Service-Learning and Pharmaceutical Education: An Exploratory Survey

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The University of Mississippi School of Pharmacy, prior to introduction of Service-Learning into its curriculum, decided to seek information on the status of Service-Learning in the Pharmaceutical education community. In order to accomplish this, a direct-mail survey of the AACP member Schools of Pharmacy was conducted. Forty-two of the seventy-eight schools surveyed responded. Seventeen reported some form of Service-Learning as already being in place. Respondent school’s comments on the requirements for implementation and difficulties encountered are presented, as well as discussion of the benefits of Service-Learning. The broad disparity in implementations of Service-Learning and the relatively few institutions who have adopted Service-Learning into their curriculum is presented as evidence that further discussion of this educational strategy amongst the Pharmaceutical education community is needed.

INTRODUCTION

In 1997 the University of Mississippi School of Pharmacy surveyed the schools of pharmacy members of the American Association of Colleges of Pharmacy about their utilization of self-defined Service-Learning initiatives in their curricula. The survey inquired about respondents’ definitions of Service-Learning; about the status of Service-Learning at their institution; about the process of implementation of Service-Learning initiatives; about issues encountered administering Service-Learning-based courses; and about anticipated problems as well as suggested remedies.

BACKGROUND

Today’s pharmaceutical educator shares with pharmaceutical manufacturers the challenge of closing the gap between the efficacy and effectiveness of their product. For the educator, the efficacy of the product can be considered to be the pharmacist’s knowledge base upon graduation, and may be estimated by performance on the standardized NAPLEX exam. By this measure, efficacy is quite high. Effectiveness could be considered to be the pharmacist’s ability (and inclination) to promote real changes in patient quality of life in the practice setting. This parameter is far more difficult to measure and perhaps not surprisingly, does not always enjoy a high rating especially outside of the pharmacy community. Clearly, as the profession matures into the new practice model of pharmaceutical care, improving practitioners’ effectiveness and documenting that improvement will be crucial to societal acceptance of pharmacy’s new identity.

So the question becomes, “How can such improvement be accomplished?” The Gulf War demonstrated graphically how munitions essentially unchanged in explosive payload from their World War II ancestors were nevertheless orders of magnitude more effective due to improvements in delivery and guidance systems. In other words, the explosive payload, the efficacy, if you will, had remained unchanged. But the weapons were dramatically more effective because that payload was being applied more selectively.

We would suggest that the same relationship applies to the problem of improving pharmacist effectiveness. It seems unreasonable to expect pharmacy education to be able to dramatically increase the overall payload (the knowledge base) of the newly minted pharmacist much beyond what is already being accomplished in the six-year PharmD degree program. The fact of the matter is, that tremendous body of knowledge should not be applied to every patient in every situation at every interaction. In an ideal scenario pharmacists would have an unlimited amount of time to consider each patient’s complete needs. Unfortunately, the pragmatic exigencies of the practice environment often require the practitioner to be selective in the application of their knowledge base.

Such an exhaustive approach would be neither reasonable nor feasible, and might not even be in the best interests of the patient. Rather, the pharmacy student needs to be mentored and have experiences which facilitate the development of the student’s ability to identify the needs of each patient and those patients most in need. This will permit the student’s knowledge base to be applied selectively in conjunction with care-giving to encourage the best possible outcome. Given the ability to apply knowledge selectively to the patients and problems most requiring pharmacist intervention, the effectiveness of interventions could conceivably be improved dramatically.

The challenge is to incorporate ways to train pharmacy students to use their knowledge and caregiving capabilities more effectively in patient problem solving and serving patient needs. Perhaps this is one reason for the increasing engagement of pharmacy students in learning activities other than the traditional lecture format. Group learning techniques such as problem-based learning approaches are one such example(1-4). Another strategy that has been discussed recently in pharmaceutical education is the involvement of students in Service-Learning opportunities(5). Service-Learning has been found to

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increase effectiveness by increasing student’s sensitivity to patient needs and the social context in which those needs are met. In the context of Pharmaceutical Education’s ongoing internal dialog, Service-Learning experiences appear to contribute to a student’s development in several of the desired general outcomes/competencies, specifically communication competence, aesthetic sensitivity, professional ethics, contextual competence, social interaction and citizenship, and, not least, adaptive competence(6,7).

In addition to these considerations, at least two additional factors contributed to interest in the concept of Service-Learning at the University of Mississippi School of Pharmacy. The School, like several of her sister institutions across the country, must contend with geographically separated campuses. Such an arrangement introduces any number of considerations, the one salient to this discussion being the problem and importance of providing some form of direct patient contact and socialization as care providers to pharmacy students during their early professional years(8). It was felt that introduction of Service-Learning into the curriculum might help meet this need. In addition, the University of Mississippi School of Pharmacy represents the only healthcare professional school on the Oxford campus. It was felt that involvement in a Service-Learning initiative would provide an excellent opportunity for the school to provide leadership and service on campus and within the local community that would be complementary to recent, innovative changes in pharmacy practice occurring throughout the state.

However, consideration of the implementation of Service-Learning in a curriculum is impeded somewhat by the existence of a plethora of definitions of the concept in the literature. Since its emergence as a concept near the turn of the century, Service-Learning has been operationalized in many different ways, with no consensus definition emerging(9). A good beginning point for discussion was Jacoby’s definition: “Service Learning is a form of experiential education in which students engage in activities that address human and community needs together with structured opportunities intentionally designed to promote student learning and development. Reflection and reciprocity are key concepts of Service-Learning.”(10) Still, Weigert has noted that definitions of Service-Learning vary considerably, and suggest that there are six key elements that differentiate Service-Learning from the voluntary activities, community service, and experiential education in general that are often mistaken for or presented as Service-Learning(11). The six key elements, as described by Weigert, require the student to: (i) perform some task; (ii) that meets a real need or goal; (iii) the need or goal is determined by the community; (iv) the task flows from and into course objectives; (v) the task is integrated into the course via assignments that include reflection on the task; and (vi) the task is assessed and evaluated as an integral part of the course.

Not surprisingly, then, when the school began to investigate the concept of Service-Learning, some variation in the manner in which Service-Learning was defined and operationalized existed concurrently in the pharmacy education community(12-17). In addition, it occurred to these researchers that how Service-Learning was conceptualized in pharmacy education might differ considerably from how the concept has been developed and come to be understood elsewhere. Pharmacy as a health care profession might see its relationship with service and with the community quite differently than the manner in which it might be expressed by disciplines in the humanities. And while Service-Learning has been investigated in other healthcare professions, the covenant between pharmacy and society is by definition unique, which might result in fundamentally different approaches to the application of the Service-Learning concept(16). Experience suggested that understanding of Service-Learning was commonly imperfect, and if such misunderstandings were to be combined with the profession’s specialized concept of service then the likelihood of approaches to “service” learning peculiar to the profession seemed high. So, for a number of reasons, the Service-Learning approach was of considerable interest to the University of Mississippi; however, as the technique was investigated, considerable variation in the interpretation and descriptions of Service-Learning based approaches across the country became evident. In an effort to gain a better grasp of the status of Service-Learning techniques in the pharmaceutical educational realm, it was decided to perform a survey of pharmaceutical education providers in the United States.

METHODS

A survey packet consisting of a cover letter, an eleven item questionnaire, and a return envelope (inadvertently omitted from a portion of the first mailing) were sent to selected individuals representing each of the seventy-eight institutions listed in the 1997 American Association of Colleges of Pharmacy directory which had currently enrolled students on or about September 1st, 1997. Individuals were selected based on the familiarity of the researchers with the institutions in question. When such knowledge was lacking, the survey instrument was sent to the senior social and administrative sciences faculty member who was not in an administrative position. Respondents were asked to respond for the institution, except for those items where their personal opinions were requested. A second mailing of complete packets was sent to non-respondents six weeks later. Responses were entered into a database program and then transcribed into SPSS for Windows version 7.5 for analysis.

RESULTS

There were forty-one usable responses from a sampling frame of seventy-eight, for a raw response rate of 52.5 percent. Seventeen of the schools responding (42 percent) said they had a program in place which utilized Service-Learning. Appendix A is presented for those who may wish to contact institutions having experience with Service-Learning. Nine of the forty-one schools (22 percent) indicated that their institution had a formal definition of Service-Learning. Five of those nine definitions included reflection as a integral component of the Service-Learning process. Eight institutions indicated that they had some Service-Learning component in the curriculum but did not have an official definition. When the faculty respondent was asked to provide a personal definition in these cases, no definition included reflection as a component of Service-Learning, and three specifically mentioned activities that could be described as clinical pharmacy services.

For those twenty-four institutions that the faculty member indicated did not have a Service-Learning course in the curriculum, fourteen respondents chose to reply to our request for a personal definition of Service-Learning. Two responses indicated unfamiliarity with the term, none of the responses included reflection as a component, and in general, the definitions were essentially that of volunteerism/community service. Only one institution indicated that Service-Learning had been
part of the curriculum in the past and since discontinued and the reason given was the discontinuation of funding from an outside agency.

When asked to describe the barriers discovered in the process of implementation of Service-Learning, a number of issues were presented by fifteen respondents. To synthesize their responses, the single most crucial issue appeared to be one of time. Time in the curriculum for the course, the time required on the part the students to complete their activities in the community, and most especially, the time required of the course coordinator to identify suitable sites, define activities for each site and to administer the program. The second issue that was raised consistently was one of resources other than the temporal. Lack of funding for expenses, travel, and salary support for auxiliary personnel were specifically mentioned. The third consistent issue was one of support, both from the faculty and from administration.

There were 10 responses to the question of whether or not the institution had any required Service-Learning activities for students during their first two years of professional education. Two of these responses were in the negative, but indicated that elective options did exist. Of the remaining six responses, three could be described as clinical activities such as brown bag medication review, hospital based patient counseling, or interdisciplinary activities. Two institutions required some measure of community service, although it was not clear if the service occurred in a structured environment, one institution required what appeared to be a classic Service-Learning experience with reflection and group discussion although the context of that activity was not clear.

When asked if there was a follow-up to those initial required Service-Learning activities in later years, nine schools (22 percent) indicated yes, another nine indicated no, and 23 schools did not respond. When asked to describe these follow-up activities, 10 institutions responded primarily with descriptions of what could be considered to be clinical rotations. One institution each indicated: the existence of a Service-Learning clerkship, that students are expected to keep a journal and be evaluated on that basis, an elective with reflective activities and a classic Service-Learning structure, and 30 hours of required activity in a local nursing home.

When asked how their students seemed to respond to their program, 15 schools (37 percent) chose to respond, with one school indicating an ambivalent response, and the rest almost entirely positive in their observations. For the most part, students appeared to enjoy the activity, it seemed to help to develop their confidence in their knowledge base, and gave them a better understanding of their patients. Student complaints apparently centered around the issue of being required to complete what was seen as volunteer work.

When asked if their institution provided any elective opportunities for Service-Learning, eleven schools (27 percent) indicated they did, eighteen schools (44 percent) indicated they did not and 12 schools (30 percent) did not respond. It should be noted that in many of the responses student organizations played a key role in the administration of service opportunities. When asked what they felt contributed the most to making their program run smoothly, fourteen faculty members responded. Key issues in responses appeared to be, first, involvement and commitment of an enthusiastic, dedicated (in both the personal and administrative sense) faculty member. Secondly, strong support from administration was cited. Partnering with an institution which had a Service-Learning course in place was suggested repeatedly, as was starting small, and finally, the availability of appropriate sites was cited twice as being beneficial.

When asked what things they would choose to avoid in the future, fourteen faculty members responded. They suggested avoiding one day programs such as Walkathons or brown bag medication review services, simple volunteer work without structured activities for learning, and optional, as opposed to required, involvement. The expectations and roles for both students and faculty needed to be clear, the community organizations chosen as Service-Learning sites had to be selected carefully, the bulk of the coordination could be handled by support staff, and in any case, one should not expect perfection.

Finally, when asked what ideas they might wish to offer to make a Service-Learning program as effective as possible, thirteen faculty members responded. Key points included gaining administration support prior to implementation, working with other institutions that are already online, work with agencies that have multiple programs in place such as United Way and make sure that the students have step-by-step written information and that their first experience is more structured and likely therefore to be more positive.

DISCUSSION

Limitations to this study include the fact that recipients of the survey were not selected randomly. As described in the Methods section, individuals were selected based on the familiarity of the researchers with the institutions in question. Given the exploratory nature of this research, the potential bias in the sampling frame introduced by this approach was felt to be less important than addressing the survey to an individual most likely to be familiar with implementation of any Service-Learning initiative at their institution. In addition, the development of a true, randomized sample would have required resources in excess of those available for the project. Finally, we felt this approach to be superior (for our needs) to addressing the survey to the Office of the Dean for each institution.

In addition, these results are those of individuals responding for institutions. Each individual’s level of knowledge regarding Service-Learning, both as a concept and as implemented at their institution, may not in all cases perfectly reflect circumstances at their respective institutions. Thus, the level of familiarity (or lack thereof) demonstrated by an individual faculty member may not reflect the familiarity of the administration or the faculty as a whole.

The raw response rate of 52.5 percent, while good, does introduce the question of whether or not the results received are representative of the actual state of Service-Learning in the pharmaceutical education community. Any conclusions drawn must be reached with this limitation in mind. And since much of the data was essentially qualitative in nature, the presentation of the results must per force include the cognitive and conceptual biases of the authors.

CONCLUSIONS

Service-Learning appears to be operationalized in various ways across the pharmaceutical education community. The various approaches appear to include some aspect of volunteer work, although the concept of service as a volunteer is somewhat problematic when the activity is a required component of the curriculum. Most, but not all institutions that attempt to define Service-Learning place the activity in the community, and most differentiate it from clinical pharmacy rotations, and
the majority differentiate it from pharmacy related activities. Few institutions have adopted a formal definition of Service-Learning, but this may reflect the reality that the use of Service-Learning in pharmaceutical education is very much at the beginning of the adoption curve. At least seven institutions involve students in activities that can be considered to constitute Service-Learning, but have not as yet adopted a formal definition of Service-Learning.

Significant barriers identified by institutions experienced with implementation of Service-Learning initiatives could be roughly sorted into three major categories: problems with students, problems with administration, and problems with the community. Student problems seem to center on acceptance of the concept—surprising since most student bodies would have no previous experience with Service-Learning, and so the positive aspects of the experience would not as yet become part of student lore. Objections seem to consist primarily of problems with the unstructured nature of the tasks and sometimes difficult situations with which the students have to deal.

The major problem cited with administration was the failure to recognize beforehand the significant and substantial commitment of resources required to make such a program work. At a bare minimum, most programs seem to feel one full-time faculty member was required, often with two or even three support staff or community liaison personnel. Overall, it seemed clear that any institution wishing to implement Service-Learning needed to make a definite resource commitment to providing at least one full-time equivalent devoted entirely to the administration of the Service-Learning program. It was also evident that failure to provide adequate resources left little chance for success of the program.

Problems with the community could be attributed to differences in understanding and expectations for the program—which suggests the need for considerable discussion between the institutional participants prior to the placement of the first student. However, the need for such discussion emphasizes the substantial problems associated with the second major source of problems in the community: coordination. Placement of large student bodies requires numerous sites which are often dispersed over a large geographical area and whose personnel sometimes turnover at high rates, requiring constant effort and diplomacy to keep relationships effective and positive. In fact, it is this aspect of Service-Learning implementation that appears to constitute the largest single difficulty to be overcome. One implication of this was that it might be advantageous to hire a non-pharmacy professional to handle community coordination—perhaps someone with social work or a community service background who is familiar with the difficulties of community service initiatives. With this in mind, sources of information on Service-Learning are presented in Appendix B of this manuscript.

Suggestions for implementing Service-Learning included partnering with a school of pharmacy that already has an established program, involving all stakeholders in the development process, and most importantly, utilizing the vast amount of experience and information on Service-Learning already available outside the pharmaceutical education community.

The discussion of barriers to the implementation to Service-Learning initiatives makes clear that adoption of this educational strategy requires considerable commitment, both of resources and at the personal level. However, the authors have come to believe such a commitment is well worthwhile. Service-Learning appears to improve student’s ability to inter-

act with patients effectively, sometimes dramatically. To return to the our Gulf War analogy, the student is more effective because they have become more adept at identifying those in need of service, and more facile in their interaction with those patients to whom they provide service (targeting and delivery).

We believe Service-Learning may produce these effects because it places the student in an environment where success is not dependent on mastery of an already substantial body of pharmacy related knowledge, but rather on application of relational skills. In fact, Service-Learning may be most effective when it takes place in a context where pharmaceutical skills have no relevance whatsoever. Student mastery of such knowledge may, to some extent, become a means of resolving problems that allows the student to ignore or substantially de-emphasize development of complimentary skills in interacting with others. Service-Learning, then, can be seen as a sort of clinical rotation in interpersonal skills, in a learning environment where the irrelevance of pharmaceutical knowledge allows the student to focus exclusively on the other major component of pharmaceutical care, people- and allows students to become more able caretakers, as opposed to more able practitioners.

Still, for the considerable benefits of Service-Learning to be realized, the concept’s model must be adopted fully. For the process to have its maximum impact on the student, adequate mentoring and opportunity for reflection within the framework of structured course work must be present. Otherwise, while some benefit may accrue, the full potential of the Service-Learning concept will not be realized. Unfortunately, it was clear from the results of this survey that Service-Learning has not been widely adopted, and where it has been, it is often implemented partially, or erroneously. This suggests the need for further dissemination of the benefits and techniques of this approach to the pharmaceutical education community. Service-Learning is a well developed concept whose benefits have been demonstrated repeatedly. Rather than attempt to re-develop Service-Learning within Pharmacy, we recommend discussion with experienced individuals and institutions outside the profession. The interested reader is directed to Appendix B, which provides a short list of world wide web sites as potential starting points for inquiry into Service-Learning.

In the final analysis, implementation of Service-Learning does appear to be worthwhile. While our respondents indicated some resistance on the part of students, later feedback from students indicates that the experience was worthwhile and meaningful for the bulk of students participating. And it is this evidence that is the strongest single argument for the implementation of Service-Learning initiatives. If students in a practice environment find that their Service-Learning experiences have helped them to better understand the needs and characteristics of their patients, to be more effective practitioners, to be more effective caretakers, and to be more aware of the subtleties of providing care, then Service-Learning will more than fulfill its promise and should be seriously considered for introduction into the curriculum.

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References
(1) Strand, L.M., Morley, P.C. and Cipolle, R.J., “A problem-based student-


**APPENDIX A. SCHOOLS OF PHARMACY REPORTING SERVICE-LEARNING PROGRAMS IN THEIR CURRICULUM**

- Massachusetts College of Pharmacy
- University of Arkansas
- Drake University
- Washington State
- University of Montana
- Ohio State
- Butler
- Utah
- University of Houston
- University of Texas at Austin
- St. Louis
- Wisconsin
- Shenandoah
- University of Florida
- USC-Oakland, CA
- Purdue

**APPENDIX B. ADDITIONAL SOURCES OF INFORMATION**

- Campus Compact- a listing by state
  - http://www.hoosiers.iupui.edu/camcom/states.htm
- The Johnson Foundation (Wingspread Conferences)
  - http://www.johnsonfdn.org/index.html
- University of Colorado Service Learning Web-site-includes sign up for e-mail list serve discussion groups that focus on service-learning
  - http://csf.colorado.edu/sl/index.html
- American Association for Higher Education (AAHE)
  - http://www.apsanet.org/Related/aahe.html
- The National Society for Experiential Education (NSEE)
  - http://www.nsee.org/index.htm