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Teachers' Strategies for Student Engagement:
Comparing Research to Demonstrated Knowledge

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Abstract

In the present investigation, we sought to examine teachers' knowledge of research endorsed motivational strategies. Data collected as part of a larger study (Fives, 2003) was used to examine preservice (120) and practicing (102) teachers' strategic knowledge for student engagement. Teachers responded to a brief vignette describing a classroom situation with a student-engagement dilemma by listing as many strategies as possible to address the scenario. Qualitative analyses identified 13 emergent themes in the 55 unique strategies submitted. The most commonly reported strategy themes included: connecting content to student interests, devising a plan for the student to complete her work, supporting autonomy, and conferencing with parent/guardian. Examination of these themes and the research literature accentuates several theoretical and practical concerns.

TEACHERS' STRATEGIES FOR STUDENT ENGAGEMENT:
COMPARING RESEARCH TO DEMONSTRATED KNOWLEDGE

We believe that the theoretical and empirical literature on achievement motivation suggests three conclusions. First, that learners' motivation influences their achievement related behaviors (e.g., Hidi, 2001; Flowerday, Schraw and Stevens, 2004). Second, strategies exist that can be used to influence learners' motivation, (e.g., Hootstein, 2002; McCann and Turner, 2004). Third, teachers can employ these strategies effectively to influences learners' motivation and thereby influence behaviors that lead to increased learning and academic achievement (Stipek, 1996). Subsumed in this third conclusion are the assumptions that teachers are aware of these motivational strategies, recognize when they should be employed, and are able to modify their own behaviors to implement these strategies effectively. In the present investigation, we sought to look more closely at the second two of these assumptions. By increasing our understanding of the strategies teachers are aware of and their selection of these strategies, we may better understand the ways in which the research literature is related to teachers' demonstrated knowledge of motivational strategies. Additionally, we sought to better understand the extent to which teachers' motivational strategies were similar to or different from those strategies that are endorsed by motivational theorists.

We believed that our exploration lies at the intersection of theory and research on teacher knowledge and learner motivation. Thus, as we sought to examine the connectedness of teachers' demonstrated knowledge of motivational strategies to those advocated in the research literature we did so within the context of the *teachers knowledge base* (e.g., Carter; 1990; Munby, Russell, & Martin, 2004; Shulman, 1987) and the prevalent theories of motivation (e.g., McInerny & Van Etten, 2004; Pintrich & Schunk, 2002; Stipek, 1996). Therefore we begin with a brief overview

of the common theories and frameworks of these bodies of literature as a scaffold for the study that follows. In this overview, we rely heavily on previous literature reviews in an effort to provide a landscape of the literature rather than an in-depth analysis.

Literature Review

We begin our overview with a discussion of the literature on student motivation. Here we sought to highlight current and influential motivational theory and research that had been found to influence student achievement in meaningful ways. From this discussion of motivation we move into a presentation of frameworks for understanding the teacher knowledge base. That is, we identify and describe frameworks, criteria, and categories that have been advocated to explicate what it is that teachers know and need to know. We then narrow our focus to look at the intersection of these two fields, and look at the knowledge related to motivation that is considered essential to the teacher knowledge base. We are concerned with this question in the context of the present study because we are examining teachers' knowledge of motivation. Thus, the extent to which such knowledge is emphasized by researchers on teacher knowledge may be important to our understanding of our findings.

Motivational Theory

According to Stipek's chapter in *The Handbook of Educational Psychology* (1996) "a motivated student" can be characterized as "someone who is actively engaged in the learning process" (p. 85). If one accepts this definition, then one of the goals of teachers is to assist learners in this state of active engagement in learning. Toward this end, motivational researchers have sought to identify, define, and manipulate a variety of variables to understand how this goal can be achieved in schools, by teachers. The field of achievement motivation can be organized into four broad areas: extrinsic reinforcement, cognitions or self-beliefs, intrinsic value, and

goals. Additionally, a number of motivational theories and researchers have emphasized the importance of social support or relatedness within their discussion of student motivation (e.g., Ryan & Deci, 2000). Here we provide a brief overview of theories within each of these categories and the teaching strategies they suggest.

Extrinsic Reinforcement

Motivation is often defined as intrinsic, coming from personal interests and inherent feelings of satisfaction, (Alexander, 2006) or extrinsic in which the results or rewards are high grades, money, or gold stars (Covington, 2000). Early researchers of motivation relied heavily on this latter understanding of motivation (e.g., Thorndike, 1911; Hull, 1943; Skinner, 1974). The influence of these early theories on student motivation can be seen in today's classrooms where token economies (e.g., O'Leary, 1978; Cohen 1973) and consequence based classroom management programs (e.g., Canter, 1989) continue to flourish despite criticisms of these approaches (e.g., Covington, 2000).

One of the main concerns regarding the use of extrinsic motivation, specifically rewards, comes from researchers in cognitive evaluation theory (e.g., Deci, 1975; Deci & Porac, 1978) who discuss the dual aspects of any reward (including feedback) controlling and informational. Further, it is the relative salience of these aspects that determine whether the learner will interpret the reward as controlling or informative (Deci, 1975; Pintrich & Schunk, 2002). Rewards are inferred as controlling when the recipients believe "they are acting the way they are in order to earn the reward" and therefore attribute the cause of their actions to forces external to themselves (Pintrich & Schunk, 2002, p. 265). When this occurs there is a decrease in self-determination and intrinsic motivation for the task, and when the rewards are removed there is no longer a reason to continue with the activity.

In contrast, the informational aspect of rewards serves to convey information to the learner with regard to their actual performance on tasks and their relative competence and progress. Learners who infer information from rewards tend to feel more efficacious and sustain interest when the reward is removed (Pintrich & Schunk, 2002). This occurs because the locus of causality is placed internally, that is, learners who receive information from rewards see themselves as being in control. Thus, rewards themselves are neither helpful nor harmful, rather, it is how they are given and interpreted by the recipient that leads to more or less positive outcomes.

Cognitions or Self-beliefs

Some researchers have approached the understanding of student motivation from the perspective of the students' thoughts and beliefs about themselves (e.g. Bandura, 1997; Weiner, 1992). Bandura (1997) has emphasized the importance of a learner's sense of *self-efficacy*, their belief in their ability to bring about a desired outcome in a particular context. Self-efficacy beliefs have been found to influence learners' choice of, persistence at, and effort toward tasks. Weiner (1992) emphasized the importance of learners' *attributions* for success or failure, that is, the extent to which learners feel that the outcome of any event is controllable or uncontrollable, stable or unstable, and internal or external. For example, *Jane* fails a test and states "I'm just dumb like my parents, I'll never pass": here Jane demonstrates an uncontrollable (she could not control her intelligence), stable (it's not going to change), and internal (the cause is within Jane's person) attribution. Such an attribution, according to Weiner (1992), would be considered less adaptive. That is, with this belief system (whether it is "true" or not) Jane is not likely to apply herself to future tasks. Thus, how learners think about themselves and the tasks to be accomplished can influence their motivation in academic settings.

Intrinsic Value

Researchers have also focused on learners' response to the material to be learned – is it *interesting* (Hidi, 2000), *valuable* (Wigfield & Eccles, 2000), or does it promote a sense of *autonomy* (Deci & Ryan, 1991)?

Interest. Hidi (2000) described the historical background of research in the field of student interest. According to Hidi, an increase in situational interest is needed. Situational interest refers to an individual's interest in the topic at hand, rather than individual interest which refers to a deep seated and innate interest in the topic. Oftentimes students may have no interest in the current topic, but by presenting materials in an exciting and personally relevant context, the teacher can raise students' situational interest which will influence their achievement related behaviors. Situational interest is considered to be partly within the control of the teacher and modifiable, therefore, teachers may have the ability to influence students' interest in a topic (Hidi, 2000; Schraw, Flowerday, & Lehman, 2001).

Value. Students need to understand how their classroom education relates to their future. Expectancy-value theory states that “the intensity of motivation is determined jointly by the learner's expectancy for success and by the incentive value of the goal; it is assumed that no effort will be invested in a learning activity if either factor is missing entirely” (Hootstein, 1994, p. 475). Wigfield and Eccles (2000) have identified four types of achievement value (i.e., intrinsic, attainment, utility, and cost) that influence learners' motivation, specifically their decisions in achievement settings. Intrinsic value echoes individual interest in that it relates to the value held because the task itself is considered worth doing. Attainment value refers to the value held in relation to what achieving the task means for the individual's sense of self. Tasks completed in order to achieve some other end reflect a sense of utility value. Finally, the notion

of cost refers to the individual's perception of what must be given up in order to engage in the task. Greene, Miller, Crowson, Duke, and Akey (2004) explained that students' perception of instrumentality or the extent to which they perceive school tasks as instrumental in attaining personally valued future goals, akin to utility value, is a critical influence on a student's choice of cognitive strategies.

Choice-Autonomy. Students' valuing of their education is related to their sense of autonomy in the classroom (Assor, Kaplan, & Roth, 2002). Autonomy here refers to the perception of personal causality or the sense that one chooses to be engaged in an activity (Stipek, 1996). Stefanou, Perencevich, DiCintio and Turner (2004) identified three areas in which teachers can provide students with autonomy support. These areas included: organizational autonomy support (choice in classroom management issues); cognitive autonomy support (opportunities to self-evaluate); and procedural autonomy support (e.g., offering choices about types of media to use to express ideas). Autonomy support is related to positive learner outcomes including: preference for more challenging work, enjoyment, self-efficacy, and intrinsic motivation which lead to more long-lasting effects on engagement and motivation (Stefanou, *et al*, 2004).

Goals

Goals have been examined from multiple perspectives: goal orientations (e.g., Meece, 1988), goal setting (e.g., Schunk, 1990) and multiple goals (Wentzel, 2000). Goal orientation researchers contend that learners approach any given achievement task with a specific orientation that reflects the outcome or goal the learner hopes to achieve (Pintrich & Schunk, 2002).

Learners are believed to hold either learning/mastery goals (demonstrating a desire to learn or

master the content or task) or ego/performance goals (demonstrating a desire to do well on a task or to avoid embarrassment of failure).

Other goal researchers have focused more on the specific content of learners' goals rather than an overall orientation (e.g., Schunk, 1990; Wentzel, 2000). Schunk (1990) defined a goal as "what one is consciously trying to accomplish, [a goal] provides a standard against which people can gauge their progress" (p. 160). Rader (2005) emphasized that students must be taught how to set goals and methods for self-assessment. According to Rader (2005), effective goal setting strategies should be written down so that students can reflect upon *why* they hope to achieve their goals "rather than simply knowing what their goals are, is what motivates them to pursue their life ambitions" (p. 123).

One theme that is often missed by teachers and parents alike is student goal setting in both the academic *and* social realms. Wentzel (2000) addressed the issue of the content of student goals and how students coordinate social and academic goals. Students' focus may be either academic or social (or both) and this focus will guide their efforts toward academic competency. Furthermore, social and academic goal pursuits can be reciprocal and hierarchal. Thus, at any given time, students' motivation to complete social goals may outweigh academic goals, or teacher goals may receive greater importance than mastery goals, therefore creating a hierarchy of goals. According to Wentzel (2000), students may not be able to pursue multiple goals simultaneously, ultimately, doing none well.

Social Support

Within school setting there exist two obvious and powerful sources of social support for learners: peers and teachers. The importance of peers in a learners development has been studied from many perspectives, here, however, we focus on the influence of peers on the learner's

motivation. Social cognitive theory emphasizes the role of peers as models (Bandura, 1989, 1997). Specifically, vicarious experiences that enable a learner to observe a peer accomplish tasks or engage in activities provide the learner with much needed information that serves as a source for self-efficacy beliefs. Self-efficacy refers to individuals' beliefs in their capability to engage in activities that will bring about a desired outcome (Bandura, 1997). These self beliefs influence learners' choices, effort, and persistence at tasks (Bandura, 1997). In school setting classmates are an ever present source of vicarious information. For example, a student, Johnny, observes his friend Edith at the chalk board attempting a long division problem. If Johnny considers his mathematic abilities to be similar to Edith's then he will most likely gauge his own future success or failure based on Edith's performance. In the long term peers can influence each others choice of class activities, decision to complete homework, and the amount of effort and persistence one applies on a given task.

Teachers also have an influential role on learners' sense of motivation in the classroom. And while teachers are often models for their students, they do not provide the same type of vicarious information that peers do. Thus, the role of teachers is unique, particularly with regard to offering learners social support. Motivational outcomes have been linked to the interpersonal relationships between students and teachers (e.g., Birch & Ladd, 1996; Wentzel, 1997; Wentzel & Asher, 1995). Particularly, Wentzel (1997) empirically examined this relationship from the students' perception of pedagogical caring on the part of their teachers and found that perceived caring predicted motivational outcomes. Additionally, Wentzel (1997) asked students' to describe caring and uncaring teachers. Student's open-ended responses were categorized into five dimensions reflective of those suggested by Noddings (1992) as aspects of effective care giving. Those dimensions included: expectations, fairness, democratic communication, rule

setting (whether it was clear, and consequences are understood), and the teachers' motivation toward school work (the teacher's enjoyment of the subject, explanation of import, and desire to make class interesting).

Wentzel (2002) furthered this work by examining students perceptions of pedagogical caring along the dimensions identified in relation to motivation in terms of interest in class and mastery orientation as well as students' classroom grades. Correlational analysis found that students who perceived their teachers to have high expectations also reported greater interest in class, a stronger mastery orientation and higher classroom grades. Students' perceptions of teacher fairness were positively related to their interest in class and a mastery orientation. Similarly, perceptions of teacher motivation for the class were significantly related to student interest. Thus, there is both theoretical support and empirical evidence that credit the role of social support in schools as an influence on students' motivation.

Summary

The brief review of motivation theories provided above is intended to provide the reader with an understanding of breadth of research conducted on learners' motivation as well as underscore the diversity of ideas that exist in this field. Further, each of the theories described above offer research-based strategies for teachers to use in the classroom to help improve learners' motivation and through motivation, academic achievement. Given the size of this field of study one must question the extent to which teachers are given the opportunity to both understand the theories that exist as well as draw from them the practical strategies that could be employed in classroom practice. What knowledge of motivation are teachers expected to have? In the next section we offer a brief overview of perspectives on the teachers' knowledge base.

Teacher Knowledge Base

Much has been written about what information should be included in the teachers' knowledge base (e.g., Munby et al., 2004; Borko & Putnam, 1996; Carter, 1990; Shulman, 1987). A recent chapter in *The Handbook of Research on Teaching* by Munby and colleagues (2004) provided an extensive discussion and review of the theoretical frameworks forwarded to identify what the teacher knowledge base should include. Here we offer a brief outline of the more prevalent approaches to understanding these approaches. Table 1 provides a comparison of the different frameworks that will be discussed.

Knowledge Base Developed by Case Study Analysis

Elbaz (1983) conducted an intensive case study analysis of a high school English teacher that resulted in the identification of five domains of teachers' practical knowledge. These domains included knowledge of 1) the self, 2) the milieu of teaching, 3) subject matter, 4) curriculum development, and 5) instruction. Each of these areas of knowledge included rules of practice, practical principles, and images. Elbaz's (1983) work focused on examining the domains of knowledge that emerged from the practice of one teacher and emphasized knowledge that could be readily applied to teachers' daily work.

Knowledge Base Informed by Preservice and Novice Teacher Research

Shulman (1987) developed a framework detailing the knowledge base of teaching based on the research literature and his own experiences. This framework has become one of the most well known means of conceptualizing the teachers' knowledge base and the influence of this work can be seen in the standards for the National Board of Professional Teaching Standards Certification for Teachers (NBPTS, 2004) as well as in state certification standards for new teachers (e.g., State Board of Education: Texas, 2005).

Shulman (1987) identified seven categories of teacher knowledge. 1) Knowledge of the content material to be taught. 2) General pedagogical knowledge, which included awareness of an array of domain general teaching strategies and skills that can be used in multiple teaching areas and contexts (e.g., classroom organization and management). 3) Curriculum knowledge, such that teachers are knowledgeable of the larger context of the material they teach in terms of the school year and the learners' overall knowledge development. 4) Pedagogical content knowledge, which includes the specific methods and strategies used for instruction within content areas. 5) Knowledge of learners and their characteristics, referred to understanding a student's developmental level as well as their individual traits. 6) Knowledge of educational contexts, including the influence of these contexts on learning and teaching. 7) Knowledge of the ends or goals of education.

Knowledge Base Determined by Reviews of the Literature

Carter (1990) and Borko and Putnam (1996) offered broader understandings of the teacher knowledge base, developed through reviews of the literature on teacher education and an identification of the focus of the work that had been conducted. Carter (1990) identified three research paradigms that had been used to make evident the knowledge base of teachers. These paradigms included: information processing, practical knowledge, and pedagogical content knowledge. Research in the information processing paradigm emphasized the importance of teacher decision making and problem solving and highlighted these abilities as necessary for teachers to be successful. Practical knowledge referred to a genre of research that emphasized the development and identification of teacher knowledge as practiced in classroom settings. This work emphasized the complexity of teacher thinking in action. Lastly, Carter (1990) identified a series of work that focused on pedagogical content knowledge. For Carter (1990), pedagogical

content knowledge included both knowledge of the content or subject matter to be taught, as well as, knowledge of how to convey that content to learners via curricular activities.

Borko and Putnam (1996) used an approach similar to Carter to identify three broad areas that defined the teacher knowledge base; moreover their framework echoed, in many aspects, those that have already been presented. The three areas of knowledge identified by Borko and Putnam (1996) were: general pedagogical knowledge (knowledge of self, learners, and classroom management), knowledge and beliefs regarding subject matter, and pedagogical content knowledge and beliefs.

Motivation in the Teacher Knowledge Base?

In the previous sections reviewed, the prevalent theories of achievement motivation and four noted frameworks for articulating the information needed in the teacher knowledge base were addressed. Spanning these bodies of theory and research it is startling to note how very little overlap there seems to be. Specifically, there is the lack of emphasis on knowledge related to student motivation in any of the frameworks identified and described in the teacher knowledge base literature. Certainly, one could argue that Shulman's (1987) categories of teacher knowledge suggest a need for knowledge of student motivation within the category of "knowledge of learners and their characteristics," and perhaps the notion of "general pedagogical knowledge" (Borko & Putnam, 1996; Carter, 1990; Shulman, 1987) could be stretched to include an understanding of how to motivate and interest learners, however, this was not done by the authors of these sections. If knowledge of motivation is not included in the discussion of what constitutes the teachers' knowledge base, then is it reasonable to expect teachers to have a well constructed understanding of this information as well as an agile ability to utilize that knowledge in a classroom context?

It is important to note here that while the research in teacher education has seemed to ignore the importance of motivational theory for teachers, the field of educational psychology has not. In 1990 the American Psychological Association (APA) President, Charles Spielberger, commissioned a task force to bring together the salient knowledge in psychology that could prove vital to improving classroom education (Alexander, 2006). Specifically, this task force (APA's Presidential Taskforce on Psychology in Education) forwarded 14 learner-centered psychological principles. These 14 principles were grouped into four main areas: 1) cognitive and metacognitive factors; 2) motivational and affective factors; 3) developmental and social factors; and 4) individual differences (Learner-Centered Principles Work Group of the APA Board of Educational Affairs, 1997). Within the area of motivational and affective factors three principles were forwarded addressing the importance for educators to understand 1) motivational and emotional influences on learning; 2) the role of intrinsic motivation to learn and to stimulate this motivation; and 3) the important influence of motivation on the amount of effort learners put forth.

Thus, the need for teachers to have a working understanding of the role of motivation in learning has not been completely ignored. Still, the overall lack of emphasis of this important area of research directs the purpose of the current study. Specifically, we sought to:

- explore the motivational strategies articulated by preservice and practicing teachers, and
- examine the extent these strategies are related to those endorsed by motivational researchers and are evident in the research literature.

Methodology

Data presented in this study was originally collected as part of a larger investigation of preservice and practicing teachers' sense of teaching efficacy, pedagogical beliefs, and demonstrated pedagogical knowledge (see Fives, 2003).

Participants

One-hundred-nineteen (119) preservice and one-hundred-five (105) experienced teachers were surveyed. Preservice teachers were identified through required education courses at a large university in the mid-Atlantic region of the United States. Experienced teachers were solicited from a variety of sources in order to provide a broad and representative sampling from the teaching profession. Specifically, experienced teachers were identified through master's level courses, professional development workshops, contact via district wide content coordinators, and through professional contacts within specific schools. This approach to data collection allowed for the gathering of information from a broad spectrum of teachers relative to their teaching experience, context (i.e. urban, suburban or rural schools), content area, and grade levels.

Preservice participants described themselves as European American (65%), Multiple Ethnicities (13.3%), Asian American (5.8%), European (3.3%), Hispanic American (2.5%), Hispanic (2.5%), Other (2.5%), Native American (1.7%), African (0.8%), Asian (0.8%), Caribbean (0.8%), Middle Eastern (0.8%), and Middle Eastern American (0.8%). Participants were predominately female (83%) and upper level undergraduate students (75.8%). Participants planned to teach at the elementary (48.3%), middle (18.3%), and high school (33.3%) levels.

Experienced teacher participants described themselves as European American (77.5%), Multiple Ethnicities (7.8%), European (4.9%), Hispanic American (2.9%), Asian American (2.0%), Asian (1.0%), Hispanic (1.0%), Native American (1.0%), Middle Eastern American

(1.0%), and Pacific Islander (1.0%). The majority of these participants were female (77.5%). Participants taught at the elementary (35.3%), middle (33.3%), and high school (31.4) levels.

Materials

Background Information

Participants provided relevant background information (see Appendix B). This information included: their current position, previous experience, educational level, the types and quantity of professional development pursued, as well as general demographic information (i.e., age, gender, and ethnicity).

Pedagogical Measure

A vignette measure was created to gauge participants' task analysis, task-efficacy, strategy awareness, and strategy use (Fives, 2003). Three vignettes were created to tap into three common areas of teacher practice: student engagement, instructional practices, and classroom management. The present study uses participants' responses to the "Low Motivation" vignette, which assesses awareness of strategies for student engagement. This vignette describes a student, Teresa, who demonstrates very little interest in school, high levels of absenteeism, and poor grades. Appendix A provides a copy of the vignette and related response sheet.

The response sheet asked participants a number of questions related to the vignette. Participants were asked (1) to identify the problem in the situation, (2) to describe the desired solution to the problem, (3) to rate their own efficacy for bringing about that resolution, (4) to list as many strategies as they could think of to resolve the case situation, (5) to evaluate each of the reported strategies as ones they would likely implement and as ones they considered "best" for the situation, and (6) to rate their efficacy to implement each of the reported strategies. The present study focuses on participants' responses to the fourth and fifth questions on the vignette

response sheet. Respondents' ability to generate and select strategies appropriate for the conditions provided in the vignette was assessed. This assessment provided insight on how individuals may respond in teaching situations as well as a demonstration of their strategic knowledge.

Data Analysis

Data for this investigation were analyzed using qualitative content analysis and descriptive statistics (i.e., frequencies). Additionally, the data in this study were considered in light of the research literature on motivational strategies, findings related to this level of analysis are presented in the discussion section of this paper.

Content Analysis

The qualitative analysis of the strategies provided by participants was conducted by the first author. The first author holds a doctoral degree in human development with a specialization in educational psychology and had taught at the elementary and middle school level for 6 years and at the college level for four years. Both these experiences and her educational expertise were utilized in the data analysis process. In order to manage the data, a multi-step categorization procedure was employed. First, all of the strategy responses provided by participants were transcribed into a spreadsheet. After the first 30-40 responses were transcribed, a loose framework for the emerging themes was identified and a handwritten list of the strategy themes was generated. From this point on, an exhaustive listing of new strategies was recorded as transcriptions continued in lots of 10 to 20. When breaks in transcription occurred, the handwritten list was typed and used as a starting point for the next round of transcriptions. This process continued until all transcriptions had been completed.

The next step was to sort the strategies into common themes. The first author removed all headings or titles used in the initial organization of the exhaustive lists; then the lists were printed out and cut into sort cards. The individual strategies were sorted by grouping them into common themes, such that strategies tapping into the same area or concern relative to the case were grouped together. In cases where one term or strategy seemed to fit the intent of multiple strategies, these were collapsed into one category. New titles were then given to each of these groups of strategies. Strategies were collapsed into common themes until a minimum number of strategy themes that effectively described the data were identified. Approximately three rounds of data collapsing were required.

The themes identified were applied to the first 25% of the data (half preservice and half experienced teachers) initially transcribed and used to develop broad categories. This was done to test the appropriateness of the category framework and to investigate the need for additional category combinations. Strategies with no or low frequencies were then combined into connected themes. This process continued until the categories of strategies were deemed both reflective of the information provided and meaningful with respect to degree of specification.

As a result, fifty-five strategy codes emerged for the vignette. These were organized into 12 themes. A code sheet, organized by theme, allocated each strategy code a number was developed (see Appendix B). Copies of the code sheet were used to exhaustively code all of the participants' strategy responses to the vignette. Participants' responses were categorized based on the content of the strategy reported (noted on the code sheet with a "1" in the "listed" column), and their evaluation of the strategy as one that they would use (i.e. "✓" in the used column) and/or considered to be the best strategy for the vignette (noted with an "x" in the best column). Responses for unique strategies were coded; therefore, if a respondent offered the same

core strategy twice then they received credit only once. Additionally, participants had the option to rate their strategies as ones they would use and as ones they considered best without restraint. Therefore, these responses are not necessarily mutually exclusive or inclusive.

An experienced educational psychologist was trained on the coding system in order to determine interrater agreement for the coding of the specific strategies. It was stipulated that if a strategy was placed within the same theme by both scorers that agreement was achieved. That is, we considered the main themes to be the most salient aspect of the coding system; therefore, differences on the specific strategies in the same theme were considered less relevant. Fifteen percent of the data were dual coded in order to ascertain interrater agreement, with a minimum level of agreement set at 80%. Interrater agreement was found at 86.5%. Table 2 provides two sample response (one preservice and one practicing teacher) and the codes they were assigned as part of this process. This information was then input into an Excel spreadsheet and descriptive statistics were performed on this data using this program.

Results and Discussion

Emergent Themes

Twelve main strategy themes emerged in participants strategy responses to the vignette. Of these twelve themes six directly addressed issues related to motivation as described in the research literature (i.e., interest, value, goal setting, extrinsic motivation, choice/autonomy, and social support/esteem). Four themes addressed other pedagogical issues apparent in the vignette (i.e., instructional practices, classroom management, evaluation, conferencing and attendance). One theme was used to classify responses that were “unclassifiable” that is, they did not seem to relate to the vignette or they were not strategies. Table 3 provides a listing of the emergent themes and the specific strategies (codes) included in each theme.

We were interested in understanding, broadly, which themes were most frequently identified by participants. Therefore, we examined the percentage of strategies identified for each theme in relation to the total number of strategies identified. Overall, participants provided a total of 1163 strategy statements, 597 of these were provided by preservice teachers and 566 were provided by practicing teachers. Table 3 gives the percentages of strategies provided by theme from the total number of strategies provided and from the number of strategies provided by each group separately. This information allows us to consider which strategy themes were most frequently provided, as well as to look at differences between preservice and practicing teachers. Additionally, Table 3 indicates the rank order for each strategy theme. This information is also illustrated graphically in Figure 1. In the next sections we offer a brief description of the content of each theme as well as the rate each theme was presented by our participants.

A second set of descriptive analyses were performed at the strategy code level. At the code level we were able to examine the percentage of participants who reported each unique strategy. The top 5 reported strategies for preservice and practicing teachers are listed in Table 4. Additionally, at the strategy level participants, after listing the strategies evaluated the quality of the strategies they provided. Specifically, they were asked to indicate if they would use the strategy and whether they thought it was best for the scenario described. Table 4 also details the percentage of respondents identifying each strategy who evaluated the strategy as one they would use (use) and/or they considered best (best).

Motivational Themes

Interest. Of the total strategies reported, 9.89% (n=115) offered tactics for increasing or addressing Teresa's level of interest. These strategies typically (n=109) emphasized using Teresa's existing individual interest in music/entertainment as a means of getting her engaged

with the course content. That is, these strategies emphasized the need to connect course content to things Teresa was already interested in. To a lesser degree, strategies evoking situational interest were identified (n=6). These strategies suggested the need to make class fun in order to increase or develop Teresa's interest in the class content.

Preservice teachers reported a greater proportion of strategies related to interest than did practicing teachers. Specifically, 11.23% of the strategies reported by preservice teachers related to issues of student interest while only 8.43% of those offered by practicing teachers addressed this issue. Thus, preservice teachers were more likely to identify strategies addressing student interest than were practicing teachers (Table 3).

At the strategy code level the second most frequently reported strategy by preservice teachers, and third among practicing, was to "connect her [Teresa's] interests to the content." Specifically, 45.38% (n=54) of preservice teachers listed this strategy of these participants, 72.22% stated that they would use this technique and 50% felt it was best for the situation. A lower number of practicing teachers (32.38%, n=34) reported this as a potential strategy. However, among those practicing teachers a high proportion stated they would use the strategy (88.23%) and considered it best (61.76% - Table 4). Overall, this strategy emphasized the use of Teresa's personal interest as a means of motivating her in class. This emphasis is in contrast to the view supported by research findings (Hidi, 2000).

Interest researchers advocate the use of situational interest by teachers as a means of increasing student motivation for school subjects. This recommendation is based on an important assumption regarding situational interest. This form of interest is considered to be, at least in part, within the teachers' control (Hidi, 2000; Schraw, Flowerday, & Lehman, 2001). That is

there are active steps that teachers can take to make their class activities or content more interesting.

In contrast, researchers suggest using personal or individual interest, as articulated by the majority of strategies in this theme, as a tool to get students to learn or practice skills rather than content. For example, a teacher may allow a student to select their own reading material, based on personal interest, as a means of engaging the learner in utilizing or learning reading related skills (Hidi, 2000; Flowerday et al., 2004). Similarly, strategies suggesting that Teresa research or write a report on the entertainment industry use her personal interest in order for Teresa to learn or practice researching and writing skills. It is unclear how using this strategy will assist Teresa in learning about other course content (e.g., digestive system, World War II).

In the present study a large number of strategies describing the need to connect Teresa's interests to the course content were provided. However, little attention was given as to whether or not these connections were appropriate for the content, or feasible as a means of directing classroom instruction. Additionally, the scarcity of strategies that would enhance situational interest may be a cause of concern. While using personal interest is a tool for increasing motivation, research evidence suggests that emphasizing situational interest may be more influential in the long run (Hidi, 2000).

Value. The importance of illustrating the value of education or achievement value was reflected in 12.90% (n= 150) of the responses. The majority of the strategies in this theme focused on helping Teresa to recognize the utility value of education for her future in the general sense as well as in relation to her success as an entertainer (Wigfield & Eccles, 2000). That is, individuals noted the need to help Teresa see the need for education in her future, to research entertainers and the industry to see how important education is, and to make real world

connections between the content taught and Teresa's chosen field. A few of the strategies articulated in this theme seemed to draw on Teresa's intrinsic value by utilizing Teresa's enjoyment of music as a means to get her engaged in class. Such strategies included having Teresa meet a professional entertainer or research a topic related to this field.

Strategies related to this theme were also more frequently reported by preservice teachers than by practicing teachers. Specifically, 16.58% of the statements made by preservice teachers related to value. Strategies addressing this issue were articulated in 9.01% of practicing teachers' responses. This difference in response rate is further highlighted by examining the respective ranking of the strategy themes by the two groups. For preservice teachers, strategies related to highlighting the value of education were the second most frequent response. In contrast, this was the 5th ranked theme among practicing teachers.

Similar differences were seen at the specific strategy level (Table 4). 29.41% of preservice teachers reported the specific strategy "Make clear the need for education in the future" making this the third most reported strategy among preservice teachers. Of the preservice teachers reporting this strategy 71.43% reported that they would use it and 48.57% indicated that they felt this was one of the best strategies for addressing the problems in the scenario. Much fewer practicing teachers (13.33%; n=14) reported this strategy.

A key issue in the vignette is that Teresa has already decided that schoolwork is not related to nor required for her future as an entertainer, that is, she had determined that school work has no utility value. This may partially explain the emphasis in participants' responses on strategies for improving utility value. This necessity for utility value or instrumentality of content is echoed in the work of Greene, Miller, Crowson, Duke, and Akey (2004) who explain that student motivation to learn is influenced by the perceived instrumentality or the extent to which

the student perceives the schools tasks as instrumental in attaining personally valued future goals. In other words, perceived instrumentality or utility places the importance on one or more current activities and the attainment of a personally valued goal (Greene et al., 2004).

However, our participants were vague about the specific means for increasing utility value in learners. Specific strategies for increasing utility value were to have Teresa research the music business to see how important education is or to simply make the need clear to her. Unfortunately, the research literature does not offer more detailed suggestions either. Pintrich and Schunk (2002) suggested "Teachers should offer rationales for schoolwork that included discussion of the importance and utility value of the work" (p. 88). This is a more general approach than that reported by our participants. Pintrich and Schunk (2002) recommended incorporating a discussion of utility value across all content taught and discussing with students why the information to be learned is of import. In the context of the scenario, these respondents emphasized the need to connect the course content to Teresa's future as an entertainer; however, this relies on a complex set of variables at play in all instructional situations. For example, what if the course content does not have utility value for Teresa's future career? Perhaps there is no utility for Teresa to learn the periodic table or about Custer's Last Stand for her to be a successful entertainer. While the strategies typically offered by researchers are vague, those suggested by the participants in this study may have been too limited in scope.

Goal Setting. Goal setting was articulated as an appropriate strategy for working with Teresa in 2.84% (n=33) of the responses. Within this limited collection of strategies participants tended to make vague suggestions to set goals for the "future;" specifically state the need for Teresa to articulate proximal or distal goals, or both; or offered no point of reference with regard to time in connection with the goal statement. Additionally, there was variance in responses with

regard to who should be identifying or developing the goals. Some responses suggested that Teresa “write her goals and how she plans to get there” (id: 125). It was also suggested that Teresa and the teacher should work together to identify and develop goals for Teresa. Others indicated that the teacher should identify the goals “have certain short term goals for Teresa and if she meets them decide on a reward that she and the teacher would benefit from” (id: 230).

The majority of strategies related to goal setting came from practicing teachers (9.01%, n=23). Further, all of the practicing teachers indicated that the teacher should help or work with Teresa to develop the goals rather than have Teresa do this alone or for the teacher to assign goals. Research on goal setting has emphasized the need for students to be taught how to both set goals and conduct self-assessments related to those goals (Radner, 2005). According to Rader (2005), goals should be written down so that the student can reflect upon why they hope to achieve their goals; this was suggested by a few of our participants. However, the means of determining those goals were not articulated by participants (this may be due to space constraints of this measure).

Another important theme in student motivation and goals that was overlooked by the participants was the reality that Teresa undoubtedly had goals – they were just different from those of the teacher and school. Wentzel (2000) as discussed previously raised the issue of the content of student goals, and examined students' needs and abilities to coordinate both social and academic goals. In the vignette, Teresa contends that she will be a pop-star and therefore does not need to engage in class activities. However, there may be any number of other goals that she is pursuing beyond those verbally stated to the teacher. Thus the goal hierarchy may be playing an influential role in this case.

Extrinsic motivation. Both practicing and preservice teachers ranked using extrinsic motivation as ninth among the twelve emergent goal themes with 5.07% (n=59) of the strategies provided falling into this category. Practicing teachers provided a slightly higher proportion (5.30%) of strategies related to this theme in comparison to preservice teachers (4.86%). Strategies included in this theme referred to the use of external forces as a means of getting Teresa to comply with the learning environment. Both rewards and punishments were offered as individual and combined strategies for motivating Teresa. Reinforcement in the form of rewards, incentives, and positive feedback was suggested. Additionally, some participants suggested various forms of punishment if Teresa did not begin to comply with classroom expectations. Punishments included detention, calls home, and loss of free time.

One specific strategy included in this theme was coded as "Use rewards, incentives, reinforcement and positive feedback." This specific strategy was reported by 23.81% (n=25) of the practicing teachers, ranking this as the 5th most reported strategy among this group. In contrast only 16.81% (n=20) preservice teachers reported this strategy and it was ranked 7th among the specific strategies reported by this group. Thus, the practicing teachers more frequently offered this as a strategy for dealing with Teresa's lack of motivation.

When considering these results in light of the discussion of rewards offered in the introduction of this manuscript, the question of how rewards should be offered and which aspect of rewards (i.e., controlling or informational) would be made salient becomes integral to interpreting these results. Research by Schunk (1983d), Eisenberger and Armeli (1997) and Eisenberger, Armeli, and Pretz (1998) tested the notion that the structure in which rewards are given may influence student motivation. These researchers compared conditions under which rewards may be given a no-reward condition. Conditions examined included performance

contingent or task contingent reward structures. Performance contingent awards are given based on the level of performance quality (Pintrich & Schunk, 2002). In contrast, task contingent rewards are given for “working on tasks regardless of the level of performance” (Pintrich & Schunk, 2002, p. 266).

Research results indicate that performance contingent rewards lead to higher levels of self-efficacy, intrinsic motivation, skill acquisition, and creativity (Schunk, 1983; Eisenberger & Armeli, 1997; Eisenberger, Armeli, & Pretz, 1998). In contrast, Schunk (1989) found that task contingent rewards had no benefits when compared to the no-reward condition. Eisenberger and colleagues found that intrinsic motivation and creativity suffer when task contingent rewards are offered. Therefore, it is believed that performance contingent rewards are most likely to lead to increases in student motivation when the contingency of those rewards is made in such a way that learners see the rewards as a sign of progress or information. That is, when the rewards are given in a way that their informative nature is made salient so that learners can glean a better understanding of their competency, progress, and learning, then efficacy and future performance seem to be positively influenced (Pintrich & Schunk, 2002).

A closer examination of the specific responses coded within this strategy reveal that preservice and practicing teachers described the use of rewards or incentives in a variety of ways. Essentially, responses could be classified as performance contingent, task contingent, reward type, and other. “Reward type” refers to responses that described the type of reward that should be used. Responses in the other category primarily included statements about establishing a reward system but did not necessarily specify how that would be enacted. Table 4 provides sample responses from preservice and practicing teachers for each of these categories.

The majority of responses from preservice teachers suggested using performance contingent rewards or incentives. These responses typically suggested offering the reward only when work was done well. In contrast, few of the responses suggested by practicing teachers indicated the use of performance contingency. Practicing teachers more frequently described the reward type that would be given or simply indicated the implementation of a reward system, but did not articulate how the reward system would work. It could be that the “reward system” response was intended to convey performance contingencies, however, given the vast array of reward system types at work in schools it is impossible to ascertain if these teachers meant to use performance or merely task contingent rewards.

These findings suggest that the majority preservice teachers sampled here who reported the use of rewards in this situation seemed to have a better understanding of how rewards should be used in accordance with the research literature than did the practicing teachers in this study. Still, the array of strategies describing the use of rewards underscores the reality that the research based evidence supporting the use of performance contingent reward over task contingent rewards has not been made evident to the people who most need to understand these difference – teachers.

Choice – Autonomy. Autonomy supportive instruction has been advocated as a means of increasing learners' intrinsic motivation and feelings of control (Ryan & Deci, 2000). In the present investigation 7.40% (n=86) of the strategies reported invoked the use of some form of autonomy support. This was done primarily through the use of choice and opportunity. Participants suggested offering Teresa choice with regard to the type of assignments to complete, as well as allowing her give input into class activities. Additionally, several participants stated

that they would provide Teresa with leadership opportunities and classroom responsibilities as a means of giving her control over her own learning environment.

Preservice teachers articulated these strategies in 8.71% of their statements, whereas practicing teachers reported these types of strategies in only 6.00% of theirs. Moreover, the 4th most popular specific strategy reported by preservice teachers fell into this strategy theme. The strategy coded as “Offer preference in assignments and input in class” was reported by 26.89% (n=32) of the preservice teachers. Only 20% of practicing teachers reported this strategy (9th place among the strategies reported by practicing teachers).

The articulation of these strategies indicates a belief that Teresa could be motivated to learn if provided more choice or preference in her learning, which seems to be in accordance with the research on student autonomy. Reeve, Deci and Ryan (2004) describe autonomy-supportive environments as those that offer both high levels of structure and high levels of freedom. That is, while allowing Teresa choice and opportunities to be independent in the classroom, as suggested by our participants may increase her sense of freedom, teachers must also provide structure for these activities to occur. Structure here includes the clear communication of expectations, procedures, and classroom activities (Reeve et al., 2004). Thus, to reap the benefits of providing Teresa with choice the research literature suggests that choice or freedom needs to be offered within a well-structured learning environment.

Social Support – Esteem. Of the total strategies reported 8.17% suggested ways of providing Teresa with social support and increasing her self-esteem. For example, participants reported that they would (1) build or establish a rapport with Teresa, (2) find Teresa a mentor, (3) engage classmates or peers as a support system/model for Teresa, or (4) connect Teresa with a professional counselor. Some responses indicated that they would try to improve Teresa's self

esteem and provide her with greater challenge. This theme was ranked 3rd among the responses of practicing teachers with 10.95% of their responses falling into this category. In contrast this strategy theme was 8th among those reported by preservice teachers with only 5.23% of their responses addressing this theme. Examination at the specific strategy level of this theme further illustrates the differences between preservice and practicing teachers. At this level we can note that while 23.81% of the teachers (25 out of 105 participants) indicated that they would recommend or obtain the support of a professional counselor for Teresa, none of the preservice teachers reported use of this strategy. Additionally, 13.33% of practicing teachers (14 out of 105) reported that the teacher should try to build a rapport with Teresa, whereas only 6.72% (8 out of 119) of preservice teachers indicated this as a strategy. This indicates that practicing teachers may have a better understanding of the importance of relationships and students' feeling a sense of well being in academic success.

Wentzel (1997) found that perceived support from teachers had a direct link to students' interest in school. Further, when teachers are seen as caring and supportive, students are motivated to do well (Torsheim, Wold, & Samdal, 2000; Wentzel, 1996). Based on the responses to the scenario it seems that practicing teachers may be more aware of the relations between social support and self-esteem and the influence of these factors on student motivation as evidenced in research (Marchant, Paulson, Rothlisberg, 2001; Wentzel, 1997).

Other Pedagogical Themes

The remaining themes included pedagogical strategies pertinent to the scenario that were not directly intended to influence Teresa's motivation. In large part, these strategies dealt with specific issues and concerns described in the scenario such as attendance, magazine reading, and missing homework. While one could argue that the root of these issues lies in Teresa's lack of

motivation, the strategies that make up the themes that follow seemed to be more responsive to important instructional and classroom issues *other than* motivation. These other themes include: instructional practices, classroom management, evaluation, conferencing, and attendance.

Slightly more than half (52.87%) of the strategies provided fall in to these themes. This emphasis serves to spotlight the multidimensional nature of teaching. Moreover, arguments could be made that these strategies are *motivational* at some level, to which we would agree. For example, a well-structured class ensured through effective classroom management techniques adds to an autonomy supportive environment (e.g. Reeve et al., 2004). In the same vein, quality classroom instruction using appropriate pedagogical tools such as hands-on and cooperative learning may well make the class more interesting for the students, and as such increase their situational interest (Hidi, 2000). In our analysis, however, reported strategies that were not directly tied to motivation by the participant were not *assumed* to make these connections. For example, 12 participants suggest the use of group work or cooperative learning. However, they did not explain *why* they would do this. Thus, unless the connection to motivation was made salient in the participants responses we chose not to make assumptions about the reasoning beyond the information provided. It is for this reason that the strategy of conferencing is included in two themes (i.e., attendance and conferencing). In the attendance theme, participants clearly stated that they would confer with a variety of stakeholders about Teresa's attendance. In the conferencing theme, participants indicate that they would conference with the same stakeholders but did not indicate *why* the conference was to be held. Thus, strategies were categorized into themes based on both the described goal of the strategy (when provided) as well as on the behavior indicated. We acknowledge this a limitation of the study, through the questionnaire measure we were not able to further probe participants' intentions for the strategies provided.

Such probing may lead to a better understanding of preservice and practicing teachers' knowledge of motivational, instructional, and classroom management strategies.

Instructional Practices. Responses indicated strategies that would influence how content was taught, presented, or other instructional events in the classroom were categorized as Instructional Practices. Strategies in this theme made up 13.84% of the total strategy responses provided. This theme also included the greatest number of individual strategies as coded for this investigation (n=10). Strategies in this theme included specific pedagogical techniques such as the use of group work/cooperative learning and hands-on/interactive lessons. Some responses offered very specific strategies that described lesson ideas or skills to be taught. For example, one participant wrote "Study history of theatre" (id: 23) and another suggested "Provide the child with note taking strategies (i.e., mapping of information etc." (id: 201). Specific teaching techniques such as "Use lots of visuals" (id: 32) were also grouped into this theme.

Other strategies grouping into this theme included providing Teresa with individual attention, taking field trips (typically to a show or related to the arts), and providing interesting up-to-date lessons. The latter of these harkens back to situational interest; however, these strategies were typically in response to the Teresa's complaint about the music and dance used in class previously as being old and "funky." Issues of class assignments and assessment were also included in instructional practices. These strategies typically described ways that the teacher should adjust the class and homework assignments and offered suggestions for how Teresa's work should be graded (e.g. "grade harder; offer extra credit projects" id: 222). Finally, a few participants (n=14) suggested that Teresa might benefit from an alternative classroom placement, such as a performing arts school, home schooling, or a special program of some kind.

Classroom Management. Strategies addressing issues of classroom management made up 5.68% of the total responses. However, these strategies accounted for a greater percentage of practicing teachers' statements (7.77%) than they did for preservice teachers (3.69%). Within this theme participants suggested that rules be developed (occasionally describing how to do this), to implement systems or methods that would ensure that Teresa's school work was completed (e.g., behavioral contracts, tutoring), and to stop Teresa from reading the magazine. It is interesting to note that of the 22 preservice participants who suggested strategies in this theme 14 (63.6%) stated that they would stop Teresa from reading the magazine, while only 4 (of 44) practicing teachers offered this strategy. The majority of strategies from practicing teachers in this theme dealt with issues related to getting Teresa's work completed.

Evaluation. A small number (5.16%) of the strategies provided suggested that the teacher evaluate Teresa. Specifically, participants suggested assessing Teresa's abilities (e.g., "Test for reading and comprehension ability" id: 144), evaluating her interests or goals (e.g., "Spend some individual time with Teresa *to try and understand what it is she dislikes about school* – use this to help her improve" id: 251), and evaluating the source of the problem (e.g., "Find the reasons for the absenteeism" id: 213). Thus, across these strategies participants were indicating the need to evaluate Teresa through a variety of means in order to better understand her abilities, interests, and the situation at hand.

Conferencing. Conferencing was the most frequently cited strategy with 19.09% of the responses provided suggesting that a conference be held. This was the top ranked strategy among preservice teachers (16.91% of their strategies) and practicing teachers (21.38%). Strategies varied to some extent with regard to the participants of the conference. For instance, it was suggested that the teacher would conference with: (1) Teresa alone; (2) Teresa's

Parents/Guardian; (3) Teresa and her Parents/Guardian; (4) School Personnel (e.g. Principal, School Counselor). Included in this theme were all strategies related to conferencing that *did not* specify the sole purpose of that conference to be about attendance, strategies suggested conferencing for attendance-related issues are included in the attendance theme.

Attendance. Three specific strategies comprising 9.11% of the total responses were identified as specifically addressing the issue of attendance raised in the vignette. This emerged as an independent theme due to the *intent* of the respondents: to improve Teresa's attendance record at school. These strategies included conferencing with or contacting Teresa's home, providing incentives for coming to class, and referring Teresa to the truancy authorities. The first two overlap with other strategy themes with regard to the behavior suggested, but are grouped here because the strategy was identified, specifically to address the issue of attendance.

Conclusions

Examination of the emergent themes found in this study, in conjunction with the research literature, accentuates several theoretical and practical concerns. First, a marked difference in teachers' approaches to student motivation and researchers' systematic investigations seems to exist. Teachers in this study tended to focus on multiple aspects of the classroom situation when addressing the student engagement issue. For example, most respondents included strategies for classroom management and instructional practices in concert with motivational techniques. In contrast, the majority of research conducted to examine issues of student motivation (e.g., Assor et al., 2002; Strong, Silver, Perini, & Tucleucu, 2003; Schunk, 1983) tends to focus on motivational aspects of learning in isolation. Thus, motivational researchers often offer teachers suggestions for how to respond to motivational issues under an assumption of a "best case scenario." That is, there are no classroom management issues and teaching approaches for

conveying content are not under question. The preservice and practicing teachers in this case recognized the multidimensional nature of the classroom and offered strategies from a realm of pedagogical domains. This suggests to us that more effort needs to be made on the part of motivational researchers to situate theories and research into more realistic classroom contexts that more closely reflect the conditions teachers face in the classroom. It is only by contextualizing theory that it can be truly tested and understood.

Additionally, researchers and teachers also seemed to differ with respect to their adherence (or lack there of) to a single paradigm. Motivational researchers are expected to articulate a theoretical framework and work from within that structure to understand human motivation. Therefore, much of the research conducted is narrow in scope, focusing on a single means of increasing motivation in any given situation (e.g., situational interest – Hidi, 2000; autonomy support – Ryan & Deci, 2000; reward structure – Schunk, 1983). Teachers however, drew from a variety of theoretical frameworks in their responses to the scenario. A single strategy response would include the themes of student interest, extrinsic motivation, choice, and providing social support. Thus, while these motivational tools are studied in isolation from one another practitioners use them *in tandem*.

This yields significant questions for researchers and teacher educators. (a) Can these theories be effectively combined and lead to positive results? (b) Does the combination of some approaches (e.g., rewards and choice) counteract the benefits of each? (c) Does the combination of these strategies on the part of teachers indicate a lack of understanding of the psychological consequences of these different motivational approaches, thereby, causing ineffectual application of motivational research and negative consequences for learners?

Finally, this study suggests that preservice and practicing teachers are aware to some extent of motivational strategies reflective of the motivational research, despite the lack of emphasis of this information within frameworks detailing the teacher knowledge base. However, it may be that some of the inconsistencies found in participant responses and the extensive use of non-motivational strategies to address the issues in the vignette may be reflective of a lack of knowledge of these strategies. This may not be surprising given the lack of emphasis of motivation in the frameworks on teacher knowledge. Thus, while motivational researchers advocate the use of these theories strongly, and have ample empirical evidence to support the use of these strategies, this information does not seem to make the transition across field to researchers on teacher education and practice. We offer two potential reasons for this lack of transition.

First, teacher education and practice are strongly rooted in the day-to-day minutia of school life. Preservice and practicing teachers are interested in explicit *strategies* to utilize in their classrooms. In fact, in a recent university course in educational psychology (following two weeks discussion on motivational theory) a student asked “So what’s the formula for motivating students?” This is, but one small example of the importance practitioners place on the need for specific techniques to bring about educational goals. In a recent study by Fives and Buehl (2004) preservice and practicing teachers were asked to list what knowledge they felt was most important for teachers to have. While an array of information was listed (i.e., content knowledge, classroom management, pedagogy, human development) the overwhelming emphasis was on *specific* strategies and techniques rather than guiding theories. Thus, conflict exists between the information sought by teachers and potential teachers and that provided by motivational research which typically offers guiding principles in lieu of specific strategies (e.g., Pintrich & Schunk,

2002; Reeve et. al. 2004). For example, Reeve and colleagues (2004) suggest that to increase students' intrinsic motivation and sense of autonomy, teachers should "listen carefully" (p. 49). While this is clearly an important task for teachers to engage in, suggesting that one listen carefully, with out a discussion of what one should be listening for, suggests that merely listening will lead to increased motivation. Additionally, such strategies seem to be "common sense" thereby undermining the importance of all research based strategies. The resolution of this conflict will not come from practitioners. If motivational researchers want their work to be used and implemented in schools then it falls to them to make that researcher more salient and accessible to the individuals who are expected to implement it.

Second, lack of communication between researchers in the field of motivation and those in teacher education may be heightened due to differences in research paradigms used to explore their respective questions. Unfortunately, researchers frequently ignore entire bodies of research due to the type of methodology employed. Thus, we have educational researchers who know little of one another's findings and as such fail to incorporate them into their teaching and research. Perhaps greater efforts need to be made for educational researchers to communicate *across* their disciplines of study in order to ensure that future and practicing teacher benefit from all of the research being conducted to improve practice.

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Table 1

Teacher knowledge base frameworks

Frameworks for The Teacher Knowledge Base			
Elbaz (1983)	Shulman (1987)	Carter (1990)	Borko & Putnam (1996)
Self	Content material	Information processing	General pedagogical knowledge
Milieu of teaching	General pedagogical knowledge	Practical Knowledge	Knowledge and beliefs regarding subject matter
Subject matter	Curriculum knowledge	Pedagogical Content Knowledge	Pedagogical content knowledge and beliefs
Curriculum Development	Pedagogical content knowledge		
Instruction	Learners and their characteristics		
	Educational Contexts		
	Ends of education		

Table 2

Sample strategy responses and codes assigned

Experience	Use	Best	Participant Response	Efficacy	Code	Code Description
Preservice	✓	x	Talk to her separately about the situation	5	51	CONFERENCING: Individually with Teresa
			Explain that she has to pass.	3	7	VALUE: Need for education in entertainment – future – import of education
	✓	x	Talk to school psychologist	5	54	CONFERENCING: School Personal /Authorities
	✓	x	Talk to parents	5	52	CONFERENCING Parents /Guardian/Home
	✓		Try to rework teaching practice 1 day to see what happens.	5	29	INSTRUCTIONAL PRACTICES: Specific Strategies/lessons
Practicing			Ignore her until she becomes motivated.	2	16	EXTRINSIC MOTIVATION: Punishment
	✓	x	Inform Teresa of what she really needs to achieve her dream	7	8	VALUE: Understanding Entertainment Business – Reality Check
	✓	x	Speak to Teresa's parents/guarding - discipline might be an issue	7	52	CONFERENCING: Parents /Guardian/Home
			Have Teresa speak to real-life entertainers so she can hear first hand the many paths entertainers have taken to achieve their status	7	10	INTEREST: Connect Teresa to professional entertainer (guest speaker)
	✓		Incorporate more group projects in class to try and inspire Teresa	7	24	INSTRUCTIONAL PRACTICES: Group work/cooperative
	✓	x	If none of the above help Teresa's performance I would consider placing her in a lower-level class	6	32	INSTRUCTIONAL PRACTICES: Alternative to Classroom

Table 3

Emergent Themes and Percentage of Total Strategies Reported

	Emergent Themes	Strategy Codes	Whole Group (n=1163)*		Preservice (n=597)*		Practicing (n=566)*	
			%	Rank	%	Rank	%	Rank
Motivation Themes	Interest	<ul style="list-style-type: none"> •Develop Interest in content/class/make fun •Connect her interests to content •Encourage her Interests outside of Class 	9.89	4	11.22	4	8.48	6
	Value of Education	<ul style="list-style-type: none"> •Reality Check •Real-world connections •Need for education in entertainment; import of education •Understanding Entertainment Biz – Reality Check •Research Entertainers/Business •Connect Teresa to professional entertainer (guest speaker) 	12.90	3	16.58	2	9.01	5
	Goal Setting	<ul style="list-style-type: none"> •Plan for future •Short term goals •Long Term goals 	2.84	11	1.68	11	4.06	11
	Extrinsic Motivation	<ul style="list-style-type: none"> •Rewards/Incentives/Reinforcement/+feedback •Punishment 	5.07	10	4.86	9	5.30	9
	Choice – Autonomy	<ul style="list-style-type: none"> •Assignments: Autonomy/Preference: choice, input in course •Leadership Opportunities for Student: opt. to teach 	7.40	7	8.71	6	6.01	8
	Social Support/Esteem	<ul style="list-style-type: none"> •Build Self-esteem – challenge •Build Rapport with Teresa •Peers •Mentors •Professional - Counselor 	8.17	6	5.53	8	10.95	3

*Note: The n indicates the total number of strategy statements made by participants.

Table 3 *Continued*

Emergent Themes		Strategy Codes		Whole Group (n=1163)*		Preservice (n=597)*		Practicing (n=566)*	
				%	Rank	%	Rank	%	Rank
Pedagogical Themes	Instructional Practices	<ul style="list-style-type: none"> • Individual Attention • Teaching Techniques • Group work/cooperative • Hands-on/Interactive lessons • Interesting & Up-to-date lessons 	<ul style="list-style-type: none"> • Field Trip • Specific Strategies/lessons • Alternative to Classroom • Assignment – Grading • Change assignment – requirements 	13.84	2	15.24	3	12.37	2
	Classroom Management	<ul style="list-style-type: none"> • Rules • Systems/Strategies for getting T's School-work done. • Remove Magazines/stop from viewing 		5.68	8	3.69	10	7.77	7
	Evaluation	<ul style="list-style-type: none"> • Abilities • Determine Source of Problem • Interests/needs/goals 		5.16	9	5.86	7	4.42	10
	Conferencing	<ul style="list-style-type: none"> • Individually with Teresa • Parents /Guardian/Home 	<ul style="list-style-type: none"> • Student and Parents/Guardian • School Personal 	19.09	1	16.91	1	21.38	1
	Attendance	<ul style="list-style-type: none"> • Address via conference/contact • Provide incentive for coming to class • Refer truancy to authorities/administration 		9.11	5	9.05	5	9.19	4
	Unclassifiable			.86	12	.67	12	1.06	12

*Note: The *n* indicates the total number of strategy statements made by participants.

Table 4
Percentage of Participants Identifying Specific Strategies

Strategy (<i>Theme</i>)	Preservice (n=119)				Practicing (n=105)			
	Rank	Identified	Use	Best	Rank	Identified	Use	Best
		% (<i>n</i>)	% (<i>n</i>)	% (<i>n</i>)		% (<i>n</i>)	% (<i>n</i>)	% (<i>n</i>)
Confer with Parents/ Guardian (<i>Conferencing</i>)	1	54.62 (65)	84.61 (55)	67.69 (44)	1	56.19 (59)	89.83 (53)	74.58 (44)
Connect her interests to the content (<i>Interest</i>)	2	45.38 (54)	72.22 (39)	50.00 (27)	3	32.38 (34)	88.23 (30)	61.76 (21)
Make clear need for education in the future (<i>Value</i>)	3	29.41 (35)	71.43 (25)	48.57 (17)	15	13.33 (14)	85.71 (12)	57.14 (8)
Offer preference in assignments, input in class (<i>Choice</i>)	4	26.89 (32)	75.00 (24)	56.25 (18)	9	20.00 (21)	85.71 (18)	52.38 (11)
Address absences via conference (<i>Attendance</i>)	5	21.01 (25)	80.00 (20)	72.00 (18)	8	21.91 (23)	95.65 (22)	73.91 (17)
Systems for getting school work completed (<i>Classroom Management</i>)	24	8.40 (10)	80.00 (8)	70.00 (7)	2	36.19 (38)	89.47 (34)	68.42 (26)
Confer with school personal (<i>Conferencing</i>)	21	8.40 (10)	90.00 (9)	70.00 (7)	4	24.76 (26)	92.93 (24)	80.77 (21)
Use rewards, incentives, reinforcement, and positive feedback (<i>Extrinsic Motivation</i>)	7	16.81 (20)	80.00 (16)	65.00 (13)	5	23.81 (25)	84.00 (21)	64.00 (16)

Table 5

Sample responses categorized as “Rewards, Incentives, Reinforcement, & Positive Feedback”

Sample Responses Coded as Extrinsic Rewards	
Preservice	Practicing
<p><i>Performance Contingent</i></p> <ul style="list-style-type: none"> • Praise her for small things done accurately (id: 4) • Tell her how glad it makes you when she does engage in class (id: 18) • Both parents/teacher must also keep in mind that whenever there is progress reward her and whenever she slack[s] off that privilege be taken away. (id: 227) 	<p><i>Performance Contingent</i></p> <ul style="list-style-type: none"> • Provide positive feedback when she is “on track” (id: 192) • If she passes all her tests during the week give her an incentive, like she gets to listen to her music during free time (id: 317)
<p><i>Task Contingent</i></p> <ul style="list-style-type: none"> • Offer specific praise when she does do her work (id: 16) • When she is working tell her she is doing a good job (id: 32) • Put an entertainment corner in the room with book[s] and music that she enjoys. If she completes all of her class work fro the day then she can go to the entertainment corner (id: 239) 	<p><i>Task Contingent</i></p> <ul style="list-style-type: none"> • Praise her to her and her parents, if she does <i>any</i> good work to completion (id: 191) • Lots of praise for things accomplished or well done (id: 369) • Let Teresa join a music/dance/drama group where her participation is contingent upon attendance and completion of class work (id: 15)
<p><i>Reward Types</i></p> <ul style="list-style-type: none"> • Allow time for reading magazines as a reward (id: 237) • Make rewards for hard work more tangible. For some students (good) grades are reward enough, for others it’s not (id 7) 	<p><i>Reward Types</i></p> <ul style="list-style-type: none"> • Create partnership with music/arts teachers for rewards (id: 151) • Use music, dance, drama rarely, and as a reward for good work (id: 191) • Praise (id: 314) • Provide incentives: example: involved in drama club, chorus, etc (id: 393)
<p><i>Other</i></p> <ul style="list-style-type: none"> • Create rewards for her school work (id: 8) • develop an award system with Teresa (id: 202) • Allow time for reading magazines as a reward (id: 237) 	<p><i>Other</i></p> <ul style="list-style-type: none"> • Set up a reward and consequence plan for her to achieve classroom goals (id: 154) • Find some incentives to help motivate Teresa (id: 123) • Point card; reward system (id: 361) • Build a reward system (id: 544)

Appendix B: Vignette Code Sheet

ID	ENGAGEMENT – STRATEGY – Codes	List	Use	Best	Eff
1.	INTEREST	1.			
2.	Develop Interest in content/class/make fun	2.			
3.	Connect her interests to content	3.			
4.	Encourage her Interests outside of Class	4.			
5.	VALUE OF EDUCATION/REALITY CHECK	5.			
6.	Real-world connections	6.			
7.	Need for education in entertainment – future – import of education	7.			
8.	Understanding Entertainment Biz – Reality Check	8.			
9.	Research Entertainers/Business	9.			
10.	Connect Teresa to professional entertainer (guest speaker)	10.			
11.	GOAL SETTING- plan for future	11.			
12.	Short term goals	12.			
13.	Long Term goals	13.			
14.	EXTRINSIC MOTIVATION	14.			
15.	Rewards/Incentives/Reinforcement/+feedback	15.			
16.	Punishment	16.			
17.	CLASSROOM MANAGEMENT	17.			
18.	Rules	18.			
19.	Systems/Strategies for getting T's School-work done. E.g. tutoring/contracts	19.			
20.	Remove Magazines/stop from viewing	20.			
21.	INSTRUCTIONAL PRACTICES	21.			
22.	Individual Attention	22.			
23.	Teaching Techniques	23.			
24.	Group work/cooperative	24.			
25.	Hands-on/Interactive Lessons	25.			
26.	Interesting & Up-to-date lessons	26.			
27.	Competition	27.			
28.	Field Trip	28.			
29.	Specific Strategies/lessons	29.			
30.	Assignment – Requirements/teacher makes changes	30.			
31.	Assignment – Grading	31.			
32.	Alternative to Classroom	32.			
33.	CHOICE/AUTONOMY SUPPORT IN INSTRUCTION	33.			
34.	Assignments: Autonomy/Preference: choice, input in course	34.			
35.	Leadership Opportunities for Student: responsibility, opt. to teach	35.			
36.	ATTENDANCE	36.			
37.	Address via conference/contact	37.			
38.	Provide incentive for coming to class – projects that interest her	38.			
39.	Refer truancy to authorities/administration	39.			
40.	BUILD SELF-ESTEEM – challenge	40.			
41.	SOCIAL SUPPORT	41.			
42.	Teacher Builds Rapport with Teresa	42.			
43.	Peers	43.			
44.	Mentors	44.			
45.	Professional - Counselor	45.			
46.	EVALUATE	46.			
47.	Abilities	47.			
48.	Determine Source of Problem	48.			
49.	Interests/needs/goals	49.			
50.	CONFERENCING	50.			
51.	Individually with Teresa	51.			
52.	Parents /Guardian/Home	52.			
53.	Student and Parents/Guardian	53.			
54.	School Personal	54.			
55.	UNCLASSIFIABLE	55.			

Figure 1

Percentages of Statements in Emergent Themes

