Online Leadership Cases: Instructional Tool for Developing Administrative Decision Making

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Over the past three decades, numerous studies have called upon K-12 administrator preparation programs to increase their relevance by more explicit application of theory to practice (Bottoms & O'Neil, 2001; Griffiths, Stout, & Forsyth, 1988; Hale & Moorman, 2003; Hoachlander, Alt., & Beltranenea, 2001; Levine, 2005; Murphy, 2006; Silver, 1978). While bridging theory and practice is a common critique across many programs in schools of education (Labaree, 2004), it gains considerable traction in the field of educational administration due to problems with both its theoretical knowledge base and its pedagogical traditions. Numerous authors have noted the lack of a clear theoretical foundation or intellectual infrastructure in the field (Donmoyer, 1999; Erickson, 1979, Murphy, 2006). A concomitant problem has been that "research on school leadership has led to few robust conclusions" (Firestone & Reihl, 2005, p. 6) particularly those that might guide contextualized practice and offer guidance on more effective pedagogy. As a result of these weak links among theory, research and practice, it is not surprising that the "knowledge base employed in preparation programs has not been especially useful in solving real problems in the field" (Murphy, p. 32).

With growing acknowledgement of these concerns about theoretical and research shortcomings in the field, concerted efforts have been made in the last ten years to bring a focus and coherence to broadening the knowledge base for educational administration (English & Furman, 2007; Firestone & Riehl, 2005; Murphy & Louis, 1999; Mitchell, 2006; Murphy, 2006). Part of this effort has been the expansion and sanctioning of what constitutes knowledge about leadership. Riehl (2007) argued that leadership is a situated social practice, that is, "a particular way of being in the world, a constellation of understandings, values and actions that emerges from a particular context" (p. 144). As such, she suggested that leadership cannot be fully

understood through an objective, scientific mode of inquiry that attempts to identify predictable patterns and causal chains but needs to be complemented by a paradigmatic or narrative mode of generating knowledge. Furthermore, Riehl noted the heavy reliance on narratives or stories by educational leaders as a means to interpret and make meaning of their lived experiences, as well as the instrumental value of stories to convey scholarship to this same audience. Stories can be contrasted with causal propositions as ways to examine, understand and organize what is known about the world. Stories are powerful tools not only for research but also for teaching and learning (Hoy & Tarter, 1995).

The understanding of leadership as situated social practice (Riehl, 2007), which requires participants to interpret and make meaning of their context, explains the broad appeal of cases as a pedagogical tool in educational administration programs. Long used in other professional fields including business and law, case methods have been advocated as one effective means of addressing the theory to practice gap in education school preparation programs (Bridges & Hallinger, 1995; Clark, 1985; Diamantes, Hambright, & Roby, 2001; Hoy & Tarter, 1995). Murphy (2006) has noted "redirected energy toward the practice aspects of school leadership" (p. 53) as part of the current reform efforts in leadership preparation and greater use of problem- and case-based materials. In addition to numerous, paper-based collections of cases (e.g., Hanson, 2009; Honan & Rule, 2002; Kowalski, 2001; Snowden & Gordon, 2002), the University Council of Educational Administration has supported this pedagogical approach with the sponsorship of the *Journal of Cases in Educational Leadership* (Young & Crow, 2007).

The format of most cases has not changed since they were first introduced in 1955 (Hoy & Tarter, 1995) with the presentation of a scenario in a linear fashion with relevant information provided by the author(s). An alternative delivery model for cases is an online learning environment using the Educational Theory into Practice Software (ETIPS). It has been designed

to provide learners with opportunities to make meaning in a more open-ended environment which requires deliberations on specific tasks within a defined context. Learners are asked to identify the central issue in a virtual yet realistic school context, consider guiding principles for decision making, identify alternative solutions, and articulate a plan of action. In essence, they are asked to generate "theories of practice" (Silver, 1982) to guide their interpretation of the situation and decision making about how to respond to the assigned task. This paper will report on some unique design features of the ETIPS learning environment and preliminary findings of their effectiveness in developing critical leadership skills of principal candidates that bridge theory and practice.

Background

As summarized by a national panel on Reinventing the Principalship, convened by the Institute of Educational Leadership, the primary criticism made of current principal-preparation programs in the United States is that they are "too theoretical and totally unrelated to the daily demands on contemporary principals" (Hale & Moorman, 2003, p. 5). A multi-year study by the Southern Regional Education Board (SREB) similarly concluded that many principal preparation programs fail to link their training to the curriculum embedded in the Interstate School Leaders Licensure Consortium (ISLLC) standards, despite the fact that 41 states use these standards in establishing licensure requirements (Bottoms & O'Neil, 2001; SREB, 2003). Similar criticisms regarding the theory to practice gap were leveled by Levine (2005) in his critique of leadership preparation programs, *Educating School Leaders*. Levine argued that

> principals and superintendents have the job not only of managing our schools but also of leading through an era of profound social change that has required fundamental rethinking of what schools do and how they do it … and yet education schools have for the most part continued to do business as usual. (pp. 5-6)

In response to these criticisms there has been a greater emphasis on applied approaches, including the use of problem-based and case-based materials, as well as the "revitalization of the

internship" (Murphy, 2006, p. 53). Evidence suggests that when application experiences are of high quality and supported within a well-integrated preparation program, they bridge the theory to practice gap and enhance leadership development (Darling-Hammond, LaPointe, Meyerson, & Orr, 2007). Two policy levers for addressing shortcomings in the curricula and application of theory in administration preparation programs have already been adopted by the professional organizations that coordinate the efforts of 790 U.S. schools, departments, and colleges of education preparing administrators at the master's and doctoral levels (Levine, 2005). The first of these, is the aforementioned Interstate School Leaders Licensure Consortium (ISLLC) standards, developed in 1996 and adopted in 2002 by the National Council for Accreditation of Teacher Education (NCATE), and the Educational Leadership Constituent Council (ELCC) for reviewing and accrediting administrator preparation programs. Forty-one states report using, adapting, or adopting the ISLLC or ELCC standards in state policies for administrator licensure and improvement (Sanders & Simpson, 2005). The second is the School Leaders Licensure Assessment (SLLA), developed in 1998, that reflects the ISLLC standards' emphasis on instruction-focused, learner-centered leadership (Murphy, 2005). This case-based, multi-part assessment used in 18 states (Murphy, 2005) requires candidates to synthesize and make meaning of the information provided in cases and use a theory to practice approach when crafting written responses.

The case-based nature of the School Leaders Licensure Assessment confirms a widespread recognition of leadership as a situated social practice (Riehl, 2007) and the importance of cases as a medium for exploring the intersections of theory, research and practice. The ETIPS cases were designed to create a learning environment which reflects these realities and provide opportunities for leaders in training to scaffold their thinking and sense-making. From a more instrumental perspective, they provide prospective administrators who are facing a

high stakes test that represents a new assessment approach, the SLLA, with additional opportunities to practice case-based reasoning.

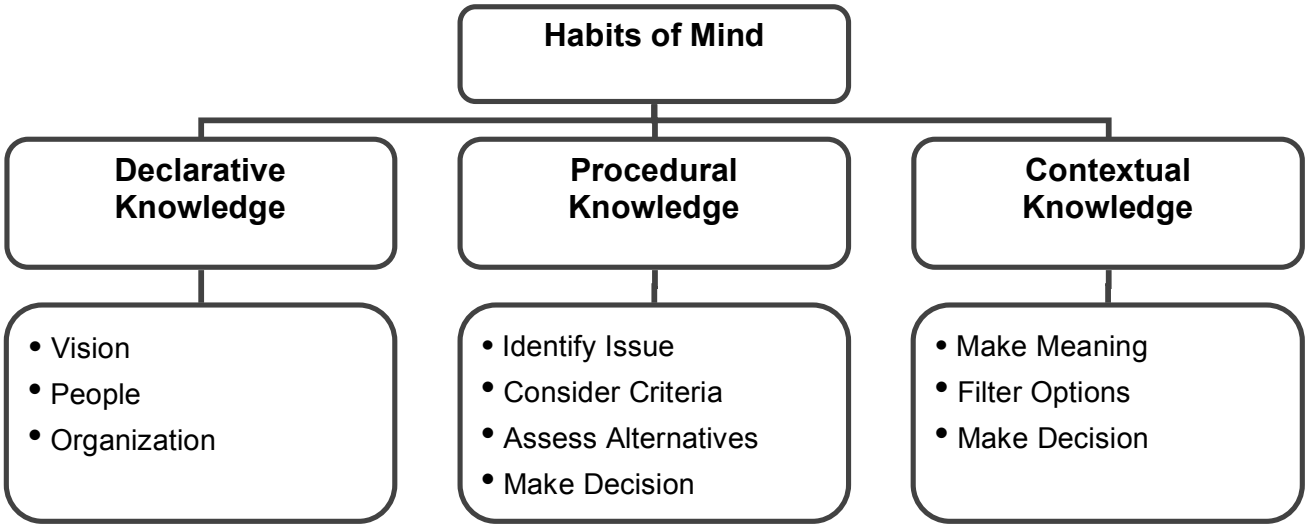
Theoretical Framework

The very definition of professional, whether they are found in schools, hospitals or business, implies both distinct knowledge about that undertaking and how to use that knowledge in an efficient and effective manner. As noted by Schön (1983), "we look to professionals for the definition and solution of our problems and it is through them that we strive for social progress" (pp. 3-4). School leaders are considered professionals who must solve the vexing problems of schooling despite confounding social, economic, and racial forces which impact the school context. This expectation of serving the public good has never been greater. In turn, educational leadership preparation programs are under pressure to develop school administrators who are capable of tackling these challenges through the conveyance of professional knowledge to students in its many forms (Murphy, 2006).

While shifts are taking place in the core content of preparation programs, there is also a greater use of cases as a mode of instruction (Murphy, 2006). Available research suggests that administrators in training would benefit from additional and better opportunities to learn to diagnose and interpret problems, and make decisions about leading a school in concert with others (Hale & Moorman, 2003). This requires the systematic development of professional knowledge in three distinct domains: declarative knowledge, procedural knowledge, and contextual knowledge (Lyons, Schumacher, & Cameron, 2008). Declarative knowledge encompasses the information that professionals must know or understand, including relevant theory and research pertaining to school leadership. Procedural knowledge is the ability to enact declarative knowledge to "perform a process or demonstrate a skill" (Marzano & Pickering, 1997, p. 43). Contextual knowledge is the ability to modify actions and processes based on an

understanding of the distinct characteristics of a context. For example, expert decision makers "are particularly adept at predicting situational variables, remembering solutions that worked in the past, and adapting past solutions to meet the demands of the present situation" (Davis & Davis, 2003, p. 63). Possession of these three types of knowledge, that is, complex knowledge and skill, and its reliable application is generally viewed as expertise (Leithwood & Steinbach, 1995). Figure 1 captures the relationship among these three types of knowledge.

Figure 1. *Habits of Mind for Decision Making*



As noted by Hoy and Tarter, the field of "educational administration is still faced with the problem of teaching both *about* and *how* to administer" (1995, p. 2, emphasis in original). Efforts to solidify the theoretical foundations and coordinate the research endeavors in the field will address the "about" of administration. The use of cases in preparation programs offers a promising method for "how" to administer by linking theory and practice as a precursor to field-based experiences, such as internships. Based on their use in teacher education, Merseth (1991) identified three uses for cases: (a) explore complex and messy problems, (b) establish

demonstrations of theoretical principles and exemplary practice, and (c) stimulate personal reflection to develop habits of reflection and skills of self-analysis. While field-based experiences are considered critical in developing a context-sensitive understanding of leadership issues, they have proven to be a challenge for many programs across the country (SREB, 2006: Young & Crow, 2007). Thus, developing other strategies that bridge theory and practice is key to supplementing pre-service administrators' typically limited field-based experiences.

Although cases and case instructional methods have been long used in such fields as business and law, this highly effective method of instruction has increasingly found its way into the field of education with the first cases written for educational administration in1955 (Hoy & Tarter, 1995). Traditional text-based cases (i.e., those read in a linear fashion that emphasize the multiplicity of perspectives inherent in an event and are often told in chronological fashion) have been used most often in the preparation of teachers, although their use in preparation programs for administrators is growing. Despite a long history of availability in the field and greater advocacy of their use in administrator preparation programs (Murphy, 2006), their integration and implementation has been somewhat idiosyncratic. Hoy and Tarter, authors of a leading text on decision-making using cases, observed "we now have more case books, but less theoretical rigor tied to analysis" (p. 2). In the same way that Hoy and Tarter seek to improve administrative decision making by delineating theoretically anchored models of decision making, the ETIPS leadership cases were designed to improve administrative decision making by designing a learning environment that structured a rigorous approach to the analytic process.

An Innovative Instructional Tool

The ETIPS leadership cases present administrative preparation students with cases that support and develop their use of procedural knowledge to make decisions (see Table 1 for a summary of features). Decision making is the process of generating and applying criteria to

select from among seemingly equal alternatives" (Marzano & Pickering, 1997, p. 195). Embedded in the case architecture is a decision making model adapted from the work of a number of theorists (Beyer, 1987; Hoy & Tarter, 1995; Leithwood, 1995; Marzano & Pickering, 1997). Students are explicitly introduced to each step, given opportunities to practice each step, and provided with feedback on their performances by instructors. The cases are authentically ill-defined and are situated in nine distinct schools to simulate the need for administrators to adapt their actions based on the specific contextual features of a school.

Table 1

Comparison of Traditional Cases and ETIPS Cases

Traditional	ETIPS
Linear presentation of content	Learner-determined exploration of content
Retrospective analysis of events	Prospective planning associated with a decision
Single context with limited information	Multiple contexts (nine distinct schools) with numerous data points
Development of decision making is scaffolded by instructor	Development of decision making is scaffolded by the ETIPS environment
Instructor feedback given on the case as a whole	Instructor feedback given on each step of the decision making process

The research literature on effective school leadership (Hallinger & Heck, 1996; Murphy, 2006; Riehl, 2000) identifies a number of practices shown to improve student achievement. These authors suggest specific directions for administrator preparation programs including the improvement of declarative and procedural knowledge offered in their coursework and the experiential and contextual knowledge provided in their theory to practice applications. The recommendations of this literature can be captured by three basic functions of leadership: setting

direction, developing people, and making the organization work (Leithwood & Riehl, 2003; Leithwood, Seashore, Louis, Anderson, & Wahlstrom, 2004). These functions are used to scaffold students' responses when they formulate action plans as the final step in an ETIPS case.

These research studies also emphasize the importance of leaders' knowing when and how to apply this declarative and procedural knowledge. Therefore, they argue, preparation programs must also teach administrators to recognize how context matters and how to make appropriate adjustments in their leadership strategies (Hoachlander, Alt, & Beltranena, 2001). In a meta-analysis of leadership practices that affect student achievement, Waters, Marzano, and McNulty (2003) also noted that because uncoordinated or poorly conceived efforts can actually have a negative effect, it is crucial that leaders know how to determine the critical improvements needed at a given school and those elements of its specific context that must be taken into consideration in their decision making. Contextual knowledge is developed in the cases by use of different types of schools (urban, suburban, or rural) to elicit reflection and consideration of different alternative solutions based on the specific circumstances of a particular school.

In short, the available research suggests that administrators in training would benefit from additional and better opportunities to organize and make sense of the content knowledge (declarative knowledge), developed through preparation programs by structured application of this knowledge in decision making. ETIPS leadership cases are an instructional tool to be used as an integral component of coursework to develop procedural knowledge, or habits of mind, and to begin building bridges to the world of practice. They develop and scaffold the cognitive processes needed in future leaders to frame and interpret problems, consider alternatives, and make decisions about leading a school in concert with others. The cases are intended to supplement and extend field-based experiences which are viewed as critical in developing a context-sensitive understanding of leadership issues (SREB, 2006).

ETIPS was designed to allow faculty members to provide their students with a case-based, online learning environment offering multiple opportunities to practice applying theory in their decision making within virtual, yet realistic, school settings and to receive feedback on their critical thinking. It is a Web-based application in which students complete cases set in a richly contextualized K-12 school and focus on applying their declarative knowledge to the particular characteristics of that school setting. By taking school context into account when making decisions, the learners gain a sense of the complexity in a school environment and the multitude of factors that they may encounter in a clinical setting, an essential skill needed by pre-service administrators to make the transition to their future roles as school principals. Previous research has demonstrated that ETIPS cases are effective with pre-service teachers in increasing the recognition of more detail and complexity in the organization and culture of schools (Dexter, Riedel, & Scharber, 2006). The purpose of this study was to examine the utility of ETIPS cases with aspiring principal candidates. Do the cases increase their recognition of the organizational complexity found in schools? Are the cases useful in applying course content (declarative knowledge) to authentic problems of practice and developing decision makings skills in a structured and supportive learning environment?

Methods and Analysis

A one-group pretest-posttest quasi-experimental design was used to gather data on changes in self-efficacy during the first year of implementation of the ETIPS application with participating graduate students in educational administration courses. In addition, survey methodology was utilized to collect specific feedback from participating students about their level of learning about decision making, the authenticity of the case content, and utility of the cases being implemented by test-bed faculty in leadership preparation programs across Virginia during the academic year of 2007-2008.

Participants

The sample in this study was purposive and consisted of students in leadership preparation courses taught by faculty members recruited to pilot the ETIPS cases for the 2007-2008 academic year. All students used the cases as an integral component of their class but participation in the research aspects of data collection were voluntary. Nineteen faculty were recruited from eleven of the 16 institutions of higher education in the state of Virginia that offer administrative licensure and master degree programs in educational administration. All of the participating universities are publicly funded except for two. These programs vary across a number of dimensions including location (urban, suburban, and rural), size and nature, achievement levels of the students in districts in which most of their administrator candidates will work, and utilization of technology. These variations maximized our opportunity to learn about implementation with different stakeholders and refine the tools under development. Over 500 students used the cases as part of a regular course in their preparation program but only one hundred and forty-three students granted informed consent and completed the necessary instruments to be included in this analysis. It is unclear whether there was systematic bias introduced in the findings as a result of this low completion rate of 29%.

Instruments

Two instruments were administered to students who agreed to participate in the research component of the ETIPS pilot. The first instrument was a self-efficacy scale which was used to collect data before and after the case experience on students' belief in their capabilities to "organize and execute the courses of action required to manage prospective situations" (Bandura, 1997, p. 2). The model, which was adapted from previous decision-making models, consisted of 12 items (Beyer, 1987; Hoy & Tarter, 1995; Leithwood, 1995; Marzano & Pickering, 1997) to

guide students' analysis of the ETIPS cases. Our intent was to capture some measure of students' sense of agency. As noted by Bandura (1997),

> Perceived self-efficacy refers to belief in one's agentive capabilities, that one can produce given levels of attainment. A self-efficacy assessment, therefore, includes both an affirmation of a capability level and the strength of that belief. (p. 382)

The 12 items were stated as actions that are necessary for decision making, such as "Seek a sufficient amount of data for understanding the problem." Based on an analysis of 143 participants during the 2007-2008 academic year, the internal reliability (Cronbach's Alpha) of the self-efficacy measure was found to be .95 for the 12 items, which is considered quite strong.

The second instrument was a post-intervention survey which included nine items that solicited student perceptions about various aspects of the cases. Specifically questions asked about (a) components of the case experience that contributed to their learning and confidence in decision making, (b) the realism of the cases, (c) usefulness of the case experience to their own learning, (d) helpful aspects of how the cases were used in their classes, (e) most and least engaging aspects of the cases and (f) recommended changes. Student responses involved both ratings on 5-point Likert scales and open-ended feedback items on instructional design aspects of the ETIPS cases and their own learning outcomes.

Data Collection

The pre-service administrators experienced at least two ETIPS cases as an integral component of an educational administration course such as organizational leadership, school and community relations, or instructional supervision. A convenience sample of students who were instructed by the test-bed faculty were asked to participate in the study and complete two online instruments before and after the cases, the self-efficacy instrument and informational surveys. The pre-intervention survey provided demographic information on the participants. The post-intervention survey addressed the nature of the students' learning experience with the cases and

was available for completion after the students submitted their final work for the course of the participating faculty member. Over 800 students used the cases as part of a regular course in their preparation program and approximately 500 students granted informed consent but only a quarter of those students (135-138) completed all of the items on both the pre-intervention and post-intervention self-efficacy instrument and the post-survey.

Data Analysis

To examine the impact on student learning, student responses on the self-efficacy instrument and selected post-survey items using Likert scales were analyzed. From these data, five scales were constructed as outcome measures: (a) realism of the case experience, (b) worthiness of the case experience, (c) decision making confidence, (d) decision making self-efficacy, and (e) aspects of the case experience which contributed to student learning about decision making. Descriptive statistics and correlations were generated for the self-efficacy instrument and Likert scale items on the post-intervention survey. Three open-ended questions provided more detailed information on learning outcomes. Themes were identified in the responses to questions regarding (a) what was learned as a result of the ETIPS case experience and (b) the most and least engaging aspects of the cases. The analysis of this preliminary evidence was intended to test the "proof of concept" for the utility and appeal of the ETIPS leadership cases for use with students in leadership preparation courses.

Findings

After completing the cases, students were asked their opinions of the cases, self-estimates of their gains in decision making confidence and self-efficacy, and how various elements contributed to their case experience. Five learning outcomes were found to support the use of the cases in the development of decision making skills with aspiring school leaders and they are summarized in Table 2.

Learning Outcomes

Table 2

Measures of Student Case Experiences

Scale Name	Nature of Items in Scale	Chronbach's Alpha	Total Points	Mean	Standard Deviation
Realism	• of the cases' school contexts • of the leadership decisions required by the cases • of the pre-post decision making assessment	.76	15	12.43	1.60
Worthiness	• understood what to learn • viewed learning as worth the time • recommend cases for other courses	.88	15	10.25	2.89
Increased Confidence	• reported increased confidence in making leadership decisions	-	5	3.3	1.14
Self-efficacy Change	• reported current ability to successfully complete 12 actions associated with decision making	.90	72	3.97	9.18
Contributed to Learning	• completion of case itself • school case information • the pre-post decision making assessment • visual display of case information search	.79	16	8.38	4.08

Specific findings included the following:

1. The mean rating on realism of 12.43 (out of 15) indicated a high level of agreement with the items regarding the realism of the school contexts, the leadership decisions required by the cases, and decision making assessment.
2. The mean rating on worthiness of 10.25 (out of 15) indicated a moderate level of agreement with the items regarding the students' understanding of the learning task, their perception that the learning from the cases was worth the time, and their recommendation that other programs should use the cases.
3. The mean rating on increased confidence of 3.3 (out of 5) indicated a moderate level of agreement that students thought their confidence in decision making increased as a result of using the ETIPS cases.

4. The mean increase in self-efficacy was 3.97 points, indicating a small improvement in students' sense of their capability in decision making, although the standard deviation was large indicating substantial variance.
5. The mean rating on contribution to learning was 8.38 (out of 16) indicating a moderate influence on students' learning by the following case components: (a) completion of the cases themselves, (b) the school internet and intranet information, (c) the decision making assessment, and (d) the dataMap.

Each of the scales was found to have a high internal reliability ranging from .76 to .90. Statistically significant (2-tailed) Pearson Correlations were also found among the five learning outcomes as noted in Table 3 below.

Table 3

Significant Correlations Among Students' Learning Outcome Measures

	Realism	Worthiness	Increased Confidence	Self-efficacy Change	Contributed to Learning
Realism	1.00				
Worthiness	.489**	1.00			
Increased Confidence	.432**	.829**	1.00		
Self-efficacy Change	.187*	.190*	.347**	1.00	
Contributed to Learning	.239**	.541**	.528**	--	1.00

*p<.05 **p<.01

Open-ended Survey Responses

Three open-ended questions specifically addressed student learning and were analyzed for thematic content. The first question asked for the "top one or two things you learned from the experiences of using the ETIPS cases." Ninety-seven students provided responses to this prompt. Answers clustered around the following five themes: (a) interpretation of the central issue, (b) awareness of the context for the case, (c) development of multiple alternative explanations for

the issue, (d) making a decision and plan of action, and (e) reflections on the decision making process overall. Close to half of the respondents (43%) commented on the process of "sorting through loads of information and finding the most pertinent data" to identify the central issue as a primary learning outcome. This finding suggests that this step in the decision making process was the most challenging and possibly the least familiar to the students. Far fewer comments were made about context awareness (10%), alternative explanations (10%), and decision making (16%). The remaining respondents (20%) commented on the experience as a whole and wrote observations such as "I need much more practice solving problems" or "I need additional experience in a real world educational environment." See Table 4 for a sampling of responses.

Table 4

Student Learning

Coded elements for this prompt	Summary of student responses (N=97) with relative frequency of distribution
Interpretation of the central issue	(43%) difficulty of identifying of the most important issue, understanding a school in its entirety, identifying most relevant information
Awareness of the context	(10%) understanding the school's background, getting a sense of what is happening in the school, evaluating mission statements
Development of multiple alternatives	(10%) difficulty of coming up with a strategy to address the issue, hypothesizing several solutions
Decision making and plan of action	(16%) anticipating consequences of decision, all factors need to be considered
Reflections on the decision making process	(20%) understanding that your decision affects all constituents, feedback is needed, more practice is needed

A second open-ended question was asked about the most engaging aspects of the cases. Responses were given by 89 of the participants and comments addressed aspects of the (a) school descriptions, (b) richness of the data provided in the cases, (c) aspects of the decision making process, (d) realism of the cases and information, and (e) implementation conditions. Close to a third of the respondents (31%) commented on the richness of the data in the cases, both the variety and quantity. Another 28% of the students found the realism of the cases as the

most engaging aspect of the cases, indicating that they had "the feel of real-life situations and conditions." Other comments about the most engaging aspect of the cases addressed the distinctive personality of each school (16%), the decision making process (19%), and how the cases were implemented (6%). See Table 5 for a listing of codes and sample responses.

Table 5

Most Engaging Aspects of Case Implementation

Coded elements for this prompt	Summary of student responses (N=89) with relative frequency of distribution
School descriptions	(16%) schools have personalities, detail of schools, how components contribute to a whole
Richness of the data provided in the cases	(31%) talking points, artifacts, demographics, teacher data, student data
Decision making process	(19%) continual practice with possible solutions, possible problems, pros and cons for each alternative
Realism of the cases and information	(28%) real-life situations, authentic
Implementation conditions	(6%) pre/post test, discussion, collaboration with friends

The third open-ended question used for this analysis on learning outcomes of the ETIPS cases asked, "What were the least engaging aspects of the cases' content?" Responses to this question addressed the (a) software design, (b) completion of the actual case, and (c) instructor use of the cases. The most comments regarding least engaging aspects of the cases focused on actual task itself (54%) and covered a wide range of issues from the time required to complete the cases to the overwhelming amount of data to be analyzed. A third of the comments (35%) addressed the software design issues such as the lack of film and video clips and website navigation issues. Only a few students (11%) mentioned instructor use as one of the least engaging aspects of the cases. Specific concerns centered on the lack of feedback and discussion during the case. See Table 6 for a listing of codes and sample student responses.

Table 6

Least Engaging Aspects of Case Implementation

Coded elements of a learning environment	Summary of student responses (N=63) with relative

	frequency of distribution
Software design	(35%) lack of film/video/audio, response format, technical issues
Task	(54%) too much information, time needed to complete cases
Instructor use of the cases	(11%) lack of feedback during the process from instructors, lack of discussion of the cases

Conclusions

Current research suggests that administrators in training would benefit from additional and better opportunities to organize and make sense of the declarative knowledge developed through preparation programs by structured application of the knowledge in decision making. ETIPS leadership cases are an instructional tool to be used as an integral component of coursework to develop procedural knowledge, or habits of mind, and to begin building bridges to the world of practice. They develop and scaffold the cognitive processes needed in future leaders to diagnose and interpret problems, and make decisions about leading a school in concert with others. The cases are intended to supplement and extend field-based experiences which are considered critical in developing such a context-sensitive understanding of leadership issues.

The intended purposes of the ETIPS leadership cases were to provide pre-service administrators with opportunities to apply course-based declarative knowledge, and develop their procedural and contextual knowledge through the completion of multiple cases based in different virtual schools. Preliminary findings confirm the viability of ETIPS as an online learning tool for applying declarative knowledge and developing procedural knowledge for decision making, in particular. Our results on the implementation of the ETIPS cases with students in traditional university preparation programs suggest increased confidence in decision making, growth in decision making self-efficacy, and positive student ratings of the realism and utility of the cases for developing increased skill in decision making.

Many students reported finding the cases realistic and enjoyed "digging through the data." The continual practice of interpreting school scenarios and identifying problems was reported to be engaging for students. The cases also contributed to students' understanding the importance and complexity of decision making and learning to "look at a problem from a broader and holistic perspective." These are the habits of mind that ETIPS was designed to develop and that are needed in future administrators if we hope to close the theory to practice divide in leadership preparation programs.

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