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Marissa Wojnilower   April 6, 2011

Expert Teacher Strategies within the Context of a University-Based Summer Program

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Abstract

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Teacher quality is of critical importance in narrowing the achievement gap. Doug Lemov's (2010) book, <u>Teach Like a Champion: 49 Techniques that Put Students on the Path to College</u> identified techniques that were commonly used among teachers who were documented to have been effective in reducing achievement gaps. In this paper, Lemov's findings are used as a framework to structure my own observations of four teachers, previously identified as expert, in a Southeast University-based summer program. These four teachers had no prior knowledge of Lemov's work. My research investigated 1) to what extend the techniques of the teachers at the summer program followed or differed from those in Lemov's book, 2) the techniques from Lemov's research that were and were not observed, and 3) the rationale that the teachers provided for their choice of techniques. I observed each of the teachers during four of their classes and then conducted follow-up interviews related to my three research questions and my observations of their teaching. Results showed that twenty-eight of Lemov's forty-nine strategies were observed in the four teachers. Lemov's "most important" strategy of cold calling was not used by any of the teachers and a technique of announcing a warning time was used by all four teachers but not mentioned in the book. Further research should be done in school settings during the normal school year to see if the results are still similar. Policy recommendations for initial teacher certification, the professional development of practicing teachers, and future research are described.

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Chapter 1: The Problem

The National Commission on Excellence in Education's "A Nation At Risk" (1983) report called attention to America's failing public education system, stating "what was unimaginable a generation ago has begun to occur—others are matching and surpassing our educational attainments." Since this report, various educational policy reforms have been put into place in attempt to regain our country's prominent position in education. The recent policy documents of "No Child Left Behind" and "Race to the Top" have aimed to increase achievement while also decreasing inequality, primarily through the means of standardized testing. However, nations that have greatly improved their student's achievement including Finland, Korea and Singapore, attribute a great deal of their success to their high levels of investment in teacher preparation and development (Darling-Hammond 2010). These findings suggest that we may be looking for solutions in the wrong places. According to a study on teacher and classroom context effects on student achievement, "differences in teacher effectiveness were found to be the dominant factor affecting student academic gain" (Wright, Horn & Sanders, 1997). The study by Wright, Horn and Sanders along with research of many others highlights the importance of teachers in education.

A look into the issues associated with teacher quality in the United State's education system reveals a stark contrast between low- and high-income schools. Teachers have highly varying levels of knowledge and skills, and those who are least prepared are often placed in schools with students of the highest need (Darling-Hammond, 2010). Thus, despite the goals of American education to reduce inequality

and level the playing field for children from all backgrounds, schooling has the opposite

effect. The striking disparities of our system are highlighted in Jonathan Kozol's book,

Savage Inequalities, in which he contrasts various public schools across the country such

as the urban East St. Louis schools coping with sewage spills and overcrowded

classrooms and the suburban schools across town situated on beautiful campuses with

tennis courts (Kozol 1991). Such vast differences in school settings also explain why

quality teachers are not flocking to the most needy schools. Moreover, teaching

conditions are sharply disparate as wealthy communities provide more materials,

equipment and supports, as well as smaller class sizes (Darling-Hammond 2010). All of

these factors result in the unequal distribution of quality teachers, leading to greater

inequalities within the education system and thereby further increasing the achievement

gap.

      To improve teacher quality in our country, we would be well served to identify

and understand more fully the various teaching "moves" implemented by our most

successful teachers. In the past, proxy, or substitute measures, of teacher knowledge have

most often been used to establish the qualities that define a good teacher. Such proxy

measures include teacher certification, advanced degrees, undergraduate institutional

quality and college major (Walsh 2001; Harris & Sass 2008). Despite the wealth of

studies that support the use of these proxy measures, more recent studies question their

validity. Walsh (2001) describes how the certification process "is not designed to take

into account the possibility that relevant knowledge can be acquired by means other than

coursework, the actual content of the college courses, the quality of the instruction or

educational standards of the college, or even the grades earned in the courses." The use of

teacher certification to assess quality is questioned as it assumes that teacher knowledge

can only be attained through this particular path. Harris & Sass (2008) similarly question

other proxy measures, stating findings that go against the previous pro-proxy studies.

These results include the following: the correlation between advanced degrees and

student achievement is negative or insignificant; there is limited evidence on the impact

of specific aspects of undergraduate training on teacher productivity; and there is no

evidence to support that education majors are more effective teachers. The discrediting of

the various proxy measures makes clear the need to look to new measures to assess

teacher quality.

One such research method used to identify these characteristics is the "expert

teacher study," which looks at the individual teachers who have the most success in

improving the achievement of students in their classrooms. Although expensive to obtain

with large sample sizes, this type of research has the greatest credibility. Such studies

have lead to identifying expert teachers as those who use knowledge about the children in

their classrooms to create lessons that connect educational subject matter to students'

own experiences as well as to adapt their teaching to accommodate students' different

learning styles. These teachers also know how to recognize and attend to individuals'

strengths and weaknesses as learners (Lewis, 1999). Expert teacher research is seen as a

strong method for defining teacher quality because "it relies on intuitive logic, which

supports the belief that it is possible to identify good teachers by observing them" (Lewis

1999, p. 2). Another benefit of expert teacher research is that the teachers' strengths can

be determined and recorded (Lewis, 1999). In doing so, the findings from the studies can then be replicated by teachers around the country.

In this study, I have used the research on expert teachers as a lens for measuring teacher quality. My research took place in a Southeast University's summer program that is also used as a field experience for pre-service teachers in a graduate initial certification program. The program is for rising 6th-8th grade students of varying economic and ethnic backgrounds that spans a three-week period and includes academic and PE classes as well as study skills, learning strategies, health and specials. I observed four teachers in this program who had been previously identified as experts, by a member of this University's faculty who is skilled in the training of pre-service teachers and the professional development of experienced classroom teachers. The selection process varied between the four teachers –the first two were chosen directly by the faculty member through written documents and interviews; the third was selected through the consensus of the other summer program's teachers along with the faculty member based on group interviews; and the fourth was picked by the faculty member through an application process and observations. Doug Lemov's (2010) book, Teach Like a Champion: 49 Techniques that Put Students on the Path to College observed expert teachers whom he identified using state test scores because he found "student success as measured by state assessments is predictive of their success not just in getting into college but of their succeeding there." I used Lemov's findings as a framework to structure my own observations and in particular, to see if these four teachers made use of

any of the powerful teaching strategies that Lemov identified and if so, which ones. The research questions I set out to answer were:

1. To what extent, did the techniques observed being used by the summer program's teachers follow or differ from the practices described in Lemov's book?

2. Which specific techniques, from among these suggested by Lemov's research, did I observe these four teachers using? Which ones were never observed?

3. What reasons did teachers provide for making use of the techniques that were observed or not making use of others?

In observing these four expert teachers and answering the above research questions, I hope to add to the already existing body of research about effective strategies teachers can use to enhance the quality of their teaching.

Chapter 2: Literature Review

Unequal Education in the United States

"Today, in the United States only 1 in 10 low-income kindergartners becomes a college graduate" (Darling-Hammond 2010, p. 3). As this quote describes, the inequalities in our nation's education system are currently a major issue. Rather than serving as an equalizer in accounting for diverse backgrounds of students, our public education system further exacerbates these differences. This inequality takes on many forms including higher-spending districts having "smaller classes, more specialists, and greater instructional resources, as well as better facilities" (Darling-Hammond 2010, p. 22). With such vast differences between schools based on their funding, it is no wonder that education within our country in so unequal. Furthermore, the effects of this unequal education system continue into these student's futures as an African-American high school dropout or high school graduate not in college is much less likely to be fully employed than a White person of the same status (Darling-Hammond 2010, p. 25). These findings make clear the importance of reducing inequality in education by showing its impact on society at large through its importance in allocation of jobs.

According to Darling-Hammond (2010, p. 40), teachers are the most inequitably distributed school resource in the United States. Students with the greatest need are typically placed in classrooms with the least qualified teachers. The differing resources and environments between low- and high-income schools tend to attract higher-quality teachers to the higher-spending schools. It has been found that "the difference in student achievement between having a very well-qualified teacher rather than a poorly qualified

one was larger than the average difference in achievement between a typical White student with college-educated parents and a typical Black student with high-school educated parents" (Darling-Hammond 2010, p. 40). Such findings reveal the importance of equal allocation of highly qualified teachers as this could play a major role in reducing the current achievement gap in education.

Measures of Teacher Quality

Highly qualified teachers are often identified by proxy measures. The 2005 AERA report on research and teacher education states "teacher quality is currently assessed by such proxies as college entrance tests (SAT and ACT), college GPA, college major, status of the college attended, teacher tests, and state certification status" (Cochran-Smith & Zeichner 2005, p. 159). However, other recent studies have shown that these types of measures are not the best way to define quality teachers. A report done by Walsh (2001) reviewed 150 studies done over the past 50 years looking at the relationship between teacher preparation and student achievement. Results revealed that such research is deficient in a variety of ways: citing research supporting certification and leaving out research that does not support it; padding analyses that lack evidence for certification with references that provide weak support; citing less reliable, older research incorrectly; relying heavily on unpublished dissertations and including research that has not been through peer reviews; designing own assessment measures to prove certification's value; and failing to follow basic principles of sound statistical analysis such as controlling for key variables like poverty or using sample sizes too small to

support generalization (Walsh 2001). The large number of faults found with using certification to measure teacher quality demonstrates that this method is not effective.

A study by Harris and Sass (2008) similarly finds that proxy measures do not serve as an effective means by which to assess teacher quality. These authors looked at the relationship between teacher productivity and teacher training by using a Florida statewide administrative database that allowed them "to tie student performance to the identity of their classroom teacher and in turn link teachers to their in-service training, their college coursework and their pre-college entrance exam scores" (Harris & Sass 2008, p. 3). The findings from their study revealed that there is little to no evidence of the efficacy of advanced degrees for teachers and no evidence that education majors are significantly more productive as teachers than non-education majors (Harris & Sass 2008). This study similarly shows the lack of evidence for using proxy measures to assess teacher quality and further makes clear the need to look to other methods as more effective means to measure teacher effectiveness.

One such new method being used to measure teacher quality is the "expert teacher study." Rather than looking at credentials in order to assess teacher effectiveness, expert teacher research focuses on observations of teachers who have been identified as successful by their administrators or peers. By watching them in their natural environment, one is able to observe the specific techniques they use that make them successful as a teacher. Findings from past expert teacher studies reveal that quality teachers use strategies such as creating lessons that connect subject matter to students' personal experiences and accommodating children who learn in different ways. These

strategies have become increasingly important today as there are a growing number of students with a diverse range of learning needs (Lewis 1999). This example highlights the importance of expert teacher studies as they present information that would not be identified through proxy measures.

This body of research confirms what many people view a high-quality teacher to be – "someone who understands children and knows how to assist their learning" (Lewis 1999, p. 2). For example, the 10 key standards of effective teaching created by the Interstate New Teacher Assessment and Support Consortium in 1995 match up with the findings from expert teacher studies. Such standards include "teachers [being] able to understand their subject matter and relate it to students, adopt teaching strategies that are responsive to different learners, [and] employ diverse instructional strategies" (Lewis 1999, p. 2). The fact that the findings from the expert teacher studies match up with the INTASC principles shows that this type of research is effective in identifying quality teachers.

Stevenson and Stigler Study

Stevenson and Stigler did one of the first widespread observational studies of teachers in the mid-1970s. Rather than looking at teachers identified as successful by their administrators and peers within the United States, Stevenson and Stigler did a comparison of teachers in Japan, Taiwan and China with those in our nation since these Asian countries tend to rank highly in world education ratings. Stevenson and Stigler conducted a formal study of 204 first- and fifth-grade classrooms in Sendai, Taipei, Beijing and Chicago. The observers were residents of the four cities and visited each

classroom four times over a one- to two-week period, conducting a total of 800 hours of observations through both detailed narrative accounts and tape recordings (Stevenson & Stigler 1992).

A major difference revealed in the findings from this study were that the teachers taught the lessons in a much more coherent manner in the Asian countries than the teachers did in the United States. More specifically, instruction in Asia is guided by the "concept of a lesson… [having] an introduction, a conclusion, and a consistent theme" (Stevenson & Stigler 1992, p. 177). One particular practice that demonstrates the ways in which Asian teachers give coherence to a lesson is by introducing the lesson with a word problem, which was found to be commonplace among the Asian countries but rather rare in the United States. Stevenson and Stigler also found a variety of threats to coherence for American teachers such as how Asian teachers were much more likely to "review what has been learned and relate it to the problem [they] posed at the beginning of the lesson" than were American teachers (Stevenson & Stigler 1992, p. 179). Other threats to coherence for American teachers included being interrupted in the flow of their lessons with irrelevant comments or by intrusion of someone else in a much greater percentage of their lessons than Asian teachers; shifting from one topic to another within a single lesson unlike Asian teachers who introduced new activities rather than new topics; and having students engage in prolonged seatwork unlike Asian teachers who embed seatwork in short periods within the lesson (Stevenson & Stigler 1992).

Stevenson and Stigler also noted findings in relation to teachers, students and the sources of knowledge. Chinese and Japanese teachers "rely on students to generate ideas

and evaluate the correctness of the ideas" whereas American teachers "generally ask questions that are answerable with a yes or a no, or with a short phrase" (Stevenson & Stigler 1992, p. 189-190). Another difference is that American teachers typically use praise as evaluation rather than discussing errors as Asian teachers do. An additional finding is that "American teachers place little emphasis on the constructive use of errors as a teaching technique" unlike Asian teachers who make effective use of errors in their teaching (Stevenson & Stigler 1992, p. 193). Furthermore, American teachers are more focused on solving a large number of problems and posing questions to simply get an answer, whereas Asian teachers concentrate on only a few problems and ask questions to stimulate thought. A final difference was noted in diversity, showing that Asian teachers use a variety of teaching techniques to accommodate individual differences whereas American teachers segregate students into different groups or classrooms and spend a great amount of regular class time working with individual students (Stevenson & Stigler 1992). All of these findings demonstrate the benefits to observational studies in measuring teacher quality as they allow for specific practices to be recorded that can then be replicated and utilized by other teachers within the classroom setting. More recently, Stigler conducted the TIMSS Video Study in 1999, which analyzed teaching practices of eighth-grade mathematics and science teachers in over a thousand classrooms within seven different countries. Videos of fifty-three of these classroom observations have recently been posted online, allowing anyone access to observe these teachers and their techniques on their own ("TIMSS Video," 2011).

Lemov's Book <u>Teach Like A Champion</u>

Doug Lemov's (2010, p. 1-2) belief that "great teaching is an art" led him to write

the book <u>Teach Like A Champion: 49 Techniques that Put Students on the Path to</u>

<u>College</u>, that describes some tools correlated with success in teaching in public schools,

especially those in the inner city where "the price of failure is high and the challenges

immense." Rather than relying on reforms that have so often failed to correct the

problems with our country's education system, Lemov has made use of expert teacher

research by spending thousands of hours observing dozens of teachers to determine

specific techniques that they successfully use to increase student learning. Based on his

own experience of receiving well meaning but vague advice such as "have high

expectations for your students" or "teach kids, not content," Lemov (2010, p. 3) found the

most helpful tips to be concrete directions such as "when you want [your students] to

follow directions, stand still." Here, Lemov explains the importance of studying specific

techniques rather than more general theories or ideas in order to see changes within our

education system. Furthermore, Lemov (2010, p. 6) supports the use of an expert teacher

study by describing how "the classroom is the unit at which demonstrably higher levels

of success occur in most urban schools and school systems." Thus, looking at teacher's

techniques that have achieved such success should help other teachers to replicate these

strategies and thereby work towards closing the achievement gap.

Lemov identifies forty-nine specific techniques commonly used by the teachers he

identified as successful and organized these techniques into the first seven categories of

his book, separating them into larger themes. Table 1 provides his identified techniques and their categories.

Table 1: **Lemov's 49 Techniques**

	Category One – Setting High Academic Expectations
1	**No Opt Out:** A sequence that begins with a student unable or unwilling to answer a question should end with the student answering that question as often as possible, even if it is only to repeat the correct answer.
2	**Right is Right:** Set and defend a high standard of correctness in your classroom. Answers are only right if they are 100% correct.
3	**Stretch It:** The sequence of learning does not end with a right answer; reward right answers with follow-up questions that extend knowledge and test for reliability. This technique is especially important for differentiated instruction.
4	**Format Matters:** It's not just what students say that matters but how they communicate it; require complete sentences and proficient grammar every chance you get.
5	**Without Apology:** Do not apologize for content or for students – make content interesting and challenge students.
	Category Two – Planning that Ensures Academic Achievement
6	**Begin with the End:** Begin a lesson by framing the objective or circling back to anything you're not sure the class has mastered the day before.
7	**4 "M"s:** A great lesson objective (and therefore a great lesson) should be <u>m</u>anageable, <u>m</u>easurable, <u>m</u>ade first, and <u>m</u>ost important on the path to college.
8	**Post It:** Post your objective in a visible location in the room so everyone can identify your purpose for teaching that day.
9	**Shortest Path:** All other things being equal, the simplest explanation or strategy is the best.
10	**Double Plan:** It's as important to plan for what students will be doing during each phase of your lesson as it is to plan for what you'll be doing and saying.

11	**Draw the Map:** Plan and control the physical environment so that it supports the specific lesson goals for the day.
	Category Three – Structuring and Delivering Your Lessons
12	**The Hook:** Short introductory moment that captures what's interesting and engaging about the material and puts it out front.
13	**Name the Steps:** Help students learn complex skills by breaking them down into manageable steps and, often, giving each step a name so that it can be easily recalled.
14	**Board = Paper:** Students make an exact replication in their notes of what you write on the board.
15	**Circulate:** Move strategically around your room during all parts of your lesson to engage and hold students accountable.
16	**Break It Down:** Use it in response to a student's error at the moment the incorrect answer happens; conceptualize the original material as a series of smaller, simpler pieces and then go back and ask a question or present information that bridges the part of the material they think most likely caused the error, thus building the student's knowledge back up from a point of partial understanding
17	**Ratio:** Push more and more of the cognitive work out to students as soon as they are ready, with the understanding that the cognitive work must be on-task, focused and productive.
18	**Check for Understanding (and do something about it right away):** Gather data constantly and act on it immediately.
19	**At Bats:** Teach them the basics of how to "hit", and then get them as many "at bats" as you can.
20	**Exit Ticket:** A single question or a short sequence of problems to solve at the close of class that is quick and designed to yield data.
21	**Take A Stand:** Push students to actively engage in the ideas around them by making judgments about the answers their peers provide.
	Category Four – Engaging Students in Your Lessons

22	**Cold Call:** Call on students regardless of whether they have raised their hands to make engaged participation the expectation.
23	**Call and Response:** Use group choral response – you ask; they answer in unison – to build a culture of energetic, positive engagement.
24	**Pepper:** Use fast-paced, group-oriented activities to review familiar information and foundational skills.
25	**Wait Time:** Delaying a few strategic seconds (3-5) after you finish asking a question and before you ask a student to begin answering it.
26	**Everybody Writes:** Set your students up for rigorous engagement by giving them the opportunity to reflect first in writing before discussing.
27	**Vegas:** Moment of sparkle that reinforces one of the day's learning objectives through some production values such as lights, rhythm, music, or dancing.
	Category Five – Creating a Strong Classroom Culture
28	**Entry Routine:** Make a habit out of what's efficient, productive, and scholarly after the greeting and as students take their seats and class begins.
29	**Do Now:** A short activity that you have written on the board is waiting at their desks before they enter. Students should be able to complete without direction from teacher.
30	**Tight Transitions:** Quick and routine transitions that students can execute without extensive narration by the teacher.
31	**Binder Control:** Build a system for the storage, organization and recall of what your students have learned.
32	**Slant:** Use acronym "SLANT" to remind students to <u>S</u>it up, <u>L</u>isten, <u>A</u>sk and answer questions, <u>N</u>od your head and <u>T</u>rack the speaker.
33	**On Your Mark:** Every student must start class with books and paper out and pen or pencil in hand.
34	**Seat Signals:** Develop a set of nonverbal signals for common needs, especially those that require or allow students to get out of their seats.

35	**Props:** Public praise for students who demonstrate excellence or exemplify virtues; props should be quick, visceral (rely on movement and sound), universal (everyone joins in), enthusiastic, and evolving (let students suggest and develop ideas for props).
	Category Six – Setting and Maintaining High Behavioral Expectations
36	**100 Percent:** Make sure 100 percent of students are always following a direction.
37	**What To Do:** Telling students what to do and not what not to do by giving directions that are specific, concrete, sequential, and observable.
38	**Strong Voice:** <u>Principles:</u> Economy of Language (fewer words are stronger than more); do not talk over; do not engage; square up/stand still; quiet power
39	**Do It Again (Do It Better):** Giving students more practice when they show they're not up to speed at a simple task; doing it again and doing it right, or better, or perfect is often the best consequence.
40	**Sweat the Details:** Create perception of order by cleaning up clutter, keeping desk rows tidy, making sure shirts are tucked in and hats are off, etc.
41	**Threshold:** Remind students of the expectations, establish rapport, set the tone, and reinforce the first steps in a routine that makes excellence habitual.
42	**No Warnings:** Using minor interventions and small consequences that you can administer fairly and without hesitation before a situation gets emotional.
	Category Seven – Building Character and Trust
43	**Positive Framing:** Making interventions to correct student behavior in a consistent, positive and constructive way; narrate the world you want your students to see even while you are relentlessly improving it.
44	**Precise Praise:** Acknowledge when expectations have been met and praise when the exceptional has been achieved; praise and acknowledge loud but fix soft.
45	**Warm/Strict:** Be clear, consistent, firm and unrelenting and at the same time positive, enthusiastic, caring, and thoughtful; sends message to students that having high expectations is part of caring for and respecting someone.

46	**The J (Joy) – Factor:** Classroom elements devised specifically to build and include kids in the room's culture.
47	**Emotional Constancy:** Modulate your emotions and tie them to student achievement rather than your own moods or the emotions of the students you teach; tread cautiously around the language you use; earn students' trust by having them know you are always under control.
48	**Explain Everything:** Remind students why you do what you do and ground explanations in the mission.
49	**Normalize Error:** Getting it wrong and then getting it right is a fundamental process for schooling - respond to both parts of this sequence as completely normal.

It is important to note the reasons why Lemov selected the teachers he observed to be examples of "champion" teachers. Lemov defines champion teachers as those who are highly successful in closing the achievement gap. Since this was his basis for determining which teachers to observe, his primary criteria for selection was state test scores so that he was able to measure if specific teachers were making a difference. In justifying his use of these state tests as a measure for the teacher's success, Lemov discusses data found from the nonprofit organization, *Uncommon Schools*, that starts and manages urban charter public schools and of which he is a managing director. The data from *Uncommon Schools* shows teachers whose students do better on state tests are also more effective at teaching broader higher-level skills and at ensuring their students' entry into and success in college (Lemov 2010, p. 18). Lemov (2010, p. 19) describes how the makeup of the *Uncommon Schools* consists of an 80 to 98 percent poverty rate with students often being the least prepared of those from the districts in which they were drawn. Despite the makeup of the schools' demographic compositions, 98 percent of *Uncommon Schools*

students passed the New York State Math Assessment and 99 percent passed the New York State English Language Arts Assessment. Furthermore, students at the Uncommon Schools outperform the state white average (SWA), which exceeds the overall state average, on both of these assessments as well.

Lemov did most of his observations in classrooms of the best teachers at already high-achieving schools including *Uncommon* and other similar achieving schools as well as similar groups of schools like the Knowledge is Power Program (KIPP) and Achievement First schools. He cites a specific example of Rochester Prep, an *Uncommon School* in which he observed many of the teachers, where the math team "ensured that 100 percent of the sixth- and seventh-grade students were proficient" and the English language arts team "not only matched the feat of 100 percent proficiency in seventh grade but managed to prepare 20 percent of students to score advanced on the test," which is the level above proficiency (Lemov 2010, p. 20). In comparison, "less than 1 percent of students in Rochester City School District, from which Rochester Prep drew its students just two years earlier, scored advanced" (Lemov 2010, p. 20). If these same students who have come from a low-achieving school background can be placed into classrooms in a different school where they are able to succeed, it is clear that the teachers must be doing something to make an impact on their achievement.

A book review by Dina Strasser (2011, p. 76) of Lemov's Teach Like a Champion, points out a significant flaw in his study stating how he "dismisses the school contexts in which his observations take place." Rather than looking at teachers across multiple contexts, Lemov's research was mainly based upon schools within his own

charter school organization, *Uncommon Schools*. Strasser (2011) argues that due to this flaw, Lemov's findings cannot be considered scientific data as Lemov suggests in his book because *Uncommon Schools* likely differ from other schools with similar at-risk children: "in such [charter] schools, the culture is likely maintained not just by lone-wolf teachers, but also by administrators and families" (Strasser 2011, p. 76). Strasser's finding provides an impetus for my own study, as I observed teachers in a setting completely separate from Lemov's *Uncommon Schools*.

I have used Lemov's findings as a framework to structure my own observations of four previously identified expert teachers in a Southeast University-based summer program. The research questions were:

1. To what extent, did the techniques observed being used by the summer program's teachers follow or differ from the practices described in Lemov's book?

2. Which specific techniques, from among these suggested by Lemov's research, did I observe these four teachers using? Which ones were never observed?

3. What reasons did teachers provide for making use of the techniques that were observed or not making use of others?

Chapter 3: Research Method

Participants

I observed the four teachers who had been selected by a faculty member, Michelle Hedge (all names are pseudonyms), at this University to teach at this program. She selected the teachers to be good teachers for the children as well as models for the pre-service teachers. Michelle's selection process for these teachers varies from one to the next. Two of the teachers, Ellen Rye and Aaron Edens, have been with the program since it first started. Ellen and Aaron were both teachers in their content areas, Language Arts and Social Studies, respectively. They also both demonstrated high quality backgrounds through their written documents as well as their interviews with Michelle. Ellen had also served as one of the lead counselors at the program for two years prior to her becoming one of the teachers. However, Michelle did not observe either of these teachers teaching before they were hired.

Michelle selected Jim Bender when she was looking for a science teacher for the program a few years ago. She brought together the entire program's teachers and had them conduct a group interview with the science teacher finalists allowing them to make the final decision. Michelle's selection process for the math teacher, Alison Manor consisted of an initial application process where teachers were required to submit a resume as well as a document detailing their educational philosophy and their classroom management philosophy. Michelle then narrowed down this applicant pool to 15 finalists who she observed while they taught middle school math. After these observations,

Michelle chose Alison who was in her second year with the program during my observations.

Although each of these teachers were chosen on an individual basis, there were also certain characteristics that Michelle looked to uphold among the group as a whole. The teachers needed to all have a variety of classroom management styles so that the pre-service teachers observing these teachers are able to see a variety of instructional strategies and classroom management styles. Michelle also tries to maintain a balance of gender and ethnicity on the staff and is adamant that all the expert teachers have taught middle school grades in the content area they teach at the program. The teachers must be performing satisfactorily to return in following years and Michelle makes sure this happens by working with the teachers herself as well as getting parent perspectives and feedback.

Data Collection

The first part of data was collected through a series of observations. Over the three-week period of the program, I observed each of the four teachers for four class periods, resulting in sixteen separate observations. Each observation lasted either one-hour or one-hour and fifteen minutes depending on the schedule of the day; the total observation time for each teacher ranged from four to five hours. The teachers all taught for two periods every day in which they would repeat the same lesson with different groups of children. I observed each teacher twice during the first period and twice during the second period in order to make my observations representative because teaching methods often differ between classes and time of day when the lesson is taught.

While observing each of the classes, I sat in the back of the room and used a tape recorder to record the majority of the lessons I observed. I also took notes on my laptop recording everything I observed during the lessons, ranging from quotes of what the teachers were saying to descriptions of activities the students were doing. After a day of observations, I would enter the information from my notes into four charts I had created for each of the individual teachers. Lemov's seven categories: Setting High Academic Expectations, Planning that Ensures Academic Achievement, Structuring and Delivering Your Lessons, Engaging Students in Your Lessons, Creating a Strong Classroom Culture, Setting and Maintaining High Behavioral Expectations, and Building Character and Trust, were used as column heads under which I organized all of my data. The rows of the charts were used to describe each occurrence of a specific technique being used by the teachers in the program. For each occurrence, I included a description and or quote of the teacher's actions along with the equivalent technique name and number from Lemov's book. There were a few times I observed the direct opposite of one of Lemov's techniques being used by the teachers and when this occurred, I noted it in my chart by placing the word "NOT" in front of the technique name and number. I differentiated the days of my observations by using different color fonts for each of the four days – day one = black, day two = blue, day three = green, day four = purple.

After completing all of these observations and reviewing the charts I had created, I came up with three questions based on my findings to ask the four teachers in individual interviews. The questions I asked them were:

1. In Lemov's book, he claims that "Cold Calling" is the most important strategy a teacher can use. Through my observations, I have found that this is not a technique you use very often in your classes. What are your thoughts on the use of this technique?

2. In my observations, I noticed that you consistently used the technique of giving students a warning time of how much time they had to complete an activity before moving on to the next one. This particular technique was not mentioned in Lemov's book. What are your reasons for using this technique so often?

3. I was observing you in the program setting, but are there different strategies that you use in the regular classroom that you don't use here?

During these interviews, I used the tape recorder to record all of our conversations as well as took notes on my laptop. Other questions and topics also arose from our conversations based on the above questions.

Chapter 4: Results

Individual Teacher Findings and Charts

In this chapter, I will first summarize the findings from my classroom observations from the four days in each of the four classrooms. Along with a short description of my findings for each of the individual teachers, I have included a separate table for each of the four teachers that summarizes specific techniques that I was able to identify during my four days as an observer. The techniques observed are separated by headings that correspond to the broad themes that emerged in Lemov's research. Under each heading, I included the descriptions of the specific strategy I observed the teachers using as well as the number and name of the technique the teacher's "moves" match up with from Lemov's work. Next to each of these descriptions is a number in parenthesis that specifies the observation day on which I observed the teacher doing that technique – 1, 2, 3 or 4. The technique "Post It" that involves teachers writing the objective on the board each day was observed by all of the teachers each day but not included in their individual charts since it was required by the summer program to have this on the board every day. Some of the technique numbers within the charts have the word "NOT" in front of them, signifying that the teacher was doing an action that was opposite of what Lemov suggested in his book.

Jim used 24% (12/49) of Lemov's techniques during the four separate classroom periods I observed him. The techniques he used the most and the frequency with which they occurred were: Circulate (5), The Hook (4), Check for Understanding (3), and the J-Factor (2). Jim used each of the following techniques only once during my observations:

Call and Response, Entry Routine, Do Now, On Your Mark, 100 Percent, What To Do,

Sweat the Details, and Threshold. The majority of the techniques he used fell under

Lemov's chapter titled "Structuring and Delivering Your Lessons." There were two

strategies I observed Jim both doing correctly one time and doing the opposite of

another– Do Now and Threshold (See Table 2 below).

Table 2: **Observed Strategies Implemented by Jim**

Category One: Setting High Academic Expectations
"What happened 61 days ago?" Girl gives answer about ship tipping over. Jim says "nope" then calls on different student. Another student gives long answer. Jim corrects "a safety valve exploded." – doesn't go back to students to answer; ***NOT T 1 – No Opt Out*** (day 1)
Category Two: Planning that Ensures Academic Achievement
Classroom setup – tables in groups of 4 with 2 students on each side facing each other, projector at front of room, board on side of room – confusing which way students should face; ***NOT T 11 – Draw the Map*** (day 1)
Category Three: Structuring and Delivering Your Lessons
Circulates while students answers questions; ***T 15 – Circulate*** (day 1)
Power point: "Steps of the Scientific Method" - Relates scientific method to Law and Order TV show; ***T 12 – The Hook*** (day 1)
"Once you have this written down, give me the thumbs up so I know you have it written"; ***T 18 – Check for Understanding*** (day 1)
Circulates to make sure students following directions; ***T 15 – Circulate*** (day 1)
Circulates room, making comments such as "Who's going to speak?" and "Check over your spelling"; ***T 15 – Circulate*** (day 2)
Video clip of three men explaining their stories of how it was when they were on the oil rig in the Gulf Coast when it broke; ***T 12 – The Hook*** (day 2)
"We're going to look at a video that shows you the difference between organic and

conventional farming" > says that video is related to what they have been studying in past days; ***T 12 – The Hook*** (day 3)
"This video is fun and I think you'll get a kick out of it too"; ***T 12 – The Hook*** (day 3)
Circulates while students finishing their write-ups; ***T 15- Circulate*** (day 3)
"Before I go any further, how many people really understand what a carbon footprint is?" > A few of students raise hands; ***T 18- Check for Understanding*** (day 3)
Circulates to see what students are researching -Bend down to get on student's level and help them with research on computer; ***T 15- Circulate*** (day 3)
Video clip about reducing CO2 emissions and reducing your carbon footprint; ***T 12 – The Hook*** (day 4)
Category Four: Engaging Students in Your Lesson
"What do we do in science?" Class responds together: "Investigate!"; ***T 23- Call and Response*** (day 1)
Category Five: Creating a Strong Classroom Culture
"Take out a piece of paper. Take out something to write with. If you don't have a pencil I'll come and see you." - "If you don't have paper, feel free to take some from the middle of the table. If you don't have a pencil, raise your hand" (walks around and hands out pencils); ***T 33 – On your Mark*** (day 1)
"Let's try to maintain what we had yesterday" (in regards to seating arrangement); ***T 28 – Entry Routine*** (day 1)
Tells students to expand off yesterday's question of "Write one paragraph to answer the following. What is science? Give three examples of everyday science in your life." (question written on board, referred to as "sponge"); ***T 29 – Do Now*** (day 1)
Written on board: "Sponge: Share and Review scientific method notes from Wednesday Bulls Eye" (dep.variable on one half of bulls eye, ind. variable on other half) > this sponge is never used in class though; **NOT T 29 – Do Now** (day 2)
Category Six: Setting and Maintaining High Behavioral Expectations
"Do me a favor, keep your chair at the table, sir"; ***T 40 – Sweat the Details*** (day 2)

"Alright, everyone's quiet, listen up. Here we go"; ***T 36 – 100 Percent*** (day 2)
Students enter room before Jim gets here -Jim gets in and says "good morning." Students respond, "good morning"; ***NOT T 41- Threshold*** (day 2)
Stands outside door as students enter room – "Good morning. Need a pencil?"; ***T 41- Threshold*** (day 3)
"On your papers, I need you to write your name and today's date. And in the center of the page, write the scientific method and write each heading and leave four lines. You're actually going to take notes for the first and second part of the video"; ***T 37- What to Do*** (day 3)
"Not yet on the computer please"; ***NOT T 42 – No Warnings*** (day 3)
Category Seven: Building Character and Trust
NY Times website: Interactive map showing where oil has hit; part of website showing sea life that are being effected; ***T 46 – The J(oy) Factor*** (day 2)
Fun activity – students get to take off their shoes and trace their footprint on paper; T 46 – ***The J(oy) Factor*** (day 4)

Alison used 37% (18/49) of the techniques from Lemov's books during my four observations of her. The techniques she used the most and their frequency counts were the following: Check for Understanding and Do Now (4); The Hook, Circulate, Call and Response, and the J-Factor (3); and Right is Right, Exit Ticket, 100 Percent, What to Do and No Warnings (2). The techniques I observed Alison using only once during my observations were: Draw the Map, Board = Paper, Vegas, Entry Routine, Binder Control, Threshold, and Normalize Error. Alison used the No Warnings strategy appropriately as Lemov suggested it two times, but also did the opposite of his description three times (See Table 3 below).

***Table 3:* Observed Strategies Implemented by Alison**

Category One: Setting High Academic Expectations
When one student has Shaq measurement wrong, she takes him back over to model and helps him to measure correctly; **T 2 – *Right is Right*** (day 2)
"You are very much on the right track, almost 100% there (said to one student). Can you add to it Sydney (said to another student)?"; **T 2 – *Right is Right*** (day 3)
Category Two: Planning that Ensures Academic Achievement
Classroom setup – open rectangle with teacher standing in center in middle of room but projector at end of room (kids have to turn around to see it); **T 11 – *Draw the Map*** (day 1)
Category Three: Structuring and Delivering Your Lessons
"Go like this if you got it" (nods head as ex.). "Go like this if you don't got it" (shakes head); **T 18 – *Check for Understanding*** (day 1)
"Go like this if you didn't put something different. That way I at least know if you're awake"; **T 18 – *Check for Understanding*** (day 1)
Acts out kickball rules with her body; **T 12 – *The Hook*** (day 1)
I want you to put today's date 6-22 (writes date on board). And I want you to draw somewhere on there a line like this (draws on board) and I want you to write scatter plot (writes words on board)"; **T 14 - *Board=Paper*** (day 1)
"What's the value of x?" Everyone response "two" together"; **T 18 – *Check for Understanding*** (day 1)
"Raise your hand when you finish so I can go around and check if you got it"; **T 18 – *Check for Understanding*** (day 1)
"Go back to your EQ. Just to close up class today, I want you to write one sentence. I learned "fill in the blank." Then gives students lots of possible answers they could use; **T 20 – *Exit Ticket*** (day 1)
Circulates to see how students are doing**; T 15- *Circulate*- multiple occurrences** (day 2)
Alison circulates while students figuring out percentages they want to allocate to each category, makes comments such as "Make sure that's 100 percent," "You have calculators too if you need them," "Alright guys you gotta be a little quick, you have one

minute"; **T 15 – *Circulate*** (day 3)
Circulates while students working on their own, asking questions and helping students where they are struggling-Bends down to get on student's level when talking to them; **T 15 – *Circulate*** (day 3)
"Before you guys are allowed to leave, you are going to wrap this up" – Have to answer three questions on back of worksheet – "You have to do this before you leave"; **T 20- *Exit Ticket*** (day 3)
Circulating to see how students are doing with their poster projects – "Are you guys done with your poster? Does everyone know what they're saying?"; **T 15 – *Circulate*** (day 4)
Category Four: Engaging Students in Your Lesson
"Say it in your mean voice…" all kids answer "strike two." (what happens if she counts down 5,4,3,2,1 and students don't get quiet); **T 23- *Call & Response*** (day 1)
"Everybody stand up. Push your chairs in. Stand behind them." Has students act out crawling and climbing then crawling backwards and falling to show the way you should plot coordinates on a coordinate plane; **T 27 – *Vegas*** (day 1)
"Don't copy the bottom number in bold." Asks class, "What don't you do?" They respond, "Copy the bottom"; **T 23- *Call & Response*** (day 2)
"Where do you think I want this in your notebooks?" Students respond, "Daily"; **T 23- *Call & Response*** (day 2)
Category Five: Creating a Strong Classroom Culture
Question given at the beginning of class - Written on board: "Essential Question: What characteristic would make you the biggest winner in a game of kickball?"; **T 29- *Do Now*** (day 1)
"In your very first page of daily" – folders organized with sections; **T 31- *Binder Control*** (day 1)
Tells students "sit in your assigned seats, please"; **T 28 – *Entry Routine*** (day 2)
EQ written on board, students write answer down in part of their folder; EQ: "What is a budget?"; **T 29 – *Do Now*** (day 3)
Once students seated – passes out folders to each of them and says "Once you get your folders, get started on your EQ" - EQ written on board: "Some players are considered

valuable basketball players, yet what they can offer their teams is not a measurable statistic. What examples can you give of this?"'; **T 29 – *Do Now*** (day 2)
EQ Discussion on board: "What unexpected expenses could occur to make it difficult to pay your bills?"; **T 29 – *Do Now*** (day 4)
Category Six: Setting and Maintaining High Behavioral Expectations
Stands outside door greeting students, some by name; **T 41 – *Threshold*** (day 2)
"Hey, you're slacking off every day. Let's get on it, okay? You're a smart guy, you can do this" (says quietly to one student as she is walking around checking their EQ answers) ; **T 42 – *No Warnings*** (day 2)
One student lying down on table, Alison taps him and signals him to get up with her finger silently while still giving directions to the rest of the class; **T 42 – *No Warnings*** (day 2)
"I want you to put the calculator tops on, pass the Shaq papers this way and put the pencils in your folder"; **T 37 – *What to Do*** (day 2)
"This group's ready. Megan's group's ready. Still waiting on the middle." Waits until everyone is ready until she moves on to next lesson. Once everyone has it, "OK, now we're ready"l **T 36 – *100 Percent*** (day 2)
Goes over step by step directions out loud, but they are also posted on projector in front of room; **T 37 – *What to Do*** (day 2)
Student wandering around, Alison taps him and says "You should be working"; **NOT T 42 – *No Warnings*** (day 2)
"Three, two, one and zero. Hands in the air, mouths closed." Calls out students by names until they are all following these instructions; **T 36 – *100 Percent*** (day 2)
"Sit up please" said out loud to one student lying down on table; **NOT T 42 – *No Warnings* (**day 3)
"Some of you guys need to stop talking before I pull you out"; **NOT T 42 - *No Warnings*** (day 4)
Category Seven: Building Character and Trust
"That is a really good answer" in response to one student's answer to the EQ; **NOT T 44 – *Precise Praise*** (day 1)

Outside activity – students use measuring tape to measure distance between two passes then take turns running between them and fill out chart of times using stopwatch. Then this sequence repeated with different distance between bases; **T 46- *The J Factor*** (day 1)
"How many new points do we have to plot?" Students call out various answers – one, two and three. She corrects by saying "Two because (3,13) and (2,13) are our only new points." (New plots listed were: (3,13), (2,13), (2, 13)); **T 49 – *Normalize Error*** (day 1)
John Wooden video clip showing reasons why he was a great coach – used instead of speaker that was supposed to come to class that day; **T 46- *J(oy) Factor*** (day 2)
I have a little treat for you guys. It's a little clip" – Bill Cosby Clip showing how budgeting is hard especially on a minimum wage job; **T 46 – *J(oy) Factor*** (day 4)

Aaron used 20% (10/49) of Lemov's techniques during my observations of him. The techniques he used the most along with their frequency counts are as follows: Circulate (8); Entry Routine, What to Do, No Warnings and Precise Praise (2). The other five techniques I observed Aaron using only once were: Without Apology, The Hook, 100 Percent, Threshold and the J-Factor. There were two strategies that I observed Aaron using the correct way two times and the incorrect way once – No Warnings and Precise Praise (See Table 4 below).

Table 4: **Observed Strategies Implemented by Aaron**

Category One: Setting High Academic Expectations
"Does anyone know the population in America?" - Student calls out answer. "That's close. I'll give it to ya"; NOT T 2 – Right Is Right (1)
"I'm very excited to teach you all about the Lost Boys"; T 5 – Without Apology (4)
Category Two: Planning that Ensures Academic Achievement
Tables arranged in tables facing each other, 4 per each; teacher stands on side of classroom (some students have to turn around to face him); **NOT T 11 – *Drawing the***

Map (day 1)
Category Three: Structuring and Delivering Your Lessons
Moves around while talking, looks at different students, uses hand gestures; **T 15 –** *Circulate* (day 1)
Goes over to student, bends down on knee to get on his level, touches his shoulder, helps give him suggestions for how to show Chinese food; **T 15 –** *Circulate* (day 1)
Challenge to fill in complete map of U.S.: "This activity is going to be challenging. I'll make you a deal. If you can complete this all as a class, I will bring in Dunkin Donuts donuts"; **T 12 –** *The Hook* (day 1)
Circulates through room while students are filling out maps**; T 15-** *Circulate* (day 2)
Circulates to each table asking, "Are there any questions? Do you need any clarification?" "Are you all getting it? Let's break it down"; **T 15-** *Circulate* (day 2)
Circulates room while student's writing; **T 15-** *Circulate* (day 3)
Bends down to get on her level, reads her autobiography and asks her questions about it; **T 15-** *Circulate* (day 3)
Circulating to students while working on posters; **T 15 –** *Circulate* (day 4)
Circulating – "Good job. Jonathan, good job, good scheme. Keep working" (each to a different student); **T 15 –** *Circulate* (day 4)
Category Four: Engaging Students in Your Lesson
"Any other comments? Anyone else make some inferences from that?" No wait time. "No? Ok."; **NOT T 25-** *Wait Time* (day 1)
"Anyone else want to share?" No wait time. Moves on to next activity without half of class sharing; **NOT T 25-** *Wait Time* (day 1)
Category Five: Creating a Strong Classroom Culture
Told students to find their folders in a bin as they entered the room**; T 28 –** *Entry Routine* (day 2)
"Find your folder and sit where your folder's at" > folders already placed at student's desks; **T 28-** *Entry Routine* (day 3)

Category Six: Setting and Maintaining High Behavioral Expectations
Passes out markers to students, "write your name, period and my name on the front."; **T 37 – *What to Do*** (day 1)
"We don't need a big piece of tape. We just need a small piece (shows how to rip). Whatever you don't need, just throw away."; **T 37 – *What to Do*** (day 1)
Stood at door greeting first half of students to enter room "good morning" then came inside and welcomed other half once through the threshold; **T 41 – *Threshold*** (day 2)
"Don't look at the map." Student asks "who?" Aaron answers "No one in particular. But keep your eyes on your own paper" (not directly calling out a particular student; **T 42 – *No Warnings*** (day 2)
At table where only one student participating, Aaron says, "But we all have to participate."; **T 42 – *No Warnings*** (day 2)
Kids at one table goofing off > Aaron approaches them and says, "Guys, time (points to watch). Let's go"; **NOT T 42- *No Warnings*** (day 3)
To one student without poster board > "Where's yours?" Student shrugs shoulders. Aaron says, "Go get it"; **T 36 – *100 Percent*** (day 4)
Category Seven: Building Character and Trust
"Good job" said to one student while filling out map; **NOT T44 – *Precise Praise*** (day 2)
"The amount of detail you all have right now is incredible."; **T44 – *Precise Praise*** (day 2)
Activity: students draw outline for type of space they'd like museum exhibit of their life to look like – fun activity; **T 46 – *J(oy) Factor*** (day 3)
"Good job, looks good" to one student working; **NOT T 44 – *Precise Praise*** (day 3)

Ellen used the most techniques of all four teachers – 49% (24/49). I observed multiple occurrences of almost all of the techniques she used, the names and frequency counts of each of these observations is as follows: Explain Everything (6); Call and Response, Tight Transitions, 100 Percent and What to Do (4); Circulate, Entry Routine

and Precise Praise (3); No Opt Out, Check for Understanding, Vegas, Do Now, Sweat the Details, and No Warnings (2). I only observed Ellen using the following techniques one time each throughout my four days of observation: Right is Right, Draw the Map, The Hook, Wait Time, Everybody Writes, Binder Control, On Your Mark, Strong Voice, and the J-Factor. I observed Ellen following two techniques both correctly and incorrectly – No Warnings and Precise Praise (See Table 5 below).

Table 5: **Observed Strategies Implemented by Ellen**

Category One: Setting High Academic Expectations
Asking another student to repeat a student's answer - Ask original student if she wants to expand off student #2's repetition of her answer; **T 1 – *No Opt Out*** (day 1)
Asking student to repeat other student's answer. Boy doesn't know answer. Telling him she's going to ask her to repeat it and he should listen because she's going to ask him again. Repeats this Same thing with another student; **T 1 – *No Opt Out*** (day 1)
Student reading says "chose" and Ellen immediately corrects "choose"; **T 2 – *Right is Right*** (day 3)
Category Two: Planning that Ensures Academic Achievement
Classroom set up as open rectangle with teacher's desk at front, teacher stands in center with everyone facing her; **T 11 – *Drawing the Map*** (day 1)
Category Three: Structuring and Delivering Your Lessons
Allows students to find place in classroom where they are comfortable; **T 12 – *The Hook*** (day 1)
Circulates room while they are filling out venn diagrams; **T 15 – *Circulate*** (day 2)
Circulates room while students are discussing MMT answers; **T 15 – *Circulate*** (day 3)
"I see a couple faces all over the place so I want to make sure you're all with us. You're all with us? Ok" (no wait time); **NOT T 18 – *Check for Understanding*** (day 3)

"Are we all clear what we need to be doing?" One student responds "Yes" and she moves on; **NOT T 18 – *Check for Understanding*** (day 4)
Circulates while students are working to help them with project; **T 15- *Circulate*** (day 4)
Category Four: Engaging Students in Your Lesson
"What are procedures again?" - Have students all answer together: "a way to do things"; **T 23 – *Call & Response*** (day 1)
In the Same what? (Students answer – "direction."). In the Same what? (Students answer again); **T 23 – *Call & Response*** (day 1)
Shows clip of Harry Potter relating to the scene they read in class; **T 27- *Vegas*** (day 2)
Movie clip shown of City of Embers to compare book and movie; **T 27 – *Vegas*** (day 3)
MMT: "1) Go back to your Guided Imagery Writing. (This is from the second day of camp.) 2) Add more sensory detail language to it. Be sure that your reading will be able to EXPERIENCE the place"; **T 26 – *Everybody Writes*** (day 3)
"I see 4 hands over here. 1 hand over there, not enough" > waits for more students to raise hands; **T 25- *Wait Time*** (day 4)
"It's an opinion. Where this is a … what do we call it?" Class responds, "Fact" - "You have to use what?" Class says, "Facts." Ellen says "What?" Class responds, "Facts!"; **T 23 – *Call and Response*** (day 4)
"You're going to write it what?" Students respond, "Together." She says "What?" They say "together!"; **T 23 – *Call and Response*** (day 4)
Category Five: Creating a Strong Classroom Culture
"Formal attendance taking" – "raise your hands when I call your names" - Folders handed out when hands raised - Upbeat, smiling, saying "hi" to some students as she hands them folders; **T 28 – *Entry Routine*** (day 1)
"Open up your folders. I've given each of you paper. Stick your loose leaf paper in the fasteners" – explains how to do this in case students don't know how "Your rules and procedures can go in either one of the pockets, it doesn't matter which one;" **T 31- *Binder Control*** (day 1)

Students know to wait outside door before entering classroom; **T 28 – *Entry Routine*** (day 2)
Morning Meeting Topic on projector up front "After you put your sticker on the paper, set the paper up like this" (example on projector – questions for author and screenwriter of Harry Potter) ; **T 29 – *Do Now*** (day 2)
"Get into the center and make our morning meeting circle. Do this quietly. I'm going to count to 10, I need you to move" Students not ready in time so removes letter. "Ok, I'm going to count again"; **T 30- *Tight Transitions*** (day 2)
"I'm going to count to 21. Everyone is going to stand up and find a partner"; **T 30- *Tight Transition*s** (day 2)
Students get silent when she rings bell – signals time is up for sharing answers to morning question; **T 30- *Tight Transitions*** (day 2)
"Pass your folders down this way" (down the rows). "Counting to ten, let's get them down"; **T 30- *Tight Transitions*** (day 2)
Students take folders from bin placed outside room; **T 28- *Entry Routine*** (day 3)
Morning Meeting Topic written on board; **T 29- *Do Now*** (day 3)
Has extra pencils in cup on every table set out from beginning of class; **T 33- *On Your Mar*k** (day 3)
Category Six: Setting and Maintaining High Behavioral Expectations
"Line up by the count of 10"; **T 36 – *100 Percent*** (day 1)
"Pass stack of papers down along the row. If you have extras pass them right back up"; **T 37 – *What to Do*** (day 1)
Clarifying which way is to the right of the door so that "everyone knows which way they should be lining up"; **T 37 – *What to Do*** (day 1)
"What I want you to do after you get up is push in your chair"; **T 40 – *Sweat the Details*** (day 1)
"Let me see who remembers what they need to be doing. Oh I see that (student) remembers what he's supposed to be doing. I see what this table sees what they're supposed to do, right away, right away. This table's in the process" **T 36 – *100 Percent*** (day 2)

One student not writing but talking instead. "Ben, writing, writing"; **T 42 – *No Warnings*** (day 2)
Paused movie. "I just wanted to remind you all that you are not to be talking. And I won't play it again if you don't stop talking"; **T 42 – *No Warning*s** (day 2)
"You probably want to have your scripts in front of you and the actual books. This is a time when you probably want to make some notes about the differences you notice. And the similarities you notice. You don't need to use this (venn diagram paper) right now. Only the scripts"; **T 37 – *What to Do*** (day 2)
"Ok I'm gonna have to stop it because I'm gonna tell you something… we don't talk during movies" > makes statement but doesn't actually stop movie; **NOT T 42 - *No Warnings*** (day 3)
"I'm looking at the desks and I still see lots of packets of paper. Pass your folders down"; **T 36 – *100 Percent*** (day 3)
"Alright, you all can stand up and push your chairs in"; **T 40 –*Sweat the Details*** (day 3)
"Don't see everyone's up" – talking about name cards of each student – waits for 100 percent of students to hold them up; **T 36 – *100 Percent*** (day 4)
"Class Debate Do's" written on slide and Ellen discusses them with class > lines out to students exactly what they should do; **T 37 – *What to Do*** (day 4)
Strong, enthusiastic voice; **T 38 – *Strong Voice*** (day 4)
"If we don't get our self-control back, I'm going to have to take away another letter of self control; **NOT T 42- *No Warnings*** (day 4)
Category Seven: Building Character and Trust
"I like what Kayla did. She began to interpret where I was going with this picture"; **T 44 - *Precise Praise*** (day 1)
"I want you to understand why I am asking you to do it." - Asks students why they think she wants them to wait outside the room until she gets here; **T 48 – *Explain Everything*** (day 1)
"Why would I ask you to empty your hands?" > calls on students raising their hands to give their opinions, then gives own additional answer; **T 48 – *Explain Everything*** (day 1)

"Why would I ask people to repeat what's been said?" "Because you should value what your classmates say. They can teach you and you can teach them"; **T 48 – *Explain Everything*** (day 1)
After completion of activity - "Good job you all. You can all sit down now, very good"; **NOT T 44 –*Precise Praise*** (day 1)
"I liked how everyone got silent and someone even emptied their hands"; **T 44 – *Precise Praise*** (day 1)
Morning meeting circle playing Double This, Double That hand game: "That was to get our blood flowing and meet our community members"; **T 46 – *J(oy) Facto*r** (day 2)
"I'm just going to go through what we didn't read yesterday quickly because we don't have time to delegate who reads which part and have time to see the movie"; **T 48 – *Explain Everything (*day 2)
Calls out students names who have back to her at the board and tells them "Turn around so you can see me"; **T 48 – *Explain Everything*** (day 4)
"This is so we will have equitable distribution of conversation" – in regards to use of name cards which allow students to speak only 3 times; **T 48 – *Explain Everything*** (day 4)
"Good job during the debate. Good self control. You were all very civilized**"; T 44 – *Precise Praise*** (day 4)

Frequency Chart and Findings

Frequency counts, for the number of techniques by each of the four teachers, are shown in Table 6. This table is again split up by the seven chapter categories, using these as subheadings under which each of the techniques and frequency counts are listed. The number and name of each of the forty-nine techniques are listed on the left-hand side column of the chart. The right-hand side is split up into six separate columns. There is one column for each of the four teachers under which there are tally marks next to each of the techniques used and a negative in front of a tally if this was the opposite of the

technique described by Lemov. The fifth column is a total tally for how many of the four

teachers – 1, 2, 3, or 4 – used each of Lemov's forty-nine techniques during my

observations. The final column is a tally of how many teachers did the opposite of the

techniques discussed by Lemov. No number listed on the right-hand side of the table

signifies that I did not observe any of the four teachers using this particular technique.

The figures show that the teachers collectively used twenty-eight of Lemov's

forty-nine techniques. The teachers most frequently used techniques from the following

categories: Structuring and Delivering Your Lesson, Engaging Students in Your Lessons,

Creating a Strong Classroom Culture and Setting and Maintaining High Behavioral

Expectations. The remaining categories – Setting High Academic Expectations, Planning

that Ensures Academic Achievement, and Building Character and Trust – only had three,

two, and four techniques that were used, respectively. The techniques used at least once

by all four of the teachers were: Post-It, Draw the Map, The Hook, Circulate, Entry

Routine, 100 Percent, What To Do, and The J-Factor. The second-most utilized

techniques by three of the four teachers were: Call and Response, Do Now, No Warnings

and Threshold (See Table 6 below).

Table 6: **Combined Teacher Observation Frequency Chart**

	Jim	*Alison*	*Aaron*	*Ellen*	*# of times technique observed*	*# of times opposite technique observed*
Category One – Setting High Academic Expectations						
1. No Opt Out	-1			1	**1**	**1**

	Jim	Alison	Aaron	Ellen	# of times technique observed	# of times opposite technique observed
2. Right is Right		1	-1	1	**2**	**1**
3. Stretch It						
4. Format Matters						
5. Without Apology			1		**1**	
Category Two – Planning that Ensures Academic Achievement						
6. Begin with the End						
7. 4MS						
8. Post It	1	1	1	1	**4**	
9. Shortest Path						
10. Double Plan						
11. Draw the Map	-1	1	-1	1	**2**	**2**
Category Three – Structuring and Delivering Your Lessons						
12. The Hook	1	1	1	1	**4**	
13. Name the Steps						
14. Board = Paper		1			**1**	
15. Circulate	1	1	1	1	**4**	
16. Break It Down						
17. Ratio						
18. Check for Understanding	1	1		1	**3**	

	Jim	Alison	Aaron	Ellen	*# of times technique observed*	*# of times opposite technique observed*
19. At Bats						
20. Exit Ticket		1			**1**	
21. Take A Stand						
Category Four – Engaging Students in Your Lessons						
22. Cold Call						
23. Call and Response	1	1		1	**3**	
24. Pepper						
25. Wait Time			-1	1	**1**	**1**
26. Everybody Writes				1	**1**	
27. Vegas		1		1	**2**	
Category Five – Creating a Strong Classroom Culture						
28. Entry Routine	1	1	1	1	**4**	
29. Do Now	1, -1	1		1	**3**	**1**
30. Tight Transitions				1	**1**	
31. Binder Control		1		1	**2**	
32. Slant						
33. On Your Mark	1			1	**2**	
34. Seat Signals						
35. Props						

	Jim	Alison	Aaron	Ellen	# of times technique observed	# of times opposite technique observed
Category Six – Setting and Maintaining High Behavioral Expectations						
36. 100 Percent	1	1	1	1	**4**	
37. What To Do	1	1	1	1	**4**	
38. Strong Voice				1	**1**	
39. Do It Again						
40. Sweat the Details	1				**1**	
41. Threshold	1, -1	1	1		**3**	**1**
42. No Warnings	-1	1, -1	1, -1	1, -1	**3**	**4**
Category Seven – Building Character and Trust						
43. Positive Framing						
44. Precise Praise		-1	1, -1	1, -1	**2**	**3**
45. Warm/Strict						
46. The J-Factor	1	1	1	1	**4**	
47. Emotional Constancy						
48. Explain Everything				1	**1**	
49. Normalize Error		1			**1**	

Interviews

The transcripts of the four interviews with each of the individual teachers include answers to the three following questions, as well as a few select other questions that came about throughout the interviews (See Appendix A, Figures 1-4):

1. In Lemov's book, he claims that "Cold Calling" is the most important strategy a teacher can use. Through my observations, I have found that this is not a technique you use very often in your classes. What are your thoughts on the use of this technique?

2. In my observations, I noticed that you consistently used the technique of giving students a warning time of how much time they had to complete an activity before moving on to the next one. This particular technique was not mentioned in Lemov's book. What are your reasons for using this technique so often?

3. I was observing you in the camp setting, but are there different strategies that you use in the regular classroom that you don't use here?

Figures 1-4 in Appendix A contain the transcriptions for each of the four interviews. In response to the first question, three of the teachers noted that their use of cold calling is dependent on the type of class or individual student, explaining they are more likely to engage in this technique with larger classes, older or higher level classes, classes with little participation, confident/capable students, and students who are not paying attention. Reasons for cold calling included making sure students are prepared for class and are staying engaged during class as well as giving everyone an opportunity to speak. Reasons given for not using this technique were viewing answering questions as a choice or feeling students were not ready to be cold called. Two of the teachers indicated

that when they do cold call, they often use prompts such as telling the students to look around the room to see who doesn't have their hand up or explaining that they are about to ask a question in which they could call on anyone in the class to answer. Three of the teachers noted that they did not use this technique much during the summer program because it is a less academic setting and they had frequent participation within their classes.

In response to the second question, the teachers all said that they gave warning times either to keep themselves or their students on track with time. The teachers said this technique allows them to make sure they get certain academic standards taught or include all the necessary parts of their lesson within a class period. Respondents said that the use of a warning time for completion teaches students time management skills and how to pace themselves so that they stay on task.

In response to the third question, three of the teachers focused mainly on differences in behavior management, explaining that they deal with issues in the summer program more patiently than they do during the school year. Three teachers indicated that when students act up in their regular classroom setting, they send them out of the classroom. Three teachers also described how it is harder to include fun activities during the school year for reasons such as needing permissions slips to show certain movies and having less freedom in choosing activities as well as less time to use them given the pressure to follow mandated standards. One teacher said that the management of larger numbers of students in their regular classroom is aided by use of stations, in which students transition from one learning center in the room to the next. Another teacher

indicated that the daily reward system used during the summer program is a point system used during the school year in which classes must build up points over time in order to win a prize. This teacher also noted that she gives more homework and spends more time reviewing and practicing rules and procedures during the regular school year.

Chapter 5: Discussion, Recommendations and Conclusions

Discussion

The results show that although many of Lemov's techniques for champion teachers were used by the four teachers previously identified as expert in this study, there were also a fair amount not used and others were identified that were not mentioned by Lemov. I was surprised to find that 57% (28/49) of Lemov's techniques were used by the teachers I observed. I did not expect to observe such a large percentage of the techniques because I was skeptical of Lemov's premise that forty-nine specific techniques can define a "champion" teacher. This finding is important because it shows that the teachers identified as expert by the summer program director implemented more than half of the same techniques as Lemov's "champion" teachers in a span of four class periods. Such a data set gives further support to Lemov's findings even though this was a small sample of teachers in a summer program. By identifying many of these techniques used across four different teachers in varying contexts, this type of research provides specific suggestions related to classroom techniques. Teachers can make use of this information on techniques and may be able to replicate them within their own classrooms, thereby helping to create more high-quality teachers nationwide.

It is also interesting to note that eight of the thirty techniques I observed the teachers using during the summer program were used by all four of the teachers and that four of the thirty techniques were used by three of the four teachers. The repetition of these techniques by multiple teachers in my study also adds support to the above finding that these techniques are significant as they are shown to be used not just by teachers

identified as "champion" by Lemov or just by one other teacher also identified as "expert" by a faculty member, but by three or four of these other teachers.

I was, however, surprised to find that none of the teachers used cold calling since Lemov claimed that this was the most important technique in his book. My interviews with the teachers about this finding revealed that they believed omitting this technique was due to the context of the setting in which they were teaching during the summer. Jim made this point stating, "In this environment when you have 14 kids any day, there's always an active participation from 7-8. So as long as you have those 7-8 fueling [sic] your discussion, there's really a hope that the child who is not raising their hand is still getting the information." Here, he explains that the small size of the class in the summer program setting made cold calling unnecessary because a large proportion of the students were participating already. Aaron similarly noted the camp setting in his reasoning for not using cold calling during my observations as he stated, "[I don't use that] so much here. I don't like to put the kids on the spot. Again, it's a summer program, not so much academics. But I do use that a lot in my home school." Although the teachers used the program context as their rationale for not cold calling, their explanations go against the basic principle of this technique – "to check for understanding effectively and systematically" (Lemov 2011, p. 112). According to this reasoning, cold calling should be used in classrooms regardless of the context because it is a means by which the teacher can check that all students are on track at any given time.

Although the summer program setting clearly had a large impact on the teacher's decisions not to use the cold calling technique, it was interesting to note that all of the

teachers did advocate for its use at least some of the time within the regular classroom setting. However, they again expressed that the use of cold calling should be dependent on the context. For example, Alison explained that "There's a balance, and there's time for it and a time not for it. When it's more application questions within the math context, you never want to call out a kid because they may not be ready for it. And some kids process slower than others so you want to wait." Here, Alison notes both the type of class and individual differences as contexts in which you should adjust your use of cold calling. Aaron also noted the importance of individual and class differences as he explained that he only cold calls on students who he knows are capable, stating, "You know, there are some kids that I just won't just because they're not ready for it. But for my AP class or in my 9th grade class, I will do that most times to keep the kids ready to go." In these examples, the teachers again rationalize not using the cold call technique due to varying contexts. In doing so, the teachers are going against the purpose of the technique by making it situational rather than systematic. This situational usage also leads to the unequal treatment of students of different ability levels as the slower learners will be left behind when they are not checked on through cold calling since the teachers simply think they are just "not ready for it."

Another interesting finding from my study was that all of the teachers had at least one technique where I observed them following Lemov's description of it at one time and then not following it at another. For example, I noticed Ellen both following and not following the "Precise Praise". The technique states the teacher should "praise as specifically as possible and focus on exactly the behavior and action that you would like

to see more of" (Lemov 2010, p. 212). In Ellen's not following example, she told the students "Good job you all. You can all sit down now, very good" after they had completed an activity. Here, she offers no specific praise and also praises simply for finishing an assignment rather than "[saving] praise for what exceeds expectation" as Lemov (2010, p. 211) instructs. Ellen followed this technique at another time when she told the class "I like what Jenna did. She began to interpret where I was going with this picture." Here, Ellen gives specific praise to a student for going beyond what was expected in her answer. The finding that all four of the teachers I observed exhibited this contradictory behavior leads me to again question how Lemov defines "champion" teachers by specific techniques as the teachers in his study may also have shown this opposing behavior.

Limitations

There were several threats to both the internal and external validity of this study. A major threat to the study's internal validity was that I was the only one observing the teachers. Therefore, my data only contains the information that I saw rather than having multiple points of view. This single viewpoint also creates the issue of potential researcher bias since I had nobody else to consult with about my observations. Possible biases include thinking certain teaching styles are better than others based on my own knowledge and experiences or teacher gender biases. A threat to the external validity of this study is that it looks at teachers who were selected for their excellence in teaching through various methods by a faculty member at a University. Thus, it would be hard to

replicate the selection process for finding high-quality teachers since it was not done in one specific way or by quantifiable measures.

There were also limitations of the instrumentation and sampling. The instrumentation only allowed me to observe what I saw so there could have been techniques the teachers used that matched up with Lemov's findings that I did not notice. The interviews also consisted of only three specific questions so that the teachers would have time to answer them during their work hours at the program, but this resulted in many questions that came about from the findings not being touched upon during these individual conversations. I would have liked to ask about the times I observed the teachers doing the opposite of one of Lemov's techniques to find out their reasoning for doing so. I also would have liked to find out what techniques the teachers thought are most important to being successful and if they had any special techniques of their own. The sampling was limited in that it took place at a summer program rather than in a regular school setting so the teachers may not have been acting as they would in their typical classrooms.

Recommendations

The potential recommendations of my study for future research are that other studies could be done in the same way of using Lemov's research on techniques that make champion teachers in order to see which of these techniques are actually used among widespread groups of teachers as well as to come up with other techniques Lemov did not mention that are used by high-quality teachers. Another suggestion for future studies is to observe these same four teachers in their regular school year classroom to

see if and how their summer behavior differs from their academic year behavior. This study would also help to see if the teachers actually did what they said in their interviews when responding to the question of how their teaching practices differ during the regular school year. It would also be helpful if future studies had operational definitions for Lemov's forty-nine techniques so that they could be observed more clearly and objectively.

Potential recommendations for policy include mandating teacher education programs in which teachers observe and are taught these various techniques that are shown to be effective in the classroom. Such programs could include teachers observing high-quality teachers who use many of these techniques and then continuing to be mentored by them as they are teaching themselves. Possible recommendations for practice include teachers using these strategies within their own classrooms in order to narrow the achievement gap, as Lemov noted the teachers in his study were able to do. Through all of these means, the hope is to create a manageable and quantifiable way in which teachers are able to improve their teaching so that all students can have access to high quality teachers and thereby have a greater chance at success.

Conclusions

In this paper, I set out to answer the following research questions:

1. To what extent, did the techniques observed being used by the summer program's teachers follow or differ from the practices described in Lemov's book?

2. Which specific techniques, from among these suggested by Lemov's research, did I observe these four teachers using? Which ones were never observed?

3. What reasons did teachers provide for making use of the techniques that were

observed or not making use of others?

I found that twenty-eight of the forty-nine techniques described by Lemov in his book

were utilized by at least one of the four teachers I observed during my research. The

techniques used at least once by all four of the teachers were: Post-It, Draw the Map, The

Hook, Circulate, Entry Routine, 100 Percent, What To Do, and The J-Factor (See Table 7

below). The techniques used by three of the four teachers were: Call and Response, Do

Now, No Warnings and Threshold. I also found that the teachers provided a variety of

reasons for their decisions on which strategies to employ during their teaching.

Table 7: **Techniques Used by All Four Summer Program Teachers**

8	**Post It:** Post your objective in a visible location in the room so everyone can identify your purpose for teaching that day.
11	**Draw the Map:** Plan and control the physical environment so that it supports the specific lesson goals for the day.
12	**The Hook:** Short introductory moment that captures what's interesting and engaging about the material and puts it out front.
15	**Circulate:** Move strategically around your room during all parts of your lesson to engage and hold students accountable.
28	**Entry Routine:** Make a habit out of what's efficient, productive, and scholarly after the greeting and as students take their seats and class begins.
36	**100 Percent:** Make sure 100 percent of students are always following a direction.
37	**What To Do:** Telling students what to do and not what not to do by giving directions that are specific, concrete, sequential, and observable.
46	**The J (Joy) – Factor:** Classroom elements devised specifically to build and include kids in the room's culture.

The findings from my study show that the results from Lemov's book of forty-nine techniques that make a "champion" teacher are somewhat replicable to other settings as my observations of four teachers identified as experts in a southeast summer program used more than half of Lemov's techniques within only four classroom observations. However, other findings from my study bring questions to Lemov's research; the technique he advocates for most was not used at all by any of the teachers I observed. It is important that more advanced research be done in the future in other settings separate from Lemov's *Uncommon Schools* so that there can be unbiased data to add to this recent trend in teacher observation research. The importance of these issues today is represented in the seventh and most recent edition of "Top Ten Issues to Watch in 2011: What Georgia Must Do To Become A National Education Leader." The article entitled "Understanding Teacher Effectiveness" expresses the need for ways in which to measure teacher effectiveness due to the 2009 Race to the Top grant competition in which states are expected to reward teachers for their effectiveness in the classroom, leading to the question of "how can they measure this effectiveness in a valid and reliable way" (Walker & Goss 2011, p. 34).

References

Cochran-Smith, M., & Zeichner, K. M. (2005). *Studying teacher education: the report of the AERA panel on research and education.* Washington, DC: American Educational Research Association.

Darling-Hammond, L. (2010). *The flat world and education: how America's commitment to equity will determine our future.* New York, NY: Teachers College Press.

Green, E. (2010, March 2). Building a better teacher. *New York Times Magazine.*

Harris, D. N., & Sass, T. R. (2007). *Teacher training, teacher quality and student achievement* (Working Paper No. 3). Washington, DC: National Center for Analysis of Longitudinal Data in Education Research. Retrieved November 1, 2010, from http://www.caldercenter.org/PDF/1001059_Teacher_Training.pdf

Kozol, J. (1991). *Savage inequalities: children in America's schools.* New York, NY: Harper Perennial.

Lemov, D. (2010). *Teach like a champion: 49 techniques that put students on the path to college.* San Francisco, CA: Jossey-Bass.

National Commission on Excellence in Education. (1983). *A nation at risk: the imperative for educational reform: a report to the Nation and the Secretary of Education.* Washington, DC: United States Department of Education and the National Commission on Excellence in Education.

Stevenson, H. W., & Stigler, J. W. (1992). *The learning gap: why our schools are failing and what we can learn from Japanese and Chinese education*. New York, NY: Summit Books.

Strasser, D. (2011). Book review: "teach like a champion" by Doug Lemov. *Educational Leadership, 76-78.*

TIMSS video. (2011). Retrieved from http://timssvideo.com/

U.S. Department of Education, National Center for Education Statistics. *Teacher quality: a report on the preparation and qualification of public school teachers,* NCES 1999-080, by Laurie Lewis, Basmat Parsad, Nancy Carey, Nicole Bartfai, Elizabeth Farris, and Becky Smerdon. Bernie Greene, project officer. Washington, DC. 1999.

Walker, S. & Goss, A. (2011). *Top ten issues to watch in 2011: what Georgia must do to become a national education leader*. Atlanta, GA: Georgia Partnership for Excellence in Education.

Walsh, K. U.S. Department of Education. Office of Educational Research and Improvement (2001). *Teacher certification reconsidered: stumbling for quality* (ED 460 100). Baltimore, MD: The Abell Foundation.

Wright, S. P., Horn, S.P., & Sanders, W.L. (1997). Teacher and classroom context effects on student achievment: implications for teacher evaluation. *Journal of Personnel Evaluation in Education, 11,* 57-67.

Appendix A: Interview Transcriptions

C1: Jim

M: In Lemov's book, he claims that "Cold Calling" is the most important strategy a teacher can use. Through my observations, I have found that this is not a technique you use very often in your classes. What are your thoughts on the use of this technique?

J: Sometimes when you start to engage children, don't raise their hand, you make it a defense mechanism. It's a choice. Sometimes we use steps like popcorn – it's more kinesthetic. We pass a ball around the classroom, have one child take the ball, answer the question and then they pass to another person. Sometimes it depends on the climate of your class. If you have a lot of kids who participate, you tend not to go ahead and draw toward the kids who don't raise their hands. There are times when I do that and it's if you have a class between 25 and 28 kids and you have a lot of non-participation, that's when you do it. And in this environment when you have 14 kids any day, there's always an active participation from 7-8. so as long as you have those 7-8 fuming your discussion, there's really a hope that the child who is not raising their hand is still getting the information.

M: In my observations, I noticed that you consistently used the technique of giving students a warning time of how much time they had to complete an activity before moving on to the next one. This particular technique was not mentioned in Lemov's book. What are your reasons for using this technique so often?

J: Management and most of the time it's for us. If kids are having fun in your class, they could care less how much time is left – they want to stay and keep engaged. But for us, there are times when we have to set up our class in an outline of a routine, with a sponge or an opening, a work period, a review and a wrap-up. So really, calling out the time for me is almost like a self-clock that I have to work.

M: I was observing you in the camp setting, but are there different strategies that you use in the regular classroom that you don't use here?

J: Yes, it's different now, because of the numbers – the numbers are smaller.

M: How big is your class when you teach during the school year?

J: They average anywhere between 22 and 28 – half the size of a camp class. The turnover time would be quicker and transition times are quicker. We can move from one thing to the next easily when we have only 14 kids, but when we have 22, 26, 28 kids, transitions are going to be a little bit more tricky. Sometimes when you go to classrooms during the school year, you may see teachers using stations. Stations will look like a

factory because they're moving the kids, and that's the best way to do it when you have a large group of kids.

M: Is that what you do in your classroom?

J: Yes, so you can always make transitions easier because you have kids working on different things. So if you have one group that's taking a little bit longer at one station, you can transition the other kids while those ones get to spend a little longer at their station. Video guide notes like we used the other day also work well. It's better than me standing up there talking and lecturing. They can fill in the notes during the movie or I give them a few minutes after to do it then.

M: And do you use the sponge in your regular classroom?

J: The sponge is important when you have those big numbers. Here, I limit the time because the kids know what we're working on and they get right to it. But when you're transitioning from one 25 or 26 person class and it's time to switch classes and a few minutes later you have 28 more kids walking in your room, you need a sponge or something at the door. If it's like a routine, kids know. They walk in the door and you say you have a file folder at the door with the problem for the day, or you have it posted, or you have your overhead on the projector with the question of the day on it. They know to come right it, open their notebooks and start writing. And that helps with your management of high numbers because they're coming in and sitting down. You're not going to get them all, you may get 15 or 17 kids to walk in and sit down and do what they're supposed to do. Then you have to deal with the other kids. You may have that kid who's standing out in the hall. You have to get him or her to come in the classroom and get started. Or you may have that child who sits down and does nothing. Here's your change to look around and give that verbal prompt. You always have to give them something that will divert, keep them busy, so that they always have something to do. If not, you're setting yourself up to have kids misbehave. You're giving the child a chance to do something they shouldn't and we're aware of it. We like to say, "If you have idle hands, they can make a fist." So if you have idle hands, they can touch something they're not supposed to. It's always something you can give them to do to keep your class under control.

*C2 :*Alison

M: In Lemov's book, he claims that "Cold Calling" is the most important strategy a teacher can use. Through my observations, I have found that this is not a technique you use very often in your classes. What are your thoughts on the use of this technique?

A: There's a balance, and there's time for it and a time not for it. When it's more application questions within the math context, you never want to call out a kid because they may not be ready for it. And some kids process slower than others so you want to wait. So if the hands were raised, I would call on the ones that were raising their hands, but then if you notice halfway through the class, that's when I start saying, "Okay, I've heard enough from these guys. I need to see some new hands." And so then I'll get a whole new wave of students who haven't been volunteering. And then there's always the small handful who don't want to answer at all and that's where I phrase it as, "Okay, now I'm about to open up a question that I could call on anybody in this classroom so everybody be ready and make sure you answer a question that you're comfortable with." And I will start off real basic. It could be even as basic as, "What have you enjoyed in this class?" And those will be the ones that are real quiet that I will call on so they can start building their confidence up as they answer questions.

M: But you will preface it with, "This is a question I could call on anyone for?"

A: Yes, I will preface it. I will never do cold calling other than that. It's prefaced by saying, "We are going to be doing this time now."

M: In my observations, I noticed that you consistently used the technique of giving students a warning time of how much time they had to complete an activity before moving on to the next one. This particular technique was not mentioned in Lemov's book. What are your reasons for using this technique so often?

A: It is because there's pacing and some students will work really quick and get their projects done during class. And then there will be some students that could take three days to do something that shouldn't take that long. So when you give verbal warnings, it keeps them actually schedules and more on time so that they will, not rush, but work at a faster pace realizing that there is an end boundary. Otherwise, if you don't say anything the entire class, the class will be done and they'll be like, "Wait, we didn't finish." So it helps them keep themselves paced. A lot of times what you can do, too, to help is say, "Okay guys, this 15 minutes you need to do this thing here. You need to gather information." And then you give them a warning, "Okay you have five minutes left to gather you're information." And then "Okay now guys in this 15 minutes, you need to start creating your poster." And so you can give them their own schedule so that they keep up.

M: What do you do with the students who finish before the 15 minutes is up?

A: Well I tell them typically to check their work because it's math class and we do make a lot of simple mistakes. I sometimes give them a side project to do or say, "Hey, why don't you add this to yours since you have some time." Sometimes I'll disperse them and say, "Go help another group and get their ideas rolling." So that they are still working and they are not just having downtime. Now there is a very small occasion, if it's been a long project, that if there is a small amount of downtime, I might send them to the media center. And then they can go research something or read a book. So that's like a bonus for getting their work done.

M: I was observing you in the camp setting, but are there different strategies that you use in the regular classroom that you don't use here?

A: In camp, you always want to be careful on keeping the kids excited and motivated and that's the same goal you would have in the classroom. But the difference is that if you have somebody who is disruptive in camp, you're going to find different strategies to try to make them still feel welcome in the class but to try and bring them back, whereas in the school system, if you do some of those same strategies, then they're going to continue to fight you all year long. So, for example, if a student is being disruptive in camp, I would be a lot more patient, I try to have a side conversation walking down the hall with them, but in the school system, I would address it pretty quickly within at least that day period, if not that class period.

M: How do you address those problems at school?

A: It depends on how the class is going. If it's like an outright disruption, sometimes I'll just knock on their desk and that'll get their attention. If they don't respond to the knocking on their desk because I try to keep it real discrete, then at that point, I might say, "Hey, listen, you need to get back on task" or something like that. Try not to call out where it's possible. And then there's the occasional time where I'll be like, "Okay, you're being way too disruptive. Go take out a cool out period outside in the hall. I'll be out there in just a minute to talk with you." And then we'll come back in. But that is for just like a major, major disruption. I don't try to send anybody out unless it's to the point where the rest of the class cannot move forward.

M: And activity-wise, do you try and do fun activities like you do during camp during the regular school year as well? Is that possible?

A: Yes, it is possible. What I get to do here in this camp is very fun and we enjoy being able to do whatever we can imagine doing in math class. Yes, you can't do that in a regular classroom during the school year. But what you can do is take the standards that are required by law to teach and you can be creative with them and still find activities to do. They won't be to the same extent or same amount of time. Like one lesson I did was mean, median and mode and I spent three days on it and you can't really do that in the public school system. But, so the timing will be a little bit less but you can still do great

activities. So yes, we actually do a math activity every single day in our classroom because it's just fun.

M: Are the Essential Questions (EQ's) used at the beginning of class something you use in the regular classroom?

A: Yes, and most schools will actually require that. Depending on your administration, they are going to be looking on your board for an Essential Question. They're going to be looking on your board for the Standard and it's got to be posted somewhere. And they're going to be looking for your agenda. They might have other things they are looking for but usually those are what's required by your administration.

C3: Aaron

M: In Lemov's book, he claims that "Cold Calling" is the most important strategy a teacher can use. Through my observations, I have found that this is not a technique you use very often in your classes. What are your thoughts on the use of this technique?

A: Well, I mean, I can tell you that in my home school I do that all the time. You know, there are some kids that I just won't just because they're not ready for it. But for my AP class or in my 9th grade class, I will do that most times to keep the kids ready to go. Not so much here. I don't like to put the kids on the spot. Again, it's a camp, not so much academics. But I do use that a lot in my home school.

M: Does it depend on the level of the class – whether it is AP or not?

A: Well, AP it's expected obviously. You know you have to do the reading and you better make sure you can express it. But 9th grade, I also teach 9th grade… freshmen. You know, to get them focused and knowing oh shoot, I have to be on it. You know because they're still learning so I use that a lot. In the past, cold calling kids to read out loud, I was never a big fan of that. I didn't like it. But after doing it a long time now, it's ok. I do it, I do it.

M: How do you decide which kids to call on?

A: I call kids who are confident, you know, average to okay readers or anything above. Those kids who struggle, I don't want to put those kids on the spot. There's not too many of them, but I know who they are. But most, they can read out loud.

M: In my observations, I noticed that you consistently used the technique of giving students a warning time of how much time they had to complete an activity before moving on to the next one. This particular technique was not mentioned in Lemov's book. What are your reasons for using this technique so often?

A: Just you know, kids are working and they lose track of time a lot so if they're slow, maybe they need to speed things up because they only have ten minutes left to finish this assignment so they really need to hustle up, you know, and not dilly daddle and just do what you have to do to finish.

M: Do you use that during the regular school year as well?

A: I do. Absolutely. Even for my AP. You guys have 5 more minutes before we start packing up. Cleaning up, finishing up their last sentence, getting themselves organized for the next day, five minutes before we do a rundown what's due tomorrow, they have expectations for the next day, yea, so.

M: What do you do for the kids that don't finish on time?

A: It's finish it for homework.

M: I was observing you in the camp setting, but are there different strategies that you use in the regular classroom that you don't use here?

A: I think so. I think there are different strategies. They kind of come natural, I mean, on the spot. I mean I'm more about walking around and if a kid is misbehaving, just mid-sentence mention their name really fast, for one thing. Walking closer to them, putting a hand on their shoulder, you know. Eye contact is everything.

M: And if they still don't behave, do you send them out of the classroom?

A: I do, I do. And not to the principal's office. Take five, out.

M: And do they just go sit outside of the classroom?

A: I don't know. Just to sit outside. Take five minutes. And then they come back, you know, usually. Like in middle school I don't think they would recommend that. But the high school, yea. And not so much for AP either, but for freshmen, yea. And then once in awhile, I'll just walk them up to the ninth grade office and just say sit there. Nothing with the AP, I'm not writing him up, but just the presence of him being in the office does it.

M: Do you try and incorporate fun activities and lessons in the classroom like you do here at camp?

A: Yea, absolutely, you need that. You definitely need that, especially with freshmen. AP, if you can fit it in because you're in such a time restraint and you have to do X amount of things but you just can't sit there and lecture for 180 days, you know. I'd be crazy and the kids would be crazy. They love the group projects, big, you know, worthwhile assignments. They like that stuff, they like their freedom, you know. You have to incorporate that into the classroom.

C4: Ellen

M: In Lemov's book, he claims that "Cold Calling" is the most important strategy a teacher can use. Through my observations, I have found that this is not a technique you use very often in your classes. What are your thoughts on the use of this technique?

E: I don't know if that's not a normal practice of mine because I try to, I call it my magic eight, and I do, I know that I make it a common practice to try my best to call on students who may not have an opportunity to say something. What I try and do is tell them to look around the room and see who does not have their hands up, give 30 seconds to get the answer, so that when I call again, they'll be the ones to raise their hands.

M: So what's magic eight?

E: Magic eight is that I need to see that there is at least eight hands up.

M: Does it matter to you if it's the same eight hands?

E: Oh yea, because even you'll hear me say, I don't know if you've heard me say this before, "Who have I not heard from?" because I want to give everybody a chance to speak.

M: So if there are students that just never raise their hand, would you just cold call on them?

E: I have definitely cold called. I do it a lot. Maybe I haven't to very often, I'm trying to think about your observations and what days you came.

M: A lot of kids in this class always raise their hands.

E: Yeah, I think there's just a lot of participation. I do cold calling a lot and I especially do it in a normal classroom when I notice somebody not paying attention, that's when I typically will do it. But I guess the answer for your observations and what you saw as far as cold calling, it may not have been a technique because I think I had a lot of engagement. When I would ask questions, there were a significant amount of kids I think who were able to respond. I always try and make sure everybody said something during the class period.

M: In my observations, I noticed that you consistently used the technique of giving students a warning time of how much time they had to complete an activity before moving on to the next one. This particular technique was not mentioned in Lemov's book. What are your reasons for using this technique so often?

E: I think what happens is it helps you as a teacher keep your lesson balanced because you have certain standards that you have to get to and you have certain time constraints because you have to get certain standards taught to the kids. It's really about time management because otherwise it can go in areas you don't need it to. It helps them become better time managers and I think it helps you to manage whether or not you're giving those techniques out to the kids.

M: I was observing you in the camp setting, but are there different strategies that you use in the regular classroom that you don't use here?

E: There are some times like for instance, even my self-control method, one of the things is that they don't get rewards every day for self-control in my actual classroom. It's actually something they work up to, it's actually a point system and they work up to it. So that's a different strategy I use here, but I modify it here because it's a camp setting.

M: So how would the point system work in school?

E: Each class counts the amount of letters (in self-control) that are left at the end of class. There's a point keeper who is assigned every two weeks and they change the point value. I have a laminated chart on my board and they just erase it and add the numbers. Their goal is to get to 550 points and when they get to 550 points, they are able to get an ice cream social. It usually happens in the cafeteria and they're on Sunday's so it's like bragging right, you know? The first and second place class gets an ice cream social, the third place class gets a popcorn social and the fourth place class gets what I call a "surprise." They don't know what it's going to be - it could be Little Debbie's snacks or whatever it is. I'm trying to think of something else that I do. Discipline-wise, there's more avenues to take. There would be more homework assigned, easily, I mean in a normal classroom. And also if there was a child that was becoming a discipline issue, I could always remove them from my class in a normal public school setting and put them in a different class because you have a team of teachers that work with you. So you have a social studies teacher, a language arts teacher, a math and a science teacher. If a student is being very problematic and just not able to participate and they are becoming a problem for the class, you can say "You're not ready today to participate so I am just going to send you over to Miss M's classroom and you can sit in her little time-out section." So that's something we don't really use here too much that could be utilized in a regular academic setting. Even my rules and procedures on the first day for a normal school year is different, is four pages long. It's a long document and it takes me an entire week to go through rules and procedures. Once the school year gets on its way, things are pretty smooth because I do take a whole week to kind of go over and practice things like passing out papers and the group works together to show the wrong way to do it. So things like that, we practice a lot of rules and procedures during the school year but here it's like one day and then it's like you move on.

M: Your use of "Morning Meeting Topics" is similar to what Lemov discussed as "Do Now's." Is this something you use during the regular school year as well?

E: Part of my procedures have mandatory things that you do at the beginning of every single class. At school, they all have composition notebooks and they have to pull them off the cart. They have to write the essential questions down on their page and they always have a sponge activity, which we call "DGP" which is their "Daily Grammar Practice." So those are all done at the beginning of the class and I time it, there is seven minutes. Everything has to get accomplished during that time. In school, it's very much they know what you do. And it saves me a breath as a teacher because I know that they know they're so robotic and they're going to do it, it gives me time to take attendance. I walk around and they put their homework from the night before in the upper right hand corner and I walk around and see if the homework is done. If they don't have the homework, there's a page they have to sign so it's documentation for me. So those are the things I do.

M: Is there a punishment for not having the homework?

E: If it's a big project or something like that, I will usually call home. That is their punishment. If there was an issue with me telling them that I won't accept anything late, I would tell them the only way that I could accept it late was if they came in the morning time or an academic detention of some sort.

M: I also liked how you showed the students movies during class. Are you able to do that at all during the regular school year?

E: I do it in some ways. I've shown "Stranger than Fiction" but what I have to do different in school is that I have to send a permission slip home if it's PG or PG-13 explaining to the parents that this is a movie we are using to give your kids a chance to apply literary devices. I'm going to be showing a certain clip, if you do not want your child to watch the clip, let me know. There was a time I showed a part of Schindler's list, I didn't show all of it, and I had a couple of parents who said no, we do not want our child to watch it. But you have to explain to the kid you cannot be in the room watching if you do not have a permission slip. You do have to do things like that. I use songs all the time though. I don't need permission slips for songs. I choose songs where the content is not naughty or inappropriate. But I use songs all the time, it's a regular thing for me to use a song.