

Clark 1983

1. Introduction

- Clark is a dense piece of academic prose, to be sure, but in it is contained an argument that is still being discussed; that research on media in education cannot tell us anything useful about the effects of media versus other kinds of instruction. His "...mere vehicles" line on the first page is still quoted and argued over to this day.

2. Concepts to be clear on

- Control and treatment groups
 - In empirical research it is common to refer to groups in this way. Typically, the control group in a media comparison study is one that is taught the same way as always. Usually, this is the classroom group. The idea is that this tells the researcher what the current norm is.
 - The treatment group gets instruction using the medium being researched. If one is trying to measure how computers compare to classroom instruction, then the treatment group is the one that is taught using the computer.
 - Statistical significance is beyond the scope of a few notes, but usually a researcher will tell you when the effect size is significance. Significance means that it is most likely the treatment caused the difference between the groups.
- Confounding
 - Research is confounded when there are too many plausible alternative reasons for why a certain effect occurred. For instance, our study comparing learning in classrooms with learning from computers finds that computer users learned more. Fine, so go buy computers. Except that upon further review we find that the computer using class was given the treatment *in addition* to the regular classroom instruction. This means that the study was confounded because the treatment received more instructional contact (regular class + computer instruction as opposed to the control that only received the regular class). Therefore the study is confounded because we cannot say if it was the computer or the extra instructional time that made the difference.
- Confounding factors mentioned by Clark
 - Same/Different Designer effect
 - Here Clark is saying that there is a difference effect size when one designer creates both the control and treatment group.

- Novelty
 - This is the so-called “Hawthorne Effect.” In essence, a researcher named Hawthorne found that *any* change will bring about a positive result for a short period of time. So a two-week study that showed using the Web helps kids learn is confounded by novelty. Was it the Web or simply a short term effect due to a change in strategy?
- Length of Study
 - This is closely associated with Novelty. If a study is short in duration it is harder to say that your treatment created a lasting effect.
- Small Population Size
 - How many students are enough? The right amount differs with study, but much of the research on media was conducted on small class sizes (say around 10 to 20 for each treatment group). The problem here is that it is easy to have a group of exceptional students - the numbers of your sample are not large enough to statistically ensure you have a representative group of society at large.
- Negative results not reported
 - No one likes bad news, even fewer like no news at all. Clark maintains this is true for academic publishers. Few studies are published that actually say computers hurt instruction. They do exist, however, in doctoral dissertations and desk drawers.
- NSD
 - “No Significant Difference” is this second most telling part of this article. Media comparison studies usually have a finding of “No Significant Difference.” Clark maintains this will always be true, so why do any more of these studies? Given the number that continue to be published, few seem to take heed of his objection.
 - Currently NSD is being recast as a victory. If media (especially in distance education) give the same results as the classroom, then let’s go for the cheapest, which oddly is usually seen as media. NSD is often used to justify whole distance learning initiatives.
- Promising Research Agendas
 - Isolate and study specific media attributes
 - Here Clark maintains that if (and only if) a specific sort of attribute like zooming could be isolated, then perhaps some useful theory building could take place. But then he goes on to point out that attributes like zooming could be used in many different media. So where is his conclusion?

- Users perceptions of media effectiveness
 - What on earth could this mean? Study how a learner's opinion of their medium affects their actual accomplishment? Hmm....

3. Discussion Questions

- I want you to work on discovering exactly what his argument is. Is he saying that all media teach the same and it is useless to compare one with the other?
- How does he justify his argument? What evidence does he bring to bear?
- What is one to do about this problem?
- What is Clark's conclusion about media comparison research?