International Journal of Pedagogics
(ISSN – 2771-2281)
VOLUME 03 ISSUE 02 Pages: 01-05
SJIF IMPACT FACTOR (2021: 5. 705) (2022: 5. 705) (2023: 6. 676)
OCLC – 1121105677
Crossref doi Google Scholar WorldCat MENDELEY

Publisher: Oscar Publishing Services

Journal Website: https://theusajournals.com/index.php/ijp

Research Article

THE ROLE OF INFORMATION COMMUNICATION TECHNOLOGY IN THE PROCESS OF EVALUATING STUDENTS

Submission Date: February 01, 2023, Accepted Date: February 05, 2023,
Published Date: February 10, 2023
Crossref doi: https://doi.org/10.37547/ijp/Volume03Issue02-01

Saytiyev Olimjon
Tashkent University Of Applied Sciences, Uzbekistan

Ergashev Shokhrukh
Tashkent University Of Applied Sciences, Uzbekistan

ABSTRACT

The effectiveness of instructional technology depends on appropriate evaluation of the technology, with special focus on outcomes. Because evaluation assesses how effective the technology is in enabling learners to master a particular subject, what students learn becomes an important criterion for evaluation. But how and when to assess learning and comprehension is an important and continuing problem. This article deals with strategic evaluation, which emphasizes technical accuracy, pedagogical soundness, substantive fidelity, integrative flexibility, and cyclic improvement. Effective strategic evaluation is a continuing process-ranging from querying immediate comprehension, to modifying instruction, to assessing long-term effects.

KEYWORDS

ICT, evaluation, effectiveness of instruction, accuracy , strategic evaluation

INTRODUCTION

The effectiveness of instruction depends on an appropriate evaluation of that instruction. Evaluation has several components, perhaps the most important of which is the evaluation of outcomes. As a result, what students learn becomes an important criterion for evaluation. But how and when to assess learning and comprehension is an important and continuing problem. Do we evaluate just at the time at which the

International Journal of Pedagogics
(ISSN – 2771-2281)
VOLUME 03 ISSUE 02 Pages: 01-05
SJIF IMPACT FACTOR (2021: 5. 705) (2022: 5. 705) (2023: 6. 676)
OCLC – 1121105677
Publisher: Oscar Publishing Services

student learns an important concept-say, at the end of a class; or at the end of the course-say, in a final exam; or by considering a portfolio of products that the student develops over a period of years? Clearly, the effective evaluation of instruction is a continuing process, which ranges from queries about immediate comprehension to the assessment of long-term effects. In this paper, I will sometimes appear to refer to instructional software and information technology interchangeably. This is not because I consider the two to be equivalent, but because the evaluation of instructional software has a long history, and it is sometimes simpler to refer to it. However, the use of instructional software is only a small part of the rapidly growing genre of information technologies used in instruction. While instructional software is one type of information technology that can be used in teaching and learning, information technology embraces a wide range of media, including software, CD-ROM, interactive video, and sound. As I survey the new information technologies that are available to educators, I am convinced that effective evaluation is essential, and some of the lessons that we have learned about the effective use of instructional software also apply to all aspects of information technology in education.

It is especially heartening to hear the discussion of evaluation presented in this session. Duncan (1993), Ransdell (1993), and Welsh (1993) have described not only the importance of evaluation, but the critical need for it to be done effectively. I think that we all share the vision that information technology has the power to transform teaching and learning, but that it cannot do so without evaluation. From different academic environments and from rather different experiences, each has identified an important role for evaluation. In this presentation, I will take a different, yet complementary, view of evaluation. The evaluation of instructional software or the use of information technology-to judge from my discussions with faculty genuinely concerned about the quality of instruction-is all too often not done, done poorly, or done at the wrong time. This observation has led me to develop a series of questions and issues that should encourage more and better evaluation. These views have grown out of several years of evaluating technology for my own instructional use and learning of others' use of technology. Some views have been influenced by my experience as a judge for the EDUCOM software awards program-an experience that not only exposed me to a large variety of instructional applications and documentation of their evaluation, but gave me the opportunity to discuss and debate some of these ideas with others more insightful and experienced than I on matters dealing with the instructional application of technology and its evaluation. Although I have discussed the effective use of instructional technology and its evaluation before (e.g., Castellan, 1986, 1987a, 1988), I find that those earlier views must be refined and expanded in light of new developments and experience.

STRATEGIC EVALUATION

In the evaluation of any technology for use in instruction, several questions can (and should) be asked. Some have argued that these criteria do not matter, and that the sole criterion for success is whether "it works." I would argue that the determination of whether the technology works is in fact evaluation against a criterion that, although it may not be well articulated, nonetheless can be judged. My goal is to provide a set of criteria that can be used in evaluating instructional software and educational technology in general. These criteria address different aspects of the technology and its use: technical accuracy, pedagogical soundness, substantive fidelity,

International Journal of Pedagogics
(ISSN – 2771-2281)
VOLUME 03 ISSUE 02 Pages: 01-05
SJIF IMPACT FACTOR (2021: 5. 705) (2022: 5. 705) (2023: 6. 676)
OCLC – 1121105677
Crossref doi Google Scholar WorldCat MENDELEY
Publisher: Oscar Publishing Services

integrative flexibility, and cyclic improvement. As noted earlier, strategic evaluation is an attitude that influences the way in which we look at instructional technologies. Depending on the context, some criteria may be more important than others, but none should be ignored.

Technical Accuracy . Does the software execute correctly? Will it work on the platforms that students will use? If the application is used in a departmental computer cluster or on a small network, this may be easy to determine. But if the technology is to be used by students at remote sites, particular hardware configurations will differ widely and it will become crucial to ensure that students are not frustrated by an inability to use the technology. Technical accuracy seems relatively easy to assess, but often it is difficult to achieve. Achieving it requires both time and expertise with the different platforms that students are likely to encounter. It is also a form of evaluation discussed in depth in manuals dealing with the development of instructional technology.

Many important aspects of pedagogy could be considered. The following questions that should be asked about instructional technology have been phrased to encourage instructors to delve deeply into their motivation for teaching particular topics and concepts. The questions that constitute the following list are not independent. Rather, they are highly interrelated, and it would be difficult to identify one as more important than another. Are instructional goals articulated clearly for the student? If students are to develop a useful schema for the knowledge or skills to be acquired, it is essential that the students know what the goals are. Although it may be tempting simply to leave the articulation of goals for the student to discover, only a small percentage of students are likely to correctly discern the goals, and, even then, not necessarily at the appropriate time. Students who know the goals can monitor their progress toward those goals and can gain confidence and satisfaction as they recognize their progress in achieving them. Is it clear where technology ends and substance begins ? This is a special problem in many areas of psychology. For example, if the goal is to teach various structures in the human brain, then the distinction is probably clear to the student. However, some of our applications in psychology are designed to illustrate concepts that are intimately tied to the use of the computer. For example, in an interactive demonstration of memory capacity, the research used to discover such capacity has involved the use of computers. Thus, the demonstration has special fidelity because the student performs it by using essentially the same apparatus that was used in the original research. But there are differences that the student must understand. There are limits to memory capacity, and these limits exist whether or not they are assessed on a computer. Another subtle point is that, in the demonstration, the student must take some action to set up and initiate the experiment and must do something at its conclusion in order to get a summary of the data. Is it clear to the student precisely what parts of the demonstration session constitute the replication of what subjects saw and did in the original classic experiment? Does the student effectively disentangle the various aspects of the demonstration? (When I first began to use computer-based demonstrations in a cognitive psychology course, one demonstration required subjects in a perceptual task to report the contents of a briefly presented display. Student subjects were assigned to different conditions, and, for different subjects, the display was active for different lengths of time. One day a very upset student came to my office, saying that she had run the experiment four times, but was still "failing" the experiment since she was making only 30% correct

International Journal of Pedagogics
(ISSN – 2771-2281)
VOLUME 03 ISSUE 02 Pages: 01-05
SJIF IMPACT FACTOR (2021: 5. 705) (2022: 5. 705) (2023: 6. 676)
OCLC – 1121105677
Crossref doi Google Scholar WorldCat MENDELEY
Publisher: Oscar Publishing Services

responses. She had assumed that she would be graded on her performance, thereby missing the point of the demonstration.

Integrative Flexibility. Can the instructional software or technology be integrated into the course easily? Or, to put it another way: Can the course syllabus and/or the technology be modified to enable the resources to be used effectively? If the answer is no, I would argue that the technology should not be used. Instructional software-even if it consists only of a single package-must be assimilated within the course. To be effective, the technology must not be seen as optional or as an aid for those who want "extra credit." The technology must be viewed by the students as an integral part of the course, and if they are to use it outside of the classroom, appropriate references must be made to it in lectures or class discussion. Terminology used in the software, lectures, technology, and text must be consistent. Finally, instructors must understand that adding instructional technology to the syllabus adds to the time that students must spend in the course. What can be eliminated? As we add tasks to the syllabus, we should delete other tasks that may have become less relevant to the course goals.

Cyclic Improvement. Evaluations of instructional technology made before its use affect one course for one semester. But evaluations must be made during and after the course as well. The nature of the exercises and the instructional technology must be altered and modified as a result of experience in their use. If the technology appears to be less effective than desired, one must determine whether the problem lies in the technology, in the manner in which students use it, or in the manner in which it is integrated into the course.

CONCLUSION

The goal of instructional technology is to increase the effectiveness of learning. This may involve engaging students' attention, teaching difficult concepts, or improving the efficiency of learning. Instructional technology is not neutral in this regard, but neither is it an end in itself. Several issues involving the effective use of information technology in instruction have been addressed. These issues can be organized into five types of strategic evaluation: technical accuracy, pedagogical soundness, substantive fidelity, integrative flexibility, and cyclic improvement. Within these categories of evaluation, issues have been phrased in terms of questions that the instructor or person responsible for the course should ask. There is no clear correct answer to these questions; rather, strategic evaluation is the search for answers to the questions in an instructional or learning context. Thus viewed, the successful integration of technology into one's courses is a continuing dynamic process of renewal and growth.

REFERENCES

1. ALESSI, S. M., ok TROLUP, S. R. (1985). Computer-based instruction: Methods and development. Englewood Cliffs, NJ: Prentice-Hall. BARON, J. B., ok
2. STERNBERG, R. J. (1987). Teaching thinking skills: Theory and practice. New York: W. H. Freeman.
3. CARROLL, J. M. (Ed.) (1991). Designing interaction: Psychology and the humDn-compuzer interface. New York: Cambridge University Press.
4. CASTELLAN, N. J., JR. (1984). A model for courseware development in psychology. Behavior Research Methods. Instruments. &: Computers, 16, 165-167.

International Journal of Pedagogics
(ISSN – 2771-2281)
VOLUME 03 ISSUE 02 Pages: 01-05
SJIF IMPACT FACTOR (2021: 5. 705) (2022: 5. 705) (2023: 6. 676)
OCLC – 1121105677
Crossref doi Google Scholar WorldCat MENDELEY
Publisher: Oscar Publishing Services

5. CASTELLAN, N. J., JR. (1986). Issuesin the effective use of computers in introductory andadvanced courses in psychology. Behovior Research Methods. Instruments. &: Computers, 18, 251-25610NASSEN, D. H. (Ed.). (1988). Instructional designs for microcomputer software. Hillsdale, N1:
6. Ebaum. LOCKARD, 1. (1992). Instructional software: Practical design and development. Dubuque, IA: W. C. Brown
7. . MAYER, R. E. (1987). Educational psychology: A cognitive approach. Boston: Little, Brown.
8. RANSDELL, S. (1993). Educational software evaluation research: Balancing internal, external, and ecological validity. Behavior Research Methods, Instruments, & Computers, 25, 228-232.
9. STEINBERG, E. (1991). Teaching computers to teach (2nd ed.). Hillsdale, N1: Erlbaum.
10. TENNYSON, R. D. (1993). MAIS: A computer-based integrated instructional system. Behavior Research Methods. Instruments. & Computers, 25, 93-100. WELSH, 1. A. (1993). The effectiveness of computerized instruction at the college level: Five suggestions for successful implementation. Behavior Research Methods, Instruments, & Computers, 25, 220-222.