

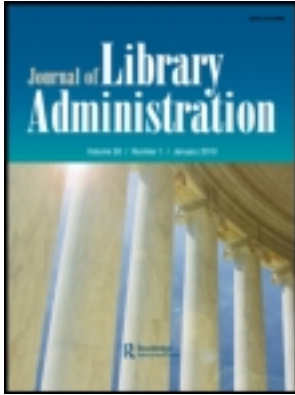
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Using Outcome-Based Education in the Planning and Teaching of New Information Technologies

Michael Lorenzen

SUMMARY. Library administrators expend considerable resources in selecting and planning for new information technology. One important and crucial area that is often overlooked is planning to introduce and teach library patrons how to use the new information resource. A variety of instructional approaches can be taken, but an approach that has received little attention in libraries is outcome-based education (OBE). OBE focuses on what students can actually do after they are taught. This article reviews the literature on OBE and discusses its application in library instruction and reference service, particularly in the introduction of new technologies. [Article copies available for a fee from *The Haworth Document Delivery Service*: 1-800-342-9678. E-mail address: getinfo@haworthpressinc.com]

KEYWORDS. Outcome-based education, library instruction, reference service, electronic information resources

INTRODUCTION

A considerable amount of work needs to be done when selecting new information technologies. From deciding which technology to

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use to negotiating vendor's license agreement, a great deal of effort is expended by library administrators. However, two important and crucial areas that are often overlooked are considering what outcomes a library wants from information technology and planning to introduce and teach library patrons how to use the new information resource. It is pointless to purchase a new electronic resource unless it is used effectively by the patrons of a library. A variety of approaches can be taken when designing the curriculum of a library instruction program. Most of these approaches can be traced to pedagogical practices that are being advocated by the education profession. One current educational approach that has not received a lot of attention by librarians is outcome-based education (OBE). This approach is highly relevant to libraries planning to introduce new information technologies to patrons because it ties in closely to the goals of library instruction, and to a lesser degree, reference services.

OBE is a method of teaching that focuses on what students can actually do after they are taught. All curriculum and teaching decisions are made based on how best to facilitate the desired outcome. This approach leads to a planning process in reverse of traditional educational planning. The desired outcome is selected first and the curriculum is created to support the intended outcome. It fits library instruction very well because librarians want students to have certain information seeking skills (such as the ability to use the online catalog) as an outcome of library instruction. This paper will seek to help administrators and public service librarians use those elements of OBE that could prove useful in the library during both the planning and teaching stages of a new information technology. It begins with defining OBE and its applications in classroom teaching, followed by a discussion of the role OBE can play in information technology planning, library instruction, and reference service.

LITERATURE REVIEW

A recent definition of OBE comes from James Towers: "Education that is outcome-based is a learner-centered, results-oriented system founded on the belief that all individuals can learn."¹ Towers lists four points to this system that are necessary to make it work. First, what the student is to learn must be clearly identified. Second, the student's progress is based on demonstrated achievement. Third, multiple in-

structional and assessment strategies need to be available to meet the needs of each student. And finally, adequate time and assistance need to be provided so that each student can reach the maximum potential.²

Towers shows how slippery the definition of OBE can be. He writes that OBE is learner centered; however, his explanation makes it clear that OBE is, as its name suggests, outcome centered. What Towers intends to show is that good outcomes are learner centered. However, it is possible to focus too much on the outcomes at the expense of the student. This is important for the librarian to remember. The librarian can focus on outcomes and not always be focusing on the needs of the library or patron. It is essential to choose outcomes that are learner centered.

What, then, do we mean by outcomes? The definition of this term is also very important to understanding OBE. William Spady and Kit Marshall provide the following definition:

Outcomes are clear, observable demonstrations of student learning that occur after a significant set of learning experiences. They are not values, attitudes, feelings, beliefs, activities, assignments, goals, scores, grades, or averages, as many people believe. Typically, these demonstrations, or performances, reflect three things: (1) what the student knows; (2) what the student can actually do with what he or she knows; and (3) the student's confidence and motivation in carrying out the demonstration. A well-defined outcome will have clearly defined content or concepts and be demonstrated through a well-defined process beginning with a directive or request such as 'explain,' 'organize,' or 'produce.'³

Again we are faced with what appears to be a contradiction. The authors write that outcomes are not attitudes or beliefs but then state that a good demonstration of an outcome is a student's motivation or confidence in carrying out a demonstration. I would argue that a librarian should indeed take the attitudes of patrons into account when designing outcomes because these attitudes and beliefs can be important outcomes in themselves.

Spady and Marshall also discuss two other important considerations with OBE. First, there must be a "clarity of focus" so that planners and teachers have a clear perspective on what they want the students to be able to do successfully. Further, the curriculum must be constructed

“design down” with the desired exit outcomes first and all instructional plans built upon those outcomes.⁴

Another pair of OBE theorists is Floyd Boschee and Mark Baron. They defined outcomes as future oriented, publicly defined, and learner centered; focused on life skills and contexts; characterized by high expectations of and for all learners; and sources from which all other educational decisions flow. Further they defined learning as facilitated carefully toward achievement of the outcomes, characterized by its appropriateness to each learner’s development level, and active and experience-based.⁵

One problem that OBE causes for educators is assessment. By its very nature OBE eliminates traditional assessment tools such as tests or grades. Gail Furman addresses this topic by examining how OBE can cause problems in assessment:

Assessment issues arise, of course, from any use of outcome-based education. The central premise of OBE, as we have seen, is the alignment of outcomes, curriculum, and assessment. The OBE design process stipulates that assessments be developed after outcomes are defined and tailored to authentically assess the outcomes. . . . Thus OBE implies that the educator must develop original, authentic, performance-based assessments linked to specific outcomes. This feature of OBE raises the specter of many thorny issues surrounding assessments in general, and performance assessment in particular.⁶

Furman casts the problem in slightly different terms. It is not that OBE cannot be assessed easily. After all, the student can either demonstrate the desired outcome or not demonstrate it. The problem is in translating assessment into a form that the community and state legislators can understand.⁷

Most of the literature on OBE deals with elementary and secondary schools. However, Mary Webster places OBE in a post-secondary setting, a marketing course at a community college. Her outcome method required students to master material before they could move on to higher material. This often meant the student was forced to repeat tests or quizzes several times. Students were forced to work hard because a grade of “C” was not considered a sign of having mastered a competency. While Webster’s study is somewhat problematic because it involves the use of tests and grades, she found that this

method reduced the failure rate and at the same time increased student learning and retention.⁸

Despite the fact that teaching library skills is traditionally one of the least grade-driven and most outcome-based curricular goals, the amount of literature connecting OBE to librarianship has been sparse. Mary Anderson was one of the first to notice how OBE was impacting libraries. Increased interdisciplinary teaching that results from OBE was forcing teachers to reconsider how they wanted to incorporate library skills into the curriculum and giving librarians more opportunities to interact with students.⁹

Deborah Kirk and Lynda Welborn describe how school systems in Colorado were being affected by OBE. School library media centers were required to formulate outcomes for information literacy. One consequence of this method of education was the integration of library skill sessions with regular classes. As the authors explain, "One of the most significant implications of OBE for school library media programs is the change in the 'mode of teaching' from isolation to integration. We can no longer teach 'library skills' in isolation if we expect these skills to be used when they are needed. Skills taught in isolation are not likely to be transferred to other applications as easily as those skills taught in concert with a direct application."¹⁰ By forcing teachers to concentrate on outcomes, the librarian was benefiting from increased exposure of library skills in the curriculum.

OBE AND PLANNING FOR NEW INFORMATION TECHNOLOGIES

How can OBE be applied in planning for new information technologies? There are two areas that can potentially benefit. First, an OBE approach can be used to assist in the evaluation and selection of a system or electronic resource. Secondly, once a selection decision is made, an OBE approach can be encouraged by administrators to allow staff adequate time to consider how best to teach the new information technologies so that the desired patron outcomes will be achieved after the information technology is made available to the public.

In the evaluation and selection of new technologies, perhaps the most important consideration is the "design down" nature of the OBE approach discussed by Spady and Marshall. Before an online system or database is selected by a library, the library has to determine what

outcomes patrons will want from it. Why is this new information technology being acquired? Is the current system difficult and confusing for patrons? If so, does the library want a system that is easier to use so patrons are more successful? In this case, one of the desired patron outcomes for a new information technology has been determined already. At this point, the decision-making process narrows to the set of systems or resources that can be selected to fit this outcome.

Problems can develop if patron outcomes are not considered in the planning stages. For example, a library may plan for a new online system but overlook system features that are important for patrons. Many libraries have selected online systems because the system was less expensive than other choices or because the technical services department liked the cataloging module. Both of these are important considerations. However, together these two reasons do not justify the purchase of a system that patrons have difficulty using. Despite what vendors claim, not all online systems are easy to use. If a system is difficult to use or lacks functionality, patrons will not achieve the desired outcome of being able to find information on their own. The library will then be in the situation of having to compensate in its instructional programs and reference service for the limitations of the system rather than the desired outcomes. Instead of teaching for outcomes that emphasize mastery and self-sufficiency, library staff will be teaching patrons how to "get by" with a difficult system or how to seek intervention and assistance.

The second benefit of OBE, planning for teaching a new information system, relates directly to library instruction and reference service. The wrong time to think about how a library curriculum should incorporate a new information technology is the week before a new information technology is introduced to the public. If the patron can not use the system effectively, the new technology is a failure. Instruction and service outcomes need to be considered when a system is first being evaluated so that adequate staff and time can be allocated to teach the new technology. Upon selection, those outcomes become the foundation for developing instruction and service plans.

OBE AND LIBRARY INSTRUCTION

Although library instruction is OBE friendly, it is not always possible in the library environment to emphasize every point and consid-

eration of OBE. Still, focusing on outcomes can be beneficial for librarians in planning and designing library instruction for new technology. In fact, most library instruction programs are already based in OBE ideals even if the librarians have never heard of OBE. Finding a way to accent the OBE principles that already exist in a library instruction program and also expand them to include other elements of OBE is the curricular challenge facing greater incorporation and use of OBE in the library classroom.

The first area that must be addressed in an OBE library curriculum is the decision about what it is the student is to learn. This is what Spady and Marshall referred to as the “clarity of focus.” What does the librarian want the student to be able to do successfully? This can and should result in an active discussion among the librarians, support staff, and administrators of a library. It could be that the current instructional model in place does not actually teach those outcomes deemed most valuable to the library. The introduction of new information technologies is a good opportunity to evaluate the current instructional model, especially if OBE techniques are applied in the evaluation and selection stage.

Actually articulating outcomes can be challenging. Outcomes can focus on understanding and identifying various concepts; however, the best outcome statements often require some sort of action on the part of the student. A good example is an outcome that students learn how to use a listserv. Some model statements here could include:

1. The student can explain what a listserv is.
2. The student can subscribe to a listserv.
3. The student can send a message to every individual on the listserv.
4. The student can unsubscribe to a listserv.

As Spady and Marshall suggest, good action verbs such as “explain, organize, and produce” make good outcome statements. They should not be so vague that it is impossible to determine if the learning has occurred. They must be demonstrable by the student.

In addition to “clarity of focus,” Spady and Marshall also discussed another important point that library educators must keep in mind. The curriculum must be “design down.” The desired exit outcomes of the students must be agreed on first; only then should the appropriate instructional plans be designed. OBE will not work if the librarian simply takes the curriculum already in place and forces outcomes to fit

that curriculum. The curriculum supports the outcomes and as such is designed after the outcomes. This is perhaps where OBE could prove the most useful in improving library instruction. Academic librarians need to get past how they teach and focus more on what they want to happen when they teach and after the class is finished.

As new educational applications of technology have come into use, the call for information literacy for students has become a rallying cry on many campuses. As Kirk and Welborn observed in their article on school media centers, OBE can be applied to efforts to more fully integrate information literacy into the curriculum. Linking library skills to material being taught in other parts of the curriculum has long been viewed by instruction librarians as a solution to the problem of relevancy and retention of library instruction efforts. As Tom Eadie writes in an article bemoaning the uselessness of library instruction, "Instead of dealing with the same dumb question 20 times over, assemble a group of 20 students, raise your voice, and give them the answer. Of course they have yet to ask the question and there are disadvantages to addressing the unmotivated en masse. They may not listen carefully or remember what you said."¹¹ In Eadie's view, students did not value library knowledge unless they had a need to use it at the time it was being taught. If there was no way to immediately use the material being presented, the student ignored it. If library skills are not taught in tandem with the assignments that students have due, we cannot expect the student to appreciate and retain the information.

Rather than look upon library instruction as useless and ineffective, OBE provides the academic librarian with an argument for incorporating library instruction into the post-secondary institution-wide curriculum. If librarians are fortunate enough to have representation on the faculty committees that approve new courses and new institutional goals, this is a possible starting point for presenting the case for integrated OBE-based library instruction. If not, then librarians can cultivate partnerships with faculty and administrators who are receptive to integrating information literacy. In either case, by identifying the educational outcomes of these new initiatives, the librarian can establish parallel instructional outcomes and have a linkage upon which to advocate for a closer integration of library instruction to the new course.

OBE is not without its challenges as an instructional methodology for libraries. It can be more labor-intensive for the librarian who can

no longer use the same lesson plan over and over again. Many instructional librarians use the same basic canned instruction session repeatedly with only slight modifications being made for different courses and assignments. Making new plans each time a course is taught will allow the outcomes to be addressed each time in the best possible instructional way. Also, OBE requires an attention to different learning styles and therefore requires multiple instructional strategies. This may prove difficult for most libraries. Rarely does a librarian get more than one session with a group of patrons. In this time, only one or two instructional strategies can be pursued. This of course is not advantageous to students who have learning styles different from the instructional format. The same is true for the OBE doctrine of giving the student adequate time and assistance. This is not going to happen in a fifty-minute instruction session. The best the librarian can do is to inform the students about the reference desk and the user services that exist there. The librarian can also make it clear that the librarian is available for individual assistance by appointment. From there it is up to the student. The time constraints of library instruction make this an extremely difficult area of OBE for the library to incorporate.

Because of these challenges, applying OBE also means that academic librarians must be selective as to when they teach. If a course does not have a specific assignment due that requires library work, then the librarian should not conduct library instruction in it. Unless there is a good chance that desired library learner outcomes can be achieved, librarians should resist "baby sitting" for a professor who is away at a conference or a TA who needs a break from teaching because she has three papers due. These situations are opportunities to work with faculty to set mutually agreed upon outcomes for library instruction.

OBE AND REFERENCE SERVICE

Since much patron interaction with new technology is at the point of use, reference desk services and instructional activities can complement each other nicely in an OBE environment. Any OBE approach in library instruction is going to have to take into account reference service by necessity. Many of the librarians engaged in library instruction also work at a reference desk. Also, students from library instruction sessions will come to the reference desk either out of necessity or

because that was where they were told to go during the library instruction session for further assistance.

However, OBE can cause a conflict in philosophies that can be hard for the librarian to resolve. Tying OBE to reference services raises a serious question that has been extensively addressed in the library literature. How much should the librarian do for the student? If learner outcomes of self-sufficiency and information literacy are to be achieved, the answer is as little as possible. The librarian needs to act more as a teacher showing the student how to do the research rather than giving the student answers directly with little effort on the student's part. This philosophy can conflict with one that interprets the role of the reference librarian as service driven rather than teaching driven (service here being defined as providing the answer directly rather than teaching the user how to find the answer).

William Katz holds that service should be the goal at the reference desk. Katz has come down strongly on the side of giving students answers at the reference desk rather than showing them how to do the research themselves. Considering bibliographic instruction from the individualized view at the reference desk, Katz argues, "Bibliographic instruction is incompatible with the concept of helping and solving problems for the individual. The reference librarian can do one or the other, at least consistently, but not both. To attempt to give answers to questions, to solve computer problems while insisting on teaching users to solve his or her own information and technical problems, is to confuse the client. Furthermore, it ultimately defeats the role of the library as an information resource."¹² Unless the student actually desires to be instructed rather than shown, Katz feels the librarian is doing the student a disservice by forcing instruction on her. The philosophy of the library must be examined and be clear on this point. What is more important, teaching the patron how to do research and use an information technology or giving the patron the answer directly? Regardless of the answer, attention must be given to how reference service will interact with an OBE library curriculum.

If education is emphasized over service, attempting to identify those patrons who have been taught in the classroom so that they can be treated differently at the reference desk would create different levels of service for different patrons. This approach would not only be difficult to implement in reality, but would likely be unacceptable. Thus, an attempt to teach patrons how to look up information rather

than give them the information would need to be applied to all patrons as often as possible for an OBE approach to work.

It is probably impossible to address every reference interview from an OBE approach. It is not practical to show every patron who asks a simple ready reference question how to use an almanac. It also is not possible to do so when there is a long line of patrons waiting for help at the reference desk. Applying OBE at best can only be a selective activity that can be used when the reference desk is not busy and there is something significant to be taught to the patron. However, some effort must be made to bring reference service in line with the classroom if OBE is incorporated into the library curriculum. Otherwise, one important educational function of the library may needlessly conflict with another.

CONCLUSION

There are many applications of OBE for librarians dealing with new information technologies. Perhaps the most important OBE application in a library can be in the planning process. Before acquiring new information technologies, a library can take into account how a new catalog or databases will be taught. If resources prove difficult to teach in the evaluation stage, perhaps it is best if another product is selected instead. If users cannot achieve desired information outcomes easily with an information resource, then a library will be failing patrons by selecting it. Any information resource made available to the patrons of a library needs to be beneficial to both the library and patrons. An OBE approach in the planning stage can help determine if an information resource has failed in the latter.

OBE, because it fits library instruction so well, has a lot to offer the librarian. Concentrating on outcomes allows librarians to focus on teaching the skills that are most important to the library. By clearly focusing on what they want the patron to learn, and by creating observable outcomes to assess patrons by, librarians can make a curriculum that teaches the outcomes. This approach can lead to better library instruction by encouraging librarians to reconsider what and how they teach and also lead to better incorporation of library skills into the post-secondary curriculum for the academic librarian. Not all aspects of OBE can be addressed completely but reference service and individual appointments can help in those areas with which library instruc-

tion cannot adequately deal. Reference services in libraries' OBE will have to reconsider how they can best complement the OBE approach even as they realize that full implementation is impractical. As OBE is adopted by librarians, published reports of libraries that have taken this approach would certainly benefit the profession.

NOTES

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