Promoting Reflective Thinking in Teacher Candidates: Are Digital Video/Multimedia Portfolios a Useful Tool?

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Abstract

This research examined the effects of a process of digital video editing used to create multimedia portfolio on the quality of teacher candidates' critical reflections. Subjects were randomly assigned to one of three groups: control, experimental – reflection, and experimental – reflection with multimedia production. The difference between the control group and the experimental groups indicate that digital video editing does have an impact on teacher candidate's ability to reflect.

Teacher preparation programs throughout the United States are requiring teacher candidates to reflect critically on their actions. As Dewey observed, reflective thinking involves a state of doubt, hesitation, perplexity, mental difficulty, however this discomfort leads to reflection which is the act of searching, hunting, and inquiring to find material that will resolve the doubt and settle and dispose of the perplexity (Dewey, 1933, p 12). Although the usefulness of reflection in teacher education appears to be established, teacher educators may want to consider the fairness and appropriateness of its use before the conclude its validity and advocate mandating this requirement. Requiring teacher candidates to reflect on their activities may not be “developmentally appropriate”.

If reflection entails a high level of adult cognitive development, as Kitchener (1983) and has argued, then what teacher educators are assessing in candidates portfolios is their level of cognitive development and not necessarily their mastery of the program competencies. Critical thinking skills may be necessary for the development of higher-level thinking but are not in themselves sufficient to guarantee that development. On the other hand, if reflection is viewed as a form of critical inquiry, then what is asked of teacher candidates may be conceptualized as a metacognitive approach to problem solving. This metacognitive approach to problem solving entails a
systematic strategy that can and probably should be taught to teacher candidates.

Subjects were randomly assigned to one of three groups: control, experimental – reflection, and experimental – reflection with multimedia production. During the student teaching seminar course, the two experimental groups met for explicit instruction in reflection. Subjects in the reflection and multimedia production group received field-based (on site) one-on-one instruction in video editing. Inquiry oriented instruction focused on the process of understanding and improving one's teaching by using video as a tool to facilitate critiquing performance.

The instrument used to measure the dependent variable, teacher candidate's critical reflections, was based on a 7-part framework developed by Sparks-Langer, Simmons, Pasch, Colton, & Starko (1991). The data were analyzed using 3 separate t-tests for independent samples. The data were analyzed using 3 separate t-tests for independent samples. The first test assessed the difference between the average rater score for Group 1 (control) and Group 2 (reflection). The mean of 63.19 for Group 2 was not significantly larger ($p = .718$) than the mean of Group 1 ($m = 59.22$). The second test looked for a difference between Group 1 and Group 3 (reflection/video ed). The largest difference was between these 2 groups (Group 1 $m = 59.22$; Group 3 $m = 70.96$) which is what we anticipated. However, the difference was not significant ($p = .53$). The third test assessing the difference between Group 2 ($m = 63.19$) and Group 3 ($m = 70.96$) also found no significant difference ($p = .53$).

Although the difference between groups was not significant, the large difference between the control group and the experimental group (reflection/video ed) is encouraging. Our hypothesis was that multimedia portfolio development increase the teacher candidate's critical reflections.

References

