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Critiques of five research articles

Bage, G. (1997). How can we teach history through television? *Journal of Educational Media*, 23(2-3), 203-14. Retrieved September 21, 2003 from Academic Search Premier database. (Original pagination not retained in reproduction.)

This article summarizes a study of classroom television use. It describes the study methodology as "eclectic, drawing on traditions of action research ... ethnography ... history ... and constructivism..." (Ellipses in quote represent omitted citations.) The article is not particularly well organized. The author quotes extensively from the findings of earlier research studies, but does not always present these references in a way that distinguishes them clearly from his own findings and interpretations. Thus, close reading is required to understand and evaluate this report.

The study, which was conducted in England, was an evaluation of video materials produced by the English Heritage Education Service (EHES) for classroom use. The author uses the terms television, video, and film almost interchangeably, and the focus of this study is strictly on moving image materials produced for use in the classroom. The study attempted to identify the differing expectations for educational television held by three stakeholder groups: teachers, children, and producers. Data were collected through teacher questionnaires, interviews, and focus groups; classroom observations of children during screenings and interviews with children; and interviews with EHES staff. The report specifies the number of teachers, but not of children or producers, involved in the study. Of the findings reported, most related to teacher attitudes. Some children comments were reported, while only one quote from one producer interview was included in the report.

The article does not really connect the three stakeholder group preferences, and indeed, the questions asked do not seem to have collected data that have much connection. For example, the producer quote concerns producer expectations that teachers will need to work to help children make a given educational video a meaningful learning experience, but the teacher questions reported do not concern whether or how teachers try to do this.

Teacher data reported primarily concern the ways educational television can stimulate history learning and strengthen history teaching by supplying content, motivating, providing access to otherwise inaccessible sites and images, and supporting curricula, but it does not appear that producers were asked whether and or how they attempt to ensure that the videos they produce serve those purposes.

This article was interesting to me for several reasons. I am familiar with the history of the use of educational television in American schools, and the expectations of English teachers and students for the medium seem similar to those of their American counterparts. Its poor organizational structure makes this article in some respects a negative example of how to present the findings of a qualitative study, a useful but frustrating attribute. I would have found the study as a whole much more satisfying if the data collected from the various groups was susceptible to comparison, but there is no evidence that generating data for intergroup comparison was attempted. I really can't understand why, if one is conducting a study involving three stakeholder groups, one would not try to elicit comparable data from each group. I will try to do better!

Burkard, A., Jones, J. & Johill, M. (2002). Hierarchical factor analysis of the Quick Discrimination Index. *Educational and Psychological Measurement*, 62(1), 64-78.

This beautifully written report summarizes the results of a rigorous hierarchical factor analysis of the Quick Discrimination Index (QDI), an instrument designed to measure prejudice using a Likert-type scale. Prior to this study, the QDI had been evaluated using a principal components factor analysis and a racially heterogeneous sample. The study in question used homogenous (all White) samples and a hierarchical factor analysis.

Whereas the earlier studies had developed a three-factor structure for which only 24 of the 30 QDI items were salient, Burkard et.al. developed a model with four primary factors and a second order factor ("G" factor) which together accounted for 44% of the total variance. Each of the 30 QDI items was salient for one of the four factors identified in the Burkard study.

Burkard et.al.'s report clearly explains the procedures that were followed to randomly select a first survey group, collect and analyze the data, and then conduct a confirmatory factor analysis (CFA) using data collected from a second survey population. The authors of this report have studied and drawn upon earlier research and related theory, and they cite the former and elaborate upon the latter in conjunction with their findings in an exemplary manner. I had to read this about six times before I understood what they were getting at, but this is a sign of my own lack of experience with factor analysis. That I understood it at all is testament to their admirable organization and elucidation. The tables and graphs included in the article were very useful tools to help the non-expert understand both procedures and findings. I am unable to reasonably assess the validity of their statistical findings due to my own lack of expertise. With this caveat, I shall state that their discussion of those findings seems entirely plausible. That they are quick to point out the weaknesses and limitations of their work and their need for replication and expansion adds to their credibility.

The significance of their findings is ultimately clear: although the QDI was developed for use "with a variety of racial/ethnic groups to measure prejudice attitudes" (p. 65) and previous studies suggested it could serve this purpose, this study suggests that "the QDI

may not be generalizable across racial ethnic groups" (p. 74). I plan on using the QDI in my own research and this study will shape both my utilization of the instrument and my interpretation of my findings. Moreover, it has helped me to be a more critical consumer of other research which has relied upon the QDI (e.g., Hood, Muller & Seitz, 2001).

Hood, J., Muller, H. & Seitz, P. (2001). Attitudes of Hispanics and Anglos Surrounding a Workforce Diversity Intervention. *Hispanic Journal of Behavioral Sciences*, 23(4) 444-58.

Fisch, S., Yotive, W., Brown, S., Garner, M. & Chen, L. (1997). Science on Sunday morning: Children's perceptions of science in educational and non-educational cartoons. *Journal of Educational Media*, 23(2-3), 157-67. Retrieved September 21, 2003 from Academic Search Premier database. (Original pagination not retained in reproduction.)

This article summarizes the results of a study comparing children's perceptions of two cartoons, one of which was developed as a tool of science education. The study was conducted at a time of debate over the question of tightening the standards for educational children's programming established by the Children's Television Act of 1990. Commercial broadcasters argued against a more stringent definition of educational programming on the grounds that children would choose not to watch educational programs, an argument that had not been tested empirically. The study compared perceptions of *Cro*, which teaches about tools and simple machines as it follows the adventures of a Neanderthal boy and his talking woolly mammoth friends to perceptions of *The Flintstones*, a humorous look at the adventures of a "modern stone age family" that utilizes ingenious but pseudo-scientific gadgets.

Although the article itself is well-written, there may be several problems with the study it describes. The method of selecting the sample is not completely clear. The authors state that the 77 selected children "were taken from the second ... fourth ... and fifth grades of an inner-city public elementary school..." but do not further elaborate on the selection process. The racial makeup of the sample (90% African-American, 9% Latino/Hispanic, 1% White) is far from representative of the population as a whole -- in 2002, only about 13% of the total U.S. population was Black (U.S. Census Bureau, 2002) -- but I am not qualified to assess whether this should cast doubts upon the study's reliability. The rationale for the study's methodological approach is somewhat unclear. The children were shown an episode of *Cro* on the first day of the study. On the second day, they were shown another episode of *Cro* and asked to rate it. Approximately half of the children were then interviewed in small groups, at which time they were asked to compare it to the video they had been shown the day before, and to discuss whether the program they had just seen "contained any 'science'". On the third day, they viewed an episode of *The Flintstones*. Again, all students rated the program and approximately half were interviewed about its content and asked to compare it to the other programs they

had seen. The rationale for showing an episode of *Cro* on the first day is not stated. If it was presented as an example of a cartoon with "good science" then this would have biased the children's impressions of the second episode. If it was introduced neutrally, then the benefit of the children's comparing the two episodes of *Cro* is unclear. (Again, too, the sample selection process is unclear: were half the children interviewed after *Cro* on the second day, and the other half interviewed after *The Flintstones* on day 3, or were the same children interviewed both times?)

The study found that children rated both programs as appealing, that two-thirds of the children spontaneously mentioned the devices invented in the *Cro* episode (while only two talked spontaneously about the pseudo-science of *The Flintstones*), and that there was no statistical difference between the number of children who, when asked specifically if there was "science" in each show, answered in the affirmative. In discussing this third finding, the authors cite other studies which also found that children may have difficulty distinguishing between science and pseudo-science. They also elaborate on their own findings, which showed that, when asked to elucidate, children were about three times as likely to cite examples of real science from *Cro* (a program which contains both real science, such as Cro's inventions, and pseudo-science, such as his talking woolly mammoth) than to give pseudo-scientific examples from the program. In contrast, all examples of "science" from *The Flintstones* given were pseudo-scientific.

This study, although not directly relevant in most respects to the research I hope to do, was nevertheless quite interesting to me. The students' failure to distinguish between real and pseudo-science in the programs they watched raises many questions about how to help children learn from educational television programs, whether viewed in or outside of the classroom, and, perhaps, how to prevent them from developing erroneous mental models from pseudo-scientific entertainment programs.

United States Census Bureau. (2002). *The Black population in the United States: March 2002*. Retrieved September 29, 2003 from <http://www.census.gov/prod/2003pubs/p20-541.pdf>.

Hood, J., Muller, H. & Seitz, P. (2001). Attitudes of Hispanics and Anglos surrounding a workforce diversity intervention. *Hispanic Journal of Behavioral Sciences*, 23(4) 444-58.

This report summarizes the findings of a quantitative study designed to evaluate the changes in attitudes of university students resulting from the completion of a required course in organizational behavior.

The report begins with an extensive discussion of the nature of diversity training, the philosophical underpinnings of the diversity intervention in question (i.e., the course), and detailed definitions of some of the terminology used. Previous research on the impact of diversity interventions is cited. The authors state that

"The premise of the study's diversity intervention was that an individual must be grounded in his or her own values and be comfortable with these before he or she can effectively interact with diverse others" (p.445).

This statement is followed by an enumeration of the expected student outcomes for the intervention. The source cited for this list of outcomes is "Integrating workforce diversity into the business curriculum: An experiment," an earlier publication co-authored by Helen Muller, one of the authors of this study. These descriptions, plus the fact that the course met for 40 hours over 16 weeks, are the only information about the intervention provided in this article. Perhaps the article mentioned above would offer further insight into the nature of the intervention, but without that information, it would be impossible to replicate this study. One could certainly apply the procedures used (discussed below) to evaluate a given diversity intervention, but this would seem to suggest that all interventions are somehow comparable, an untenable premise.

The study utilized a variety of instruments (a series of Likert-type scales, all administered before and then after the completion of the intervention, whatever it was) to assess self-esteem, collective self-esteem, attitudes toward women, racial prejudice and sexism, and attitudes towards gay men and lesbians. The data collected were subjected to a statistical analysis. The report gives a detailed explanation of each assessment instrument. Findings are summarized, presented in tabular fashion, and discussed in terms of their

relationship to the research questions driving the study. This reviewer is not qualified to rigorously evaluate the statistical methods used in this study.

Among the study's findings was the discouraging fact that White males reported relatively less positive attitudes towards women and other ethnic groups after completing the diversity training. This trend was also detected in several other studies cited (p. 445).

One of the key features of this study was the relatively high percentage of Hispanics (28% compared to 55.7% white) in this sample, since the effect of diversity training upon Hispanics has not been widely studied. Given that recent studies suggest that the Quick Discrimination Index, the instrument used to measure racial prejudice and sexism in this study, might not be generalizable for heterogeneous populations (Burkard, Jones, & Johill, 2002), the findings dependant on this instrument may be questionable.

This article was a deeply frustrating one for me to read and evaluate. Although it examined the population I am currently focusing on (college students) and the type of intervention I am probably going to spend the rest of my life developing and studying (multicultural and diversity training), it ultimately has little to offer me because my goal is to develop effective diversity training and since they don't tell the reader much of anything about what this intervention actually consisted of, there is nothing for me to build upon. For example, this and other studies would indicate that White males respond negatively to diversity training. Since one might argue that this is the group most in need of such training, action research to develop an intervention that won't have the opposite of the intended outcome for this group seems an obvious next step. But, because we don't know what the initial intervention was, we have to step backwards and repeat the first step again before we can take the second one.

Burkard, A., Jones, J. & Johill, M. (2002). Hierarchical factor analysis of the Quick Discrimination Index. *Educational and Psychological Measurement*, 62(1), 64-78.

Protinsky, R. & Wildman, T. (1979). *Roots: Reflections from the classroom. Journal of Negro Education, 48(2), 171-81.*

This article summarizes the results of a study intended to measure the cognitive and affective impact of the broadcast of the television adaptation of Alex Haley's novel *Roots* on high school students. The authors appear to be familiar with the African-American history and with the presentation of that history in American schools but not to have much familiarity with studies of the use of television in K-12 education. The authors cite seven sources in their discussion of the way the *Roots* treats the controversial question of slavery's ongoing impact on African-American family structure but there are no citations in the section in which they discuss ways educators might capitalize on media events such as the *Roots* broadcast to create learning opportunities for their students.

The authors describe the group from which their sample was selected (224 students from grades 10-12 from four suburban schools in Mid-Atlantic states) but do not describe the sample selection process. They do, however, describe the method by which they eliminated respondents who were not familiar with the *Roots* broadcast from their study (resulting in a survey population of 181). The evaluation instrument was not discussed in sufficient detail. The authors state that it was a 5-page questionnaire and that all respondents completed it in less than half an hour. Two pages of survey results discussion are presented before the authors explain that students were asked to "indicate" (p. 175) or "check" (p. 176) whether various attitudes or behaviors described their response to *Roots*. In addition to these (presumably) yes-no response questions, the survey also included one open-ended question, to which 56 students chose to respond. Because of the lack of detailed description of sample selection and survey instrument, I do not see how this study could be replicated.

The authors state that patterns of male and female response were "very similar" (p. 173) as were patterns of black and white response and that they therefore combined all the data to yield one set of response patterns. The idea that similar black and white response patterns might indicate a flaw in the survey was not raised. The survey findings are presented in a table listing per cent responding to each question. Some typical responses to the open-ended question are presented.

The survey included a question about whether or not students had been given an assignment to watch *Roots* by their teachers; twenty-five percent had.

The authors go on to describe the kinds of educational benefits that might be realized by incorporating "*Roots* and other such media experiences" (p. 178) into the curriculum. They conclude the article by discussing the best ways to use television in the classroom to achieve these educational benefits. Given their failure to cite any sources to validate their recommendations (and many such sources existed in 1979, including the National Instructional Television Library's 1963-64 survey and the Corporation for Public Broadcasting and the National Center for Educational Statistics' 1976-77 survey) it is unfortunate that Protinsky and Wildman failed to compare the responses of those students who had been required to watch *Roots* to those of the students who had not, or to ask whether students, whether required to view the program or not, had discussed it in class. Such data could have provided a foundation of support for the authors' recommendations.

This study, although flawed, is still very important to me as I plan my own research into the unique affordances of the medium of video as a tool for fostering attitude change regarding issues of race, culture, gender and equity.

Dirr, P. & Pedone, R. (1979). *Uses of Television for Instruction 1976-77: Final Report of the School TV Utilization Study*. Washington, DC: Corporation for Public Broadcasting. (ERIC document 180 015).

National Instructional Television Library. (1964). *A Study of Instructional Television for Elementary and Secondary Schools during the First Semester of the School Year 1963-1964 with Supplementary Tables*. New York: NITL. (ERIC document 025 153)