Faculty Growth in Implementing Case Methods of Instruction: Implications for A Signature Pedagogy

Sara Dexter
Pamela D. Tucker
University of Virginia

Draft: 7/15/09

Proposal submitted to the annual meeting of the American Educational Research Association, Denver Colorado, May 2009.

Abstract: Case methods of instruction have been advocated as a signature pedagogy for leadership preparation. These nine cases studies of professors' implementation of online cases over multiple semesters illustrate instructional change and growth. These data suggest that while professional development and practice are key, more powerful levers like program assessment and national standards are needed to trump time constraints and other conditions constraining the utilization of best practices that support optimal student learning from cases.

Objectives

Over the past two decades, numerous studies have called upon K-12 administrator preparation programs to improve their curricular coherence and application of theory to practice (Darling-Hammond, LaPointe, & Meyerson, 2005; Hale & Moorman, 2003; Levine, 2005; SREB 2006; UCEA, 1987). Case methods of instruction have been advocated as a signature pedagogy for the preparation of leaders that would effectively provide authentic assessments of future leaders' ability to apply theories in context. This study examines the changes in faculty members' case methods of instruction over multiple semesters of implementing these online cases set in a context-rich school setting. This software has been designed to provide learners with a case-based learning environment offering multiple opportunities to practice applying theory in their decision making within virtual yet realistic schools and to receive feedback on their critical thinking. These digital cases offer not only the advantages of text-based cases but also several others fundamental to a research-based understanding of how people learn. Yet, their success as a teaching tool is highly dependent upon their implementation. Case based methods of instruction are a demanding pedagogy, as the findings show from the software project's test-bed faculty during the past two years. These data suggest several implications for making cases a signature pedagogy in educational leadership.

Theoretical Perspectives

Case instructional methods have been long been a signature pedagogy in business, medical, and law schools, and this method of instruction has increasingly found its way into the field of education (Merseth, 1991; Sykes & Bird, 1992). Traditional text-based cases (i.e., those written in a linear fashion, emphasizing a multiplicity of perspectives inherent in an event, and 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, as evidenced by the formation of UCEA's *Journal of Cases in Educational Leadership* and a number of textbooks of cases (e.g., Honan & Rule, 2002; Kowalski, 2001; Snowden & Gordon, 2002).

Case method proponents argue that a case's problematic situation requires analytical skills, and fosters deep understanding of specific concepts by bridging theory and practice (Diamantes & Ovington, 2003; Griffith & Taraban, 2002; McAninch, 1993; Merseth, 1994; Zuelke& Willerman, 1995). Advocates report that when properly used, cases can help educators practice how to think professionally about classroom and school-based problems, solutions, and alternatives (Lacey & Merseth, 1993; Masingila & Doerr, 2002; Merseth & Lacey, 1993).

According to the literature (Lacey & Merseth, 1993; McAninch, 1993; Spiro, 1987), there are three core steps involved in case methods: First, analysis of ill-defined dilemmas. Second, action planning or decision making that applies knowledge to a unique situation or context. Third, evaluation of the decision making actions and reflection on how theoretical frameworks apply within the specific context. Effective case methods draw upon multiple perspectives through interaction and group discussion (Merseth, 1990, 1993; Spiro, 1987; Tally, et al., 2002). The literature also indicates that evaluation and reflection based on analysis and feedback are important aspects of case methods (Bransford, 1986; McAninch, 1993; Merseth & Lacey 1993). The research findings serve as a foundation for the following recommended case methods of instruction with these leadership cases.

Before the case use begins, we recommend that test-bed faculty discuss with students the purpose of the case study and its relation to their course, national ISLLC standards, and their preparation as school leaders; a quality answer and the scoring rubric; and the technical operation of the online learning environment for the cases. (See also table 2.) During the time period that students are completing the cases we recommend to faculty that they allow time to discuss with their students both aspects of each step in the decision making process, and students' actual

responses for each step given the specific school context the instructor selected for the students' assignment. After the students submit their answers we recommend to faculty that they review basic aspects of decision making; solicit students' case decisions, including who they thought should have been involved in the decision making process; the required declarative knowledge needed for decision; and what information was most key in a decision such as that called for in the case. While a few steps of our project's recommended case methods of instruction are specific to the project's online environment and functions, most are in keeping with the recommended three core steps of case-based instruction in the literature: to focus on analysis of the problem; to follow a decision making process but attend to context; and to consider the decision in terms of theoretical frameworks and probable outcomes within the specific context. (See also table 2.)

Data, Methods and Analysis

Twenty faculty were recruited into the project's test-bed from 11 of the 16 institutions of higher education in the state of Virginia that offer educational administration programs. Of these, nine faculty members have used the cases in two, three, or four of the semesters during the 2007-08 and 2008-2009 academic years. Here we report on just these nine professors in order to discuss the change over time of their case methods of instruction. This sub-set heralds from seven universities, all publicly funded except for one. Their 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 administrative candidates will work, and utilization of technology.

At three different workshops, held (1) at the beginning and (2) mid-point of the first year of use, and at the (3) beginning of the second year, the software project's case methods of instruction were presented, as well as other technical aspects of the software's operation, and instructors shared strategies for and experiences with their use. In each of their semesters of use the nine test-bed faculty members implemented at least two cases as an integral component of an educational administration course. At the end of each semester of use, each test-bed member was interviewed by telephone using a structured protocol; the audiotape of this interview was reviewed to fill out a checklist of the project's recommended case methods of instruction strategies used by the professor.

The data reported here is from four semesters of use during academic years 2007-08, 2008-09, and include a pre-survey asking about the professors' history of teaching with cases prior to their use of these online cases, and their per semester interviews with corresponding checklists of implementation strategies used. Also collected, but reported in detail elsewhere are students' pre-post gains in self-efficacy, decision-making skill, and other learning benefits from the cases (Author & Author, 2009), as well as the impact of instructors' case methods of instruction upon these students' outcomes (Author & Author, 2009).

Results

These nine test-bed faculty members saw the value and benefit of providing cases to their students, as evidenced by both their interview responses and repeated semesters of use, however, the high time demands created by the depth of data within these cases and the adjustment to an online case environment was reported to be a challenge for them. All these faculty members were experienced with using cases in their courses yet many felt like novices when using cases of this complexity and type. Nearly uniformly these faculty members value how these cases (a) contain much more information or "richer" data than cases with which they were familiar--one faculty member called them "realistically ambiguous", and (b) that they were more open ended and flexible than most cases. These characteristics were identified as strengths of the cases and an important part of what makes them a desirable teaching tool. Yet these same features make them more challenging to implement, as well. Below, for the purposes of brevity, we quantitatively summarize the qualitative data on these faculty members' change and growth in case methods of instruction.

All instructors used the cases in multiple semesters (see table 1) and initially their implementation approach was an idiosyncratic process that generally followed how they'd previously used text-based cases. With our guidance on implementation, instructors did begin to use more recommended implementation strategies, the need for which was confirmed by student feedback (Author, Author & Author, 2009). Comparing faculty members' implementation scores, by tallying the checklist of implementation strategies (i.e., 9 before and 9 after-case implementation steps, with 9 points for during-case discussion, totaling 27-points) as an indication of fidelity to our model of quality implementation shows that 6 of the 9 professors increased in total implementation score from their first to last case, usually by adding several more implementation steps to their before- or after-case methods of instruction. Overall, we found that instructors did not routinely use the most detailed analytic strategies that would facilitate student learning from the case. This included during-case discussion about framing the case, giving individuals feedback, or using the most in-depth after-case analytic discussion approaches, although all of these strategies have a research basis in the cognitive sciences.

Table 1 Instructor Implementation Scores (out of 27) Per Semester of Case Use, and Overall Change in Score from First to Last Case

Instructor #	First Case	Second Case	Third Case	Fourth Case	Overall change
Instructor 15	22	22	25	25	+3
Instructor 16	4	12	14		+10
Instructor 3	0	8	9		+9
Instructor 14	12	8	16		+4
Instructor 13	8	19			+11
Instructor 4	21	25			+4
Instructor 2	15	14			-1
Instructor 5	16	14			-2
Instructor 9	23	6			-17

Before-case strategies that were typically added in subsequent semesters of use were to discuss or model a quality answer, to relate a quality answer to the development of decision-making skills, and to relate the case question to national standards. By their last semester of use the majority of professors were including all the recommended before-case strategies in their implementation, as they recognized students' needs to become better oriented to the finer details of case performance. In their interviews, many instructors related that during the case, before students submitted their answers, they were open to answering students' questions, and that they took questions from students about either technical aspects of the software or initiated general discussions of how the cases were going. However, on their first case only 4 of the 9 instructors (44%) discussed the cases as we recommended. This meant discussing students' specific answers-in-progress to the case questions, so as to facilitate the development of multiple perspectives and more sophisticated understandings of the facts and issues presented. Two instructors dropped during-case discussion in a subsequent semester of use, but one added it. The most change in instructional strategies as faculty used the cases more than once was after the students submitted their responses, with strategies both being added (22 additions) and dropped (13 deletions). Most often added were aspects of case discussion, and using the rubric to grade students' answers. The more detailed analytic aspects of post-case implementation, such as open-ended remarks as feedback to students, discussing school contexts in different cases, use of the software's built-in click tracking collection (DataMaps) to support analytic discussion, and instructional interventions were only used by about half of the instructors. (See Table 2.)

Table 2. Percentage of Instructors Using Recommended Instructional Methods in First and Last Cases

Specific Before-Case Strategy	First Case	Last Case
1. Discuss the learning benefits of using cases	89%	100%
2. Demonstrate to students how to use and navigate inside ETIPS	89%	100%
3. Explained/ elaborated upon the ETIPS decision-making model	67%	100%
4. Related case's core topic /question to your course's topic(s)	67%	89%
5. Explained/ elaborated upon first case's topic and key question	56%	89%
6. Discussed or modeled a quality answer (detail, length, content)	33%	89%
7. Related a quality answer to the scoring criteria (i.e., rubric)	44%	78%
8. Related a quality answer to the development of decision-making skills	44%	78%
9. Related case's core topic /question to national standards	33%	78%
Specific During-Case Strategy, Before Students Submit Answers	**First Case**	**Last Case**
1. Aspects of case information and/or decision-making steps discussed	44%	33%
Specific After-Case Strategy	**First Case**	**Last Case**
1. Discussed players (who should be involved in the decision making)	67%	100%
2. Discussed case decisions (and/or decision making steps)	67%	89%
3. Scored cases with criteria on rubric to generate feedback to students	33%	89%
4. Discussed decision making steps/process	67%	78%
5. Discussed required declarative knowledge needed for decision	67%	56%
6. Provided guidance to students through open-ended grade book remarks	33%	56%
7. Discussed contextual knowledge (influence of different school sites)	67%	44%
8. Used DataMaps to support discussion or submitted to support answer	22%	44%
9. Made educational interventions (lecture, discussion, etc.) due to scores	0%	0%

In their interviews, these nine faculty members reported how as they used the cases they gained insight into what to change for next time. One theme was their recognition of how students needed more of a framework for approaching the case, including its decision making model and its overall purpose, which was reflected in the eventual high fidelity to before-case strategies. Changes made in the use of during and after-case strategies was explained by two patterns related to how cases needed to fit into courses: (1) If the course purpose or scope did not fit the cases, or there was a shortage of class time, it reduced implementation fidelity as adaptations were made to meet other teaching needs or time constraints. (2) Online courses, while seemingly an easy fit for using online cases like these, created a challenge for guiding students through a case, and post-case reflection.

Significance

In conclusion, high-quality teaching with cases in a course requires time for multiple implementation steps, and a disciplined approach to analysis and evaluation of students' answers about case content. In our study the data show that the first often trumps the second. While faculty want to develop decision-making skills, time constraints often compromise what we know from the cognitive sciences literature to be best practices. This suggests several implications for case methods of instruction as a signature pedagogy in educational administration. The one being a need to emphasize, through professional development, how students' learning benefits from cases are related to faculty strategies. For example, how during-case discussion can aid students' learning to better analyze ill-defined dilemmas and make contextually specific action plans, and how scoring provides feedback critical to aiding students' skill development (Author & Author, 2009). However, because at present faculty feel satisfied with the cases and report that students gain from them, it suggests more powerful levers such as program assessment or national standards would need to drive and validate their investment of more time during and after cases in discussing, scoring, and analyzing students' case performances.

References Cited

Authors. (2009, March). *Online Leadership Cases: Instructional Tool for Developing*

Administrative Decision Making. Paper presented at the annual meeting of the American Educational Research Association, San Diego, CA.

Authors. (2009, March). *Designing Online Cases as an Effective Learning Environment*. Paper presented at the annual meeting of the American Educational Research Association, San Diego, CA.

Authors. (2009, March). *The impact of instructors' case methods of instruction on students' learning experiences with cases*. Paper presented at the annual meeting of the American Educational Research Association, San Diego, CA.

Bransford, J.D., et al. (1986). Learning with technology: theoretical and empirical perspectives. *Peabody Journal of Education, 64*(1), 5-26.

Darling-Hammond, L., LaPointe, M., Meyerson, D., & Orr, M. (2007). *Preparing school leaders for a changing world: Lessons from exemplary leadership development programs*. Stanford, CA: Stanford Educational Leadership Institute.

Diamantes, T., & Ovington, J. (2003). Storytelling: Using a case method in administrator preparation programs. *Education, 123*, 451-469.

Griffith, A. I., & Taraban, S. (2002). Mentoring narratives ON-LINE: Teaching the principalship. *Educational Policy Analysis Archives, 10 (*27). Retrieved May 20, 2006, from http://epaa.asu.edu/epaa/v10n27.html

Hale, E. K. & Moorman, H. N. (2003). *Preparing school principals: A national perspective on policy and program innovations*. Washington, DC: Institute for Educational Leadership. Retrieved May 15, 2006, from http://www.iel.org/pubs/PreparingSchoolPrincipals.html

Honan, J. P., & Rule, C. S. (2002). *Using cases in higher education: A guide for faculty and administrators*. San Francisco, CA: Jossey-Bass.

Kowalski, T. J. (2001). *Case studies on educational administration* (3rd ed.). Needham Heights, MA: Allyn & Bacon/Longman Publishing.

Lacey, C.A., & Merseth, K.K. (1993). Cases, hypermedia and computer networks: three curricular innovations for teacher education. *Journal of Curriculum Studies, 25*(6), 543-551.

Levine, A. (2005). *Educating school leaders*. Washington, DC: The Education Schools Project. Retrieved April 27, 2006, from http://www.edschools.org/pdf/Final313.pdf

Masingila, J. O., & Doerr, H. M. (2002). Understanding pre-service teachers' emerging practices through their analyses of a multimedia case study of practice. *Journal of Mathematics Teacher Education, 5*(3)

McAninch, Amy. (1993). *Teacher thinking and the case method.* New York: Teachers College Press.

Merseth, K. K. (1990). *Beginning teachers and computer networks: A new form of induction suppor*t. East Lansing, MI: National Center for Research on Teacher Education.

Merseth, K. K. (1991). The early history of case-based instruction: Insights for teacher education today. *Journal of Teacher Education, 42*(4), 243-249.

Merseth, K. K. (1994). Instructional methods and conceptual orientations in the design of teacher education programs: The example of simulations, hypermedia, and cases. In K. R. Howey (Ed.), *The professional development of teacher educators* (pp.139-174). Cincinnati, OH: Ablex Publishing Corporation.

Merseth, K.K., & Lacey, C.A. (1993). Weaving stronger fabric: the pedagogical promise of hypermedia and case methods in teacher education. Te*acher and Teacher Education, 9*(3), 283-299.

Snowden, P. E. & Gordon, R. A., (2002) *School leadership and administration: Important concepts, case studies, & simulations* (6th ed.). New York, NY: McGraw-Hill.

Southern Regional Education Board (SREB). (2006). *Schools can't wait: Accelerating the redesign of university principal preparation programs*. Atlanta, GA: Author. Retrieved May 15, 2006, from http://www.sreb.org/programs/hstw/publications/special/06V04_Schools_Cant_Wait.pdf

Spiro, R.J., et al. (1987). *Knowledge acquisition for application: cognitive flexibility and transfer in complex content domains.* Arlington, VA: Army Research Institute for the Behavioral and Social Sciences.

Sykes, G., & Bird, T. (1992). Teacher education and the case idea. *Review of Research in Education, 18*, 457-521.

Tally, S., Shulman, J., Redmond, P., Perry, G. (2002). *The Effective Use of On-line Video Case Studies*. AACTE Conference Presentation, February 2002 in New York, New York.

University Council for Educational Administration. (1987). *Leaders for America's schools: The report of the National Commission on Excellence in Education*. Tempe, AZ: Author. (ERIC Document Reproduction Service No. ED346082)

Zuelke, D. C. & Willerman, M. (1995). The case study approach to teaching in education administration and supervision preparation programs. *Education, 115,* 604-608.