Examining the Integration of new concepts into the “developing understanding” of a future teacher

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Personal Statement

I have had many previous CCTL grants and have integrated these investigations into my chapter in the Kot (ed) 2011 book on our various case studies. Since the time of that publication, I have earned one more grant (on the use of SLO’s on academic achievement) and am using the resulting data in a manuscript at this time. (Previous dissemination of grant related findings have been focused on the (a) CCTL conferences and on the (b) NYSACTE-NYACTE teacher ed conferences).

Background on new study

Much of my previous work has both resulted in understanding how active learning (a) takes place and (b) works to produce conceptual achievement in students (Vermette, 2009); what has been lacking for me has been a formal investigation into the integrative aspects of this learning. I hope to conduct two semi-formal investigations into this phenomenon during the 2014-15 school year and take the findings to CCTL in January 2015.

Structure of the Study

In both a summer EDU course and in a fall EDU course (with many of the same students), participants will follow normal first day procedures (community-building, collaborative learning etc) but also take an individual essay “pre-test”: this will take the form of a one page description of teaching that students will be given 5 minutes to read...and then 25 minutes to “identify and explain management problems” that are recognized in the description.[Identifying these problematic situations is the first step in good Classroom Management]. The resulting papers will be scored on a rubric that includes the following elements: (a) the number of correct identifications (b) plausible explanations of why the problem is perceived as a “problem” (c) number of related concepts mentioned in the student narrative (see Ambrose, 2010, about organizing and integrating new concepts). These papers will not be returned to students but a plausible substitute (analog) case study will be used the next day for discussion and feedback purposes.

On the final Exam, the students will get the original one page vignette...and be asked to identify problems as was done on Day One. Assessment will be conducted using the same rubric as was used previously ...and the two students papers will be compared for changes (“integrated learning”) on the 3 element rubric. Moreover, the final exam will papers will also be examined to determine whether students offered plausible solutions to the problems......even though students were not specifically asked to do so. The thinking here is that as the education program develops, students will internalize the purposes of the classroom learning activities and link problem identification with problem solution [on their own]. (This, of course, is what faculty/teachers do: getting students to think like
faculty is the goal of the program. Unfortunately, in the Ed school we have many measures of program parts, but few that look at overall integration of ideas.)

In short, this study attempts to determine how a student grows and changes his or her conceptual network (a) over time & experience and (b) through a series of planned interventions offered in the course. (These interventions all use “active learning”.)

In the fall, a similar two phase pattern will be continued: Day One will be used to gather data—this time about good instruction—in an individual essay format, and these results will be compared to the Final exam essay written on the same vignette at the end of the course. Care will also be taken to see if students involved in both studies (a) mention that they recognize the similar patterns and (b) incorporate ideas from Study I (management) with the Final essay in Study II (good teaching).

Data from these 2 studies should allow assessment of student ability to connect seemingly disparate pieces of the “whole context” [called Good Teaching] as the program develop these ideas over time.

While the scoring of the essays may be a bit messy, it is thought that the option to use multiple-choice measures of assessment would suffer from two flaws: (a) potential student guesswork...up to 25%...would challenge the value of the data actually gathered. (Generative production of essays cannot be feigned: they will more authentically tell the tale of what the students are thinking.) Moreover, (b) the speed of generating insights will be held intra-personally constant (25 minutes); students should be more expert at the end of the program and should offer more (quantity) and more complex (quality) insights ......if they've been integrating all of the various pieces of knowledge into a meaningful ‘whole’. (Again, m-c assessments would be likely to examine parts...not the whole.)

NOTE: One other measure will be applied twice in each semester...and compared across time. The KA V survey (Kline, Aquino, Vermette, 2014) being used around campus today is a student perception survey that provides faculty information to use for instructional change. One-third of the survey contains items drafted by the faculty member for the purpose of gathering student perception data on very specific items with meaning for that course. Items will be created with CASTL staff that tap into the students’ understanding of how integrative efforts are being made at all times: they will speak to whether or not they sense the comprehensive value of the active learning experience.

Here is a potential example of two survey items that could be used in assessing student perceptions of the experience. The students would do the ratings[ using the four point scale below] and feedback will be used for modifications during the course: Very often Often Rarely Never

_____ 43. In this course, I have to connect ideas from various parts of my program to solve problems.

_____ 44. When I work with other students in this course, I use terms and ideas from previous components of the course.

Results will be presented at January 2015 CCTL conference.
APPENDIX

Examining the Integration of new concepts into the ‘developing understanding” of a future teacher

In Summary/Review:

(a) Goals: to assess the quality of the integration of new ideas into a student conceptual understanding of the field of study (teaching)
(b) The coursework follows active learning paradigms but the integration of content is the focus
(c) (direct) Assessment will be done by a timed case study analysis using a pre-set rubric, following a pre-and post test format; (indirect) assessments will also be made using a student perception survey asking for self-report measures
(d) If the study is done well and carefully, it should offer some great insights into how a new idea is taken in by a student, developed by his or her learning efforts, mediated by other (active)experiences and linked in to a growing network of ideas (called the discipline or thought of as the “program”)
(e) Results will be presented at the CCTL conference in January 2015.

Postscript

In the field of Teacher Education, great pains are taken to help candidates develop their teaching philosophy, a practice that may be of limited value since philosophical issues are not as prevalent in practice as are other factors, such as teacher beliefs. Also perhaps more important than “philosophy” would be the creation, modification and reflective implementation of strategies or interventions that a novice teacher would have at the ready” when it is needed. Teaching for this kind of “understanding and transfer” is more than difficult (Perkins, 1988) it is rare: turning an idea into a practice requires a level of integration that must be planned and nurtured during instruction. The results of these pair of studies may assist the field in offering a model that is sensitive to student growth, change and internalization that is not currently a systematic process. (The new State test called the edTPA is an analogous attempt to measure content integration using Video and student explanation of practice.)