on the researchers and not on your responses or involvement. The IRB is a group of people who review research studies to protect the rights and welfare of research participants.

## Stagnation of Secondary Student Achievement

### 10. Voluntary Participation

You do not have to be in this study if you do not want to. If you agree to be in the study, but later change your mind, you may drop out at any time. There are no penalties or consequences of any kind if you decide that you do not want to participate.

Let me emphasize one point: If you are uncomfortable with any aspect of the interview, please feel free to say so. We can stop the tape recorder or the interview at any time you wish. No explanations required.

### 11. Do You Have Any Questions?

Do you have any questions at this point?

*(Pause for questions. Clarify as needed.)*

Take as long as you like before you make a decision. We will be happy to answer any question you have about this study. If you have further questions about this project you may contact me, the student researcher at: (insert name and phone number) or the Course Instructor, (insert name and phone number). If you have any questions concerning your rights as a research subject, you may contact the University of Connecticut Institutional Review Board (IRB) at 860-486-8802.

## Authorization:

I have read this form and decided that \_\_\_\_\_ will  
(name of subject)

participate in the project described above. Its general purposes, the particulars of involvement and possible hazards and inconveniences have been explained to my satisfaction. My signature also indicates that I have received a copy of this consent form.

\_\_\_\_\_  
Participant Signature:

\_\_\_\_\_  
Print Name:

\_\_\_\_\_  
Date:

\_\_\_\_\_  
Signature of Person  
Obtaining Consent

\_\_\_\_\_  
Print Name:

\_\_\_\_\_  
Date:

## Stagnation of Secondary Student Achievement

### Appendix C - Interview Protocol (Adult Learning)

OK? Ready to begin?

*Now that the tape-recorder is on, please state your name, the date, and that you consent to have your response tape-recorded.*

#### **Part 2: Background Information.**

To begin, would you tell me a bit about your prior work experience? \_\_\_\_\_

*[NOTE: During the discussion probe to get an estimate of number of years of experience. If necessary, ask "Do you have fewer than 3 years of experience? 3-5? 5-10? 10-15? 15-20? More than 20?]*

In this interview, I'm particularly interested in discussing your work and experience with [this particular problem of practice]. Would you tell me about your experiences related to [this problem of practice] *[NOTE: As above, probe for information on the nature and extent of the interviewee's experience related to this problem of practice]*

During these years, what was your general experience with "professional development" programs related to [problem of practice]?

\_\_\_\_\_

.....were formal programs offered? If so how frequently did you participate in such programs? Monthly? Quarterly? Yearly? Once every few years?

\_\_\_\_\_

.....what were the nature of the formal programs? Workshops? Conferences? Academic classes?

\_\_\_\_\_

.....what were their strengths? Limitations? \_\_\_\_\_

\_\_\_\_\_

.....On a scale of 1 (not useful) to 10 (extremely useful) how useful were these programs in helping you develop your proficiency as a professional?

\_\_\_\_\_

Briefly, would you explain this answer

\_\_\_\_\_

OK. Let's talk a bit more about your proficiency as it relates to [this problem of practice] and how it was developed....

#### **Part 3: Proficiency and how it is developed**

1. Think about your work as a professional. Can you identify an area or topic in which you have proficiency—defined here as "skilled application of knowledge" – as it relates to [to this problem of practice]. In many cases this is an area in which people consult you or ask your advice because they view you as having "proficiency." It is also an area where you not only "have knowledge" but also can use this knowledge effectively to solve problems related to [this problem of practice]. Sometimes you may wonder why others with similar backgrounds don't see the connections or applications that you do. From this perspective,

would you give me an example or an instance in which you demonstrated this proficiency?

---

From this example – and others – how would you describe your proficiency [as it relates to this problem of practice]?

***[NOTE: work here to get a description of the individual's area of proficiency as it relates to the problem of practice. At a minimum you need a statement that completes the phrase "This is what I can do well...."]***

---

***[Note: If you are not sure you have an accurate statement, repeat the statement back to the person. Ask the person if the statement sounds OK. Refine the statement as necessary.]***

2. What prompted—or drove—you to develop this proficiency? .....[pause and wait for response—then keep probing]. Is it a sense of internal satisfaction? An interest in attaining external rewards such as merit increases or promotions? Other reasons?
- 
- 

On a scale where 1 = 100% Extrinsic rewards such as pay or promotion and 10 = 100% Intrinsic reasons such as a sense of satisfaction, how would you rate the drive you have to be proficient?

100% Extrinsic-----100% Intrinsic

3. Briefly explain why you gave this rating? \_\_\_\_\_
- 

Let's talk a bit more about the intrinsic side of the continuum. In what ways—and to what extent did a desire to feel “competent” as a professional enter into your professional learning process? (1 = small extent, 10 = large extent)

---

How about a desire to be autonomous in your work? In what ways—and to what extent did a desire to feel “autonomous” as a professional enter into your learning process? (1 = small extent, 10 = large extent)

---

Finally, how about “relatedness?” In what ways—and to what extent did a desire to feel “related”, “a part of a team, ”connected with others? Enter into your professional learning process? (1 = small extent, 10 = large extent)

---

***[Note: The ideas on intrinsic-extrinsic, competence, relatedness, autonomy, come from the Deci & Ryan article]***

## Stagnation of Secondary Student Achievement

4. Can you give me a specific example of a time when you worked proficiently on a problem or issue related to [this problem of practice]? Think of a recent instance when you used information skillfully in your work. Maybe a problem situation that you figured out how to address in an especially skillful way? In a couple of sentences, can you describe it to me briefly?

---



---

5. Let's now talk about how you worked through the situation to bring it to closure, to achieve a solution. Briefly describe how you monitored your actions—how you reflected while in action, how you planned, monitored, and monitored your strategies—while addressing this situation *[Note: Clarify the 3 steps—planning step where you figured out what you were going to do, monitoring step where you literally “watched yourself” and kept track of whether things were going according to plan, evaluating step where you were taking stock, assessing whether this was the best course of action. Use the ideas in the Ertner and Newby article to explain this process]*

---

...planning\_\_\_\_\_

...monitoring\_\_\_\_\_

...evaluating\_\_\_\_\_

6. Does it make sense to think of this planning-monitoring-evaluating process as being guided by a “mental model” you have about your professional work related to [this problem of practice]? This “mental model” can also be described as a “storyline” of sorts that tells in general how a sequence of events will unfold. *[Note: Help to clarify that when you say “mental models” you’re referring to complex frameworks individuals develop of “how the world works.” Use the ideas in the Seel article to explain the idea of mental models]* Can you describe briefly how the mental model you developed to guide your professional worked in this situation, with this [problem of practice]? How did it help you to plan, monitor, and evaluate your actions?

---



---

7. Think back to a time, say 10 years ago, when you had not yet developed your current mental model of professional practice relative to [problem of practice]. What are 2 or 3 ways you would differentiate between then (when you had little or no proficiency/experience) and now (when you have more proficiency/ experience)? In what ways did your mental model differ?

THEN	NOW

## Stagnation of Secondary Student Achievement

--	--

*[Note: At the end of this section you should have enough information to discuss the individual component of the Professional Learning Model. Specifically, you should have information about innate—intrinsic—psychological needs, self-regulation, and mental models. You should also have information on how these factors work to influence professional learning. If you do not have this information, revisit the questions. Ask probing questions—tell me more, would you expand on that—to generate the information you will need]*

8. In your own words, how did you develop your current level of professional proficiency relative to [problem of practice]—and the mental model that guides your practice Briefly, what were 4 or 5 activities, events, or occurrences that enhanced the development of your proficiency? How did they help you to develop your proficiency in this area—and the development of the mental model that guides your professional practice related to [this problem of practice]?

Activity/ Event	How it helped

9. Of these 4-5 activities, which one was the most influential? Please explain why.

---



---

....what was the role of actively using information—testing it out—in work settings?

....to what extent did you actively “practice,” to deliberately improve your proficiency as a professional?

....to what extent did experience(s) in one setting help to guide your work and learning in a new or novel setting?

Using this blank piece of paper, would you briefly outline the process that was involved as

## Stagnation of Secondary Student Achievement

you developed your proficiency related to [this problem of practice]. How did the items you mentioned in questions #8 and #9 fit together?

*[Note: At the end of this section you should have enough information to discuss the Key Experiences component of the Professional Learning Model. Specifically, you should have information about key experiences (also known as the multifaceted, experience-based process) that provides the foundation for professionals' learning. If you do not have this information, revisit the questions. Ask probing questions—tell me more, would you expand on that—to generate the information you will need]*

10. Let's talk briefly about your work setting. How important was your work setting in helping you to develop your proficiency relative to [problem of practice]? Can you give me a specific example?

---

---

Let's talk more about this – and related – examples. Did your worksetting(s) have a climate (or culture) that actively supported and encouraged you to develop your professional skills related to [this problem of practice]? If so, briefly describe examples of the supports you received. If not, briefly describe examples of how the setting discouraged or impeded the development of professional skills.

---

....what about challenges? What examples do you have of your work setting challenging you to develop, refine, or improve your professional skills?

---

How did these supports and challenges interact? What examples can you relate? Did feedback from students, customers, peers, supervisors at the same time provide a challenge that prompted new learning—while also serving as a support for continuing an expanding that learning?

---

Are there examples of the use of “inquiry” in your worksetting? Did people regularly explore ways to question their own practice and inquire about ways to improve? Did you and your colleagues collaborate on resolving problems of practice?

---

...did participation in this inquiry help you to develop your proficiency? ...did it enhance your professional learning?

---

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On a scale where 1 = not effective to 10 = very effective, how effective was your involvement with these inquiry efforts to your own professional learning related to [the problem of practice]

...anything more about your worksetting?

---

Overall, how strongly did features of your environment influence the development of your proficiency? (1 = small extent, 10 = large extent)

***[Note: At the end of this section you should have enough information to discuss the environment component of the Professional Learning Model. Specifically, you should have information about how supports, challenges, resources, and inquiry within a worksetting enhances professional learning. If you do not have this information, revisit the questions. Ask probing questions—tell me more, would you expand on that—to generate the information you will need]***

11. Any more ideas you'd like to add about your proficiency related to [this problem of practice] or how you developed it? Any more thoughts on professional development [related to this problem of practice]?
- 

Any closing thoughts on your professional learning experiences in general?

---

---

Again, I want to explain that this interview is anonymous. If you have any misgivings about your interview during the next day or so, give me a call. If you want to know about the results of the project, I will gladly talk with you again at the end of June when we have finished analyzing the data.

Thank you again for your time. Your responses have been very helpful.



Appendix D - Consent Form (Leadership and Instructional Practice)

Consent Form for Participation in a Research Study

**Principal Investigator:** Richard W. Lemons

**Student Researcher:** Joseph Macary

**Study Title:** Leadership and Instructional Practice

Introduction

You are invited to participate in an interview research study to investigate the relationship between leadership and instructional practice. You are being asked to participate because of your role and/or position in a school that is trying to improve student achievement and instructional practice.

Why is this study being done?

I am a graduate student at the University of Connecticut, and I am conducting this interview as part of my course work. I am interested in finding out about your experiences in efforts to improve student achievement and instructional practice. In particular, I am interested in understanding the recent improvement efforts of this school, who leads these efforts, and how these efforts impact the work of teachers and students in classrooms.

What are the study procedures? What will I be asked to do?

If you agree to take part in this study, you will be asked to complete a face-to-face interview. The interview will be semi-structured—you will be asked to answer specific questions, but there will be opportunity for you to add additional information you think may be related to any of the questions. These questions will involve the context of your district/school, the improvement efforts underway, the individuals who have taken particular leadership with these efforts, and the impact these efforts are having upon student achievement and instructional practice. You may choose to not answer any question in the interview protocol.

With your consent, the interview will be audiotape or digitally recorded so that I may review the tape at a later date. I may transcribe sections of the audiotape to facilitate my review of the information you provide.

You may turn off the recorder at any time during the interview if you do not want to have something you say recorded.

What are the risks or inconveniences of the study?

We believe participation in this interview does not involve any risk to you. Your participation will require about approximately 60-90 minutes of your time.

What are the benefits of the study?

Although you may find it interesting to participate in this interview, you will not benefit directly from participation.

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### Will I receive payment for participation? Are there costs to participate?

You will not receive payment for participation. There are no costs, other than your time, of participating in this study.

### How will my personal information be protected?

The following procedures will be used to protect the confidentiality of your data. I will keep confidential your identity in all reporting of information from the interview. I will use pseudonyms to describe your organization and your name. Your identity will be known only to me. I will keep the audiotape of the interview in a secured location and at the end of the course I will erase the recording and destroy any transcriptions.

You should also know that the UConn Institutional Review Board (IRB) and the Office of Research Compliance may inspect study records as part of its auditing program, but these reviews will only focus on the researchers and not on your responses or involvement. The IRB is a group of people who review research studies to protect the rights and welfare of research participants.

### Can I stop being in the study and what are my rights?

You do not have to be in this study if you do not want to. If you agree to be in the study, but later change your mind, you may drop out at any time. There are no penalties or consequences of any kind if you decide that you do not want to participate

You do not have to answer any question that you do not want to answer.

### Who do I contact if I have questions about the study?

Take as long as you like before you make a decision. We will be happy to answer any question you have about this study. If you have further questions about this project or if you have a research-related problem, you may contact the principal investigator, Richard W. Lemons (860-486-4284) or the student researcher (insert name and phone number). If you have any questions concerning your rights as a research subject, you may contact the University of Connecticut Institutional Review Board (IRB) at 860-486-8802.

### **Documentation of Consent:**

I have read this form and decided that I will participate in the project described above. Its general purposes, the particulars of involvement and possible hazards and inconveniences have been explained to my satisfaction. I understand that I can withdraw at any time. My signature also indicates that I have received a copy of this consent form.

\_\_\_\_\_  
Participant Signature:

\_\_\_\_\_  
Print Name:

\_\_\_\_\_  
Date:

\_\_\_\_\_  
Signature of Person  
Obtaining Consent

\_\_\_\_\_  
Print Name:

\_\_\_\_\_  
Date:

Appendix E - Interview Protocol (Leadership and Instructional Practice)

**Interview Protocol<sup>4</sup>**

**AFTER** Interviewees have signed the informed consent form:

*OK? Ready to begin?*

*Now that the tape-recorder is on, please state your name, the date, and that you consent to have your response tape-recorded.*

**A. Context**

A1. Please tell me about this district/school?

Potential Probes: Have you worked at other districts/schools?  
How does this school compare to your past experience in other settings?

A2. What is like to be [an administrator; a teacher; a department chair; central office personnel; superintendent] in this district/school?

A3. How would you describe the students who attend your district/school?

Probes: race, ethnicity, language, family background, prior academic records

What will most students do when they leave your school?

A4. How would you describe the adults who work in your district/school?

A5. *If school level personnel [teacher, principal, department chair]:*

How is this school/district organized?

Probes: subject departments,  
grade levels,  
small learning communities,  
school-to-work routes,  
academies

A6. What's different at this district/school this year?

Probes: organization  
programs  
staffing

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<sup>4</sup> Substantial portions of this protocol are adapted from two sources: The Distributed Leadership Project at Northwestern University and the Consortium for Policy Research in Education (CPRE) project on Accountability and the High School. The Distributed Leadership project has already designed and made public several interview protocols that have been piloted and employed for the study of instructional leadership in elementary schools using the Spillane, Halverson, and Diamond framework (Distributed Leadership Project (2000). *Principal/School leader interview protocol*. <<http://www.letus.org/dls/instruments/leadersInterviewSpring.pdf>> (cited 8 April, 2002). The most applicable questions from The Distributed Leadership project's protocols have been adopted without change or adopted with slight modification so that they would fit the high school context. In addition, I have adopted certain interview questions from the CPRE-Harvard Graduate School of Education project on High School and Accountability that have been field-tested to generated rich information about leadership task enactment, the distribution of leadership, and the influences of situation/context.

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### *B. School Focus/Instructional Improvement Efforts*

- B1. What are the issues/ goals your school/ district has been working on in the past year or two?
- B2. What are you currently doing around these issues?
- B3. What particular responsibilities have you assumed in relationship to these issues/ goals?
- B4. Are there particular school activities you think it would be important for me to attend to have a fuller understanding of the school's work in this area (these areas)?
- B5. Who in your school has assumed particular leadership in your work in this area (these areas)?
- B6. How was it decided to pursue [mention goals/issues from B1 directly and indirectly related to instruction]?

### *C. Job Responsibilities & Leadership Tasks*

- C1. What does your position as [ ] entail? What are your daily responsibilities?
- C2. What are the issues that you are focusing on in your own work this year?
- C3. How did you come to focus on these issues?  
Probes: circumstances  
events  
people

### *D. Task Enactment & Distribution*

- D1. How are you working on [insert answer from C2] thus far?
- D2. How would you describe what it is you are doing?  
Probes: probe for thick descriptions of leadership tasks
- D3. Have there been any changes in your focus on this issue/ goal?
- D4. If so, what led to these changes?

### *E. Social Distribution*

- E1. What is your overall goal in relationship to [insert richest instructional answer from B1 or C2]?
- E2. Are there any particular areas, individuals, grade levels you are targeting?
- E3. Are there individuals and/or organizations inside or outside of the school that are helping you with this task? If so, who are they?
- E4. If so, how are they assisting? What is it they do?
- E5. Where and when does the work on this issue occur?

### *F. Situational Context*

- F1. Are there particular things about the way this district/school is organized that help in this work? If so, what? In what ways?

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- F2. Are there particular things about the way this school is organized that inhibit progress in this work? If so, what? In what ways?
- F3. Are there any other factors you haven't yet mentioned that influence the way you go about this work?

### G. *Perceived Effectiveness*

- G1. How effective have you been in these areas? Explain? Why or why not?
- G2. How do you know how effective you have been? What are your measures?
- G3. What is the biggest challenge you are facing in doing this work?

### H. Teaching Practice [this section is only for teachers or administrators who also teach]

- H1. What is it like teaching here at this school?
- H2. Are there elements of teaching that are particularly challenging?
- H3. Have you had any assistance in teaching these areas?
  - If so, what?
  - By whom?
  - How did that come about?
- H4. Have you recently change anything about the way you teach [relative to topic in answer from B1 or C2]?
  - If so, what? How? What led to this change?
- H5. What or who is most influential to your teaching?
  - Explain.
  - In what ways?
- H6. Are there instructional reforms underway at your school that target [their subject matter or grade level]?
  - Describe
  - Who introduced those?
  - Who else is involved? In what ways?
  - Is this affecting the way you teach?
- H7. In this school, to whom do teachers turn to for assistance in issues of teaching and learning?
  - If so, who are these people?
  - Why do you think people turn to them?

### I. **Group Interaction/Contexts for Improvement Efforts**

- I1. Do you opportunities to attend/get involved in some of the meetings at this school?
  - If yes, tell me about some of these meetings you have attended?
  - Probe:      Composition of group
  - Purpose/goal of this group

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- I2. Do these meetings influence how you teach?  
If so? Which meetings? How?
- I3. Have you been involved in any professional development activities that you feel are having a major impact on your teaching?  
If so, please describe the activity(ies).  
How is it (are they) influential?  
Who was responsible/involved in this activity?

### *J. Wrap-up*

- J1. This is a project on leadership and instructional improvement? If there were one lesson, one message, that we should take back from this study – what would it be?

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### Appendix F - Quantitative Data

*Nutmeg Public Schools Data from 2002 to 2009*  
*Connecticut Academic Performance Test (CAPT) taken in Grade 10*

#### Percentage of Students at or above Goal on the CAPT

<b>Year</b>	<b>Mathematics</b>	<b>Science</b>	<b>Reading</b>	<b>Writing</b>
2002	45%	41%	50%	61%
2003	40%	39%	49%	57%
2004	51%	45%	59%	62%
2005	41%	43%	44%	61%
2006	55%	44%	50%	58%
2007	45%	45%	46%	53%
2008	50%	47%	46%	58%
2009	48%	43%	48%	55%

Appendix G

**Subjectivity Statement**

In qualitative research, transparency of the role of the researcher is critical. According to Patton (2002), the credibility of qualitative methods hinges on the skills, experiences, and judgments of the researcher. Since the data in this research was collected in the same district that I was employed in, my role as an administrator for the Nutmeg Public Schools needs to be clearly defined to ensure there is no bias in either the data analysis or research questions.

In 2005, I began working in the Nutmeg Public Schools as the Director of Student Services, primarily responsible for the special needs population. After fulfilling that role for three years, I assumed the position of Assistant Superintendent for Curriculum & Instruction for one year. It was during that 4 year period that I collected my data about the stagnation of secondary school achievement at Nutmeg High School. As a central office administrator, I had a different perspective on the issues of the district, than building-based administrators. I was able to identify educational problems based on the readings and teachings from the doctoral courses at the University of Connecticut. The doctoral courses forced me to review teaching practices and learning strategies from the four frames. I was able to identify barriers within the district that inhibited the instructional core. This revelation stemming from the Black Box Theory of William & Black (1998) spurred my curiosity and passion for school change.

Later, from 2009 to 2015, I served in the capacity of Superintendent of Schools for Nutmeg; however, all of my data was collected before that time. The quantitative data collection and qualitative analysis of the semi-structured interviews were conducted with administrators who were colleagues, and not subordinates or supervisors. Since none of the interviewees were under my direct supervision, there was minimal possibility of coercion.