

They Not Only CAN But They SHOULD: Why Undergraduates Should Provide Basic IL Instruction

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Academic libraries have been slow to capitalize on the benefits of peer learning in basic information literacy instruction. This paper strongly advocates for the deployment of undergraduate session-leaders in basic instruction. Although the fundamental argument is based on the proven pedagogical advantages of peer learning, several important additional benefits are also outlined. As the few documented instances in which undergraduates have been so employed provide extremely limited evaluative data to support the premise that undergraduates can deliver solid instruction, this paper also attempts to begin filling that gap by sharing several sets of data. Generated throughout the implementation of peer-led sessions at California Polytechnic State University in San Luis Obispo, the mixed methods for evaluation include self-reported data from faculty instructors and student attendees, aggregated attendee pre-test and post-test results, and even the simple and dramatic increase in requests for sessions. The paper also touches on how such data can be used to generate further traction for such an instruction program.

Introduction

Academic libraries are behind the curve in leveraging the advantages of peer learning dynamics for basic information literacy instruction.¹ With a handful of documented exceptions, librarians have chosen to cling jealously to the lectern instead of seizing optimal pedagogical opportunities of letting peers teach peers. This, in spite of decades of research on the cognitive and affective benefits of peer learning,² and in spite of the increasing implementation of peer learning programs in many other facets of higher education.³ This brief paper lists several reasons, both pedagogical and organizational, why undergraduates *should* provide basic information literacy instruction. It then presents several varieties of practice-based evidence to support

the necessary premise that undergraduates *can* deliver basic information literacy instruction.

Pedagogy

The primary reason for preferring to have undergraduates deliver basic information literacy instruction is pedagogical, and this is firmly grounded in peer learning theory as developed from the seminal work of Jean Piaget and L. S. Vygotsky. A wealth of literature on peer learning in higher education points to multiple pedagogical advantages, both cognitive and affective.⁴ Cognitive advantages of peer learning include immediacy, simplification, prevention of overload, modeling and problem identification, while affective advantages include identification, bonding,

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modeling of enthusiasm, self confidence and reduced anxiety.⁵ Peers who are just ahead of those they are helping are close enough to the previous level that they still find cognitive challenges in learning interactions, which makes the exchanges more rewarding for both parties.⁶ Cross-level peer learning takes place when a student provides help for a course recently taken, and in the case of basic information literacy instruction sessions, such first-hand experience can translate very authentically to the attendees. Furthermore, in the setting of information literacy sessions, in which anxiety has been shown to impede learning,⁷ peer leaders reduce anxiety simply by being themselves, and hence contribute to opportunities for enhanced learning. With so many psychosocial advantages in play, a properly-trained undergraduate with a helpful disposition is an optimal conduit for basic instruction. Peer session leaders are able to model competence in what might be deemed an alien technological and terminological environment, and so can serve as better guides than librarians, who, while more familiar with that environment itself, by virtue of that familiarity, do not always point out the most obvious or useful features. No amount of instructional expertise will ever transform a librarian into the peer of an undergraduate, and the intrinsic authority of a librarian in a classroom, compounded by differentials in both age and disciplinary knowledge, will always serve as impediments to student learning at the introductory level. Rather than personally teach scores of introductory sessions, librarians should instead focus energies on outfitting undergraduate session leaders with essential skills and a competent lesson plan, and then let them have at it. As with any information literacy instruction, of course, evaluative tools and assessments must be implemented to ensure impact and to continuously improve delivery.

The pedagogical soundness of peer instruction should be sufficient warrant to encourage its adoption in academic libraries. Moreover, undergraduate peer instruction, when combined with undergraduate peer reference, produces a robust model that creates important opportunities for implementing improvements into the quality of both instruction and services. These complementary benefits would carry no weight were the pedagogy unsound, but in light of the sound pedagogy, they argue for adoption of a combined peer instruction/reference model. The four benefits listed below refer to such a combined model,

in which several undergraduates regularly serve 8-12 hours weekly at a reference point, *and* lead instructional sessions as demand requires, with sessions distributed between librarians and students.⁸

Instructional Reach and Impact: the Synergy of Distributed Staffing and Latent Capacity

The most obvious benefit of peer-led sessions is the expanded introductory instructional capacity. Assuming that access to teaching space does not pose a major constraint, the potential availability of x students and y librarians in a distributed staffing model provides an opportunity to strongly promote and fully support outreach to introductory courses. With such malleable staffing, multiple sections can receive instruction at key points in the academic term, which is a pivotal feature in rendering the sessions meaningful for attendees. And while the latent capacity can be quickly mobilized to meet such spikes in demand, it functions equally smoothly when demand is low. Student and librarian availabilities for teaching are complementary entities. Students, unlike librarians, have more stable weekly schedules, and rarely travel for conferences. On the other hand, students typically have courses at peak hours, but in such instances, librarians are usually available. By blending the two types of schedules, it becomes possible to provide twenty sessions one week and none the next, without anyone being overburdened, or becoming concerned about lack of hours, or worried over underuse of allotted resources.

Instructional Reach: Creating Opportunities for Advanced Instruction

Another positive benefit in implementing student delivery of basic information literacy sessions is that it creates opportunities for librarians to prepare and provide instruction at more advanced levels. A basic instruction program that relies solely on librarians for delivery reduces opportunities for upper-division instruction, and peer instruction/reference providers comprise a viable solution. Such a model is nothing new to academia. After all, how many professors regularly teach introductory 100-level courses? By letting undergraduates provide introductory sessions, the librarians can solicit and deliver sessions to upper-division courses knowing that they will not have conflicting demands on their limited time. It is true that at least one or more librarians must dedicate substan-

tial time to the hiring, training and scheduling of the peer instruction/reference providers, but this is offset by the gain to a team of librarians as a whole. The time and energy put in by the students frees up time and energy for the librarians, who can capitalize on this by identifying and implementing deeper and broader instructional initiatives.

Instructional Reach: Gaining Traction Through the Sharing of Assessment Data

Though in an ideal world extensive evaluation and assessment would be applied to ALL information literacy instruction, limited time and energy often inhibit the execution of that desideratum. In the case of student-led sessions, however, assessment and evaluation is *absolutely* essential and *must* be employed, both to gauge the effectiveness of the student leaders and to enable a feedback loop whereby students can immediately improve their teaching. These twin purposes require gathering both formative data (throughout a term) and cumulative data (at term's end.) But the availability of such data also creates a third viable use: sharing that data with all faculty and instructors in the Departments that house the targeted courses. Instructors who have not previously requested sessions, upon seeing clearly presented highlights of such data, are often persuaded to solicit sessions in future terms. Moreover, instructors who have previously brought their courses, and who have provided some input into the data itself, are through this sharing included in the entire loop. Not only is this likely to make them feel more personally engaged, but the data itself serves as a positive reinforcement that will encourage them to bring their students to future sessions.

Student Instructors as Built-In Focus Group

Working so closely with students on issues directly related to information seeking and gathering is like having a focus group, and can improve provision of services in the library. As so often discovered in cases where undergraduates have been enlisted to provide reference, the librarians can learn a great deal from the students, gaining critical and often unexpected insights that can then inform both reference and instruction.⁹

Finances: Reducing Opportunity Costs and Creating Opportunities

Though the following statement will no doubt raise

the hackles of some librarians, the fact is, this model is highly cost-effective. The funds spared through such a program can be used in other important ways to improve services in academic libraries. The student payroll for a program with students staffing the desk 60 hours a week in Fall, Winter and Spring, with truncated desk hours in summer, and teaching one hundred one-hour sessions in an academic year, is less than \$25,000 a year. This frees up money that can be pooled with other resources to improve library services by hiring librarians with special expertise in newer realms of librarianship. This is not a call to dismantle the profession of librarianship; rather, it is a way to provide select traditional services by a better means, to further enhance the suite of services offered, and to keep the profession forward-looking and truly relevant. If you are among those who feel your blood pressure rising, please keep in mind that the supplementary reasons listed in this section of the paper would carry no weight if using peers to teach was *not* pedagogically sound. Keep in mind: these are *added* benefits.

To summarize, then. First of all, undergraduates should provide basic instruction because it is sound pedagogy. Secondly, and only following from the validity of the pedagogy, using undergraduates in a peer instruction/reference model provides five complementary benefits: improved impact and reach of basic instruction; greater opportunities for librarians to engage in advanced instruction and initiatives; extensive evaluative data to create buy-in from faculty and instructors; learning opportunities that arise from working shoulder to shoulder with peer reference/instruction providers; and increased opportunities to advance library services through the cost-effectiveness of peer reference/instruction.

In a nutshell, those are the arguments stating why undergraduates *should* provide basic instruction. There may be doubts, however, about whether they *can*. The remainder of this paper presents credible evidence from practice that suggests they are indeed capable of doing so.

Evidence from Practice

In the paucity of documented instances in which undergraduates have been involved in information literacy instruction, the students have usually been granted a very limited role.¹⁰ There are a few notable exceptions: the University of Maine at Farmington in

1998, the University of Florida in 2001, and Brigham Young University in 2011.¹¹ While published descriptions of these programs are invariably positive, the variety and the quantity of supporting data are limited.

I propose to begin addressing this gap through a description of a peer-instruction program at California Polytechnic State University San Luis Obispo and by providing several sets of data generated in the course of its implementation.

Background

California Polytechnic State University San Luis Obispo (Cal Poly) is a primarily undergraduate university with approximately 19,000 students. Robert E. Kennedy Library has nine faculty librarians. Of these, six are assigned (one per College) to serve the research and instructional needs of the students and faculty in their respective Colleges. In spite of this alarmingly low student-to-librarian ratio, in 2009 Kennedy Library embarked on an ambitious instruction program targeting lower-division GE courses. These introductory Communications and English courses all entail research-based assignments, for either speeches or papers. Instructors were invited to request sessions and time the requests to the germane assignments. In fall 2009, twenty such sessions were requested and delivered by one faculty librarian. By the ensuing fall, requests had more than doubled, and forty-five sessions were delivered by two librarians. Unfortunately, such increasing demand was not sustainable, as these sessions compounded other teaching commitments, and one of the two librarians taught over sixty total sessions that fall.

As the basic instruction program was rapidly gaining traction and interest from instructors, it seemed a shame to let it collapse due to lack of staffing. The student-based solution was in fact serendipitous. In spring 2010 a program had been started to train undergraduates to provide reference service in

the residence halls. These five students received exhaustive training and were stationed in the halls for two consecutive quarters, but failed to receive sufficient questions to warrant their continued presence in the halls. However, they had shown themselves able to provide chat reference with intelligence and aplomb, and were soon moved out of the residence halls and onto the Research Help Desk in Kennedy Library.

These LibRATS (Library Reference Assistance Technicians), who already knew the essentials of searching, and who had been hired in great part for their superior communication skills, were soon given a taste of teaching, at first on a very tentative basis. Online evaluations administered at the end of trial sessions showed them to be doing well on an affective level, and they soon scored better than the librarians who were providing the sessions for the same courses. Before fall of 2011 all of the LibRATs, including new hires, were given basic grounding in instructional design, and some encouraging coaching on content and delivery. In fall 2011 the LibRATs and a team of four librarians provided fifty-nine sessions for the targeted courses; of these the LibRATs taught forty. In fall 2012, ninety-four sessions were provided; LibRATs led seventy-two of these. Provided below are descriptions and tables of several varieties of evidence generated through the first five quarters of the instructional component of this program, all of which point to undergraduates as fully capable providers of basic information literacy instruction.

The Varieties of Evidence

1. *Evidence of increased demand.* The program is entirely voluntary on the part of instructors, and any increase in demand speaks to the perceived value of the instruction. As students delivered 69% of the sessions in fall/ winter/ spring of 2011-2012, the 62% increase in requests from fall 2011 to fall 2012 is in large part a glowing reflection on the student session

Quarter	Sessions Delivered	Increase Over Preceding Fall	Librarian-Led Sessions	Student-Led Sessions	# of Participants	Increase in Participants Over Preceding Fall
Fall 2009	20		20		440	
Fall 2010	45	+25	45		990	+550
Fall 2011	59	+14	19	40	1,298	+308
Fall 2012	94	+35	27	67	2,068	+770

leaders' performance. Table 1 presents a sample of increased demand through a comparison of instructional sessions delivered in successive fall quarters. In the two fall quarters since students started leading sessions in spring 2011, requests have more than doubled (45 > 94) as have the number of session participants (990 > 2068). If time is money (and we all know faculty guard class time like gold) then instructors are choosing to spend a lot of "money" on these sessions.

2. *Evidence from student session participants.* More evidence, and possibly the key evidence, considering that *peer* instruction is being evaluated, is provided by the consistently positive responses elicited from session attendees in online evaluations administered at the end of the sessions. Table 2 exhibits the responses from these evaluations over the first five quarters of student-led sessions.

With over 2,200 respondents to the four Likert scale statements, the average mean scores are consistently above the 4.5 range; in fact, since the second quarter of student-led sessions, no score has dipped below 4.5. Only two average means (and those in the first trial quarter) dipped below 4.4. It is also worthy of note that in response to the binary Yes/No question "From your perspective, would you recommend that all Cal Poly students attend library instruction sessions?" the session respondents have overwhelmingly answered Yes, from a low of 92.86% in their first quarter of teaching, to a high of 97.85% in spring 2012.

3. *Evidence from faculty/instructor evaluations.* At the end of fall 2011 and 2012, instructors who brought

sections were invited to respond to an online questionnaire regarding the student-led sessions. The questionnaire included ten Likert scale statements and one Yes/No question. The responses in 2012 were even more positive than responses in 2011. Table 3 presents responses to all ten questions from both questionnaires. With 5 as "Strongly Agree" and 1 as "Strongly Disagree" the mean average scores in fall 2011 ranged from 3.7 to 4.7, with only two averages below 4.0. In fall 2012 the mean average scores rose for eight of the statements and remained the same for the remaining two statements. As the return rate for the 2012 questionnaire was even higher than the preceding year (.542% vs. .458%) the gains cannot be attributed to a wobble caused by sample size. Especially important to my mind are the responses to statements 6 and 7. As these instructional sessions exist as auxiliary support in the effort to get students to engage critically with information and to gain an awareness of the variety and quality of sources, it is encouraging to see average mean scores of 4.5 (2011) and 4.6 (2012) to the statement "The session(s) helped my students find quality papers" and scores of 4.1(2011) and 4.2 (2012) for the statement, "The session(s) improved the quality of my students' papers." The largest improvements in average mean scores were for statements 8 and 9. The average mean for statement 8 "My students responded well to the student session leader(s)" rose from 3.6 to 4.4, a gain of .8%. The average mean for statement 9, "The student session leader(s) did a very good job" rose from 3.9 to 4.5, a gain of .6 %. In 2012 the response to the binary

TABLE 2
Assessment Averages of Student-Led Sessions in First Five Quarters of Student-Led Instruction

Likert Scale Affective Assessments. 5 Point Scale. 5= Strongly Agree; 4=Agree; 3=Neutral; 2=Disagree; 1= Strongly Disagree 0= NA	Spring 2011	Fall 2011	Winter 2012	Spring 2012	Fall 2012
	84 Resp.	559 Resp.	425 Resp.	232 Resp.	910 Resp.
S1. The session gave me solid understanding of the material presented.	4.35	4.4	4.6	4.5	4.5
S2. The resources described in this session are relevant to my assignment or research.	4.5	4.6	4.7	4.6	4.6
S3. The session leader presented information in a way that I could understand.	4.45	4.5	4.6	4.6	4.6
S4. The session leader encouraged and responded to questions.	4.35	4.6	4.6	4.6	4.6
Binary Yes/No Question: "From your perspective, would you recommend that all Cal Poly students attend library instruction sessions?"	YES: 92.86%	YES: 97.4%	YES: 95%	YES: 97.85%	YES: 96.6%

Yes/No question, “From your perspective, would you recommend that all Cal Poly students attend library instruction sessions?” was unanimously affirmative—e.g., 100%. These figures individually and collectively, and in conjunction with the evidence of increased instructor-driven demand, convey the reality that the instructors perceive a large value in these sessions.

4. *Evidence from pre-tests/post-tests.* In fall 2012 a pre-test was administered at the beginning of sessions that served several functions, one of which was to gauge effectiveness of content delivery. Two questions relating to traits of peer-reviewed journals were chosen, in part because instructors often expressed a wish for special emphasis on this component of a session, but largely because the sessions aim to foster an awareness of information types (an important element of critical thinking) and specific questions might admit direct measurement of progress in this domain. Post-tests administered at the end of the sessions included identical questions. Aggregate scores from the pre-tests and post-tests are shown in table 4.

The aggregate post-test improvement for question 1 is 14.8% and the aggregate improvement for ques-

tion 2 is 15.8%. Although individual responses are not tracked, the large sample size and ample differential in correct responses between pre-test and post-test suggest positive impact for the sessions. As 76% of the sessions in fall 2012 were led by students, they must share in the credit for that impact. Furthermore, when combined with the faculty evaluations, one might safely infer that success in conveying this single component of the session is matched by success in imparting other components.

The consistency of these results which are derived via mixed methods—increased instructional demand, self-reported data from students and instructors, and aggregate improvement in responses to course content—argues for the effectiveness of the students as providers of basic information literacy instruction sessions in this program. Though this may not be a program that will work at all institutions, it is certainly viable at this institution.

Conclusion

Academic librarians should realize that the time is ripe for finding more effective ways to get undergrad-

TABLE 3
Faculty Evaluations of Student-Led Instruction Fall 2011 and Fall 2012
Return Rate: 2011 (11/24) .458% 2012 (19/35) .542%

Likert Scale Assessments. 5 point Scale. 5= Strongly Agree; 4=Agree; 3=Neutral; 2=Disagree; 1= Strongly Disagree	Avg. Fall 2011	Avg. Fall 2012	Differential
<i>S1. The sessions introduced my students to library resources in an engaging way.</i>	4.2	4.4	+ .2
<i>S2. The session(s) helped my students learn how to identify and locate books.</i>	4.5	4.7	+ .2
<i>S3. The session(s) helped my students learn how to find articles/ information in databases.</i>	4.5	4.5	
<i>S4. The session(s) introduced the notion of “peer-reviewed” articles and journals.</i>	4.1	4.3	+ .2
<i>S5. The session(s) introduced online help and tools in databases to help my students cite sources.</i>	4.3	4.4	+ .1
<i>S6. The session(s) helped my students find higher quality sources for their papers.</i>	4.5	4.6	+ .1
<i>S7. The session(s) improved the quality of my students’ papers.</i>	4.1	4.2	+ .1
<i>S8. My students responded well to the student session leader(s).</i>	3.6	4.4	+ .8
<i>S9. The student session leader(s) did a very good job.</i>	3.9	4.5	+ .6
<i>S10. I would recommend these sessions to my peers.</i>	4.7	4.7	
Binary YES/NO Question: “From your perspective, would you recommend that all Cal Poly students attend library instruction sessions?”	90.1% (10 Yes/1 No)	100% (19 Yes/0 No)	+ .9%

TABLE 4
Fall 2012 Session Aggregate Pre-test and Post-test Results All Respondents

Question	Response	Pre-test	Post-test	% Improved
1) Peer Reviewed Articles:	a) Usually contain citations	72.8% (964)	87.6% (1077)	+14.8%
	b) Are brief and easy to read	27.2% (360) Total Responses 1324	12.4% (152) Total Responses 1229	
2) Peer Reviewed Articles:	a) Can take 1 to 2 years to be published	73.6% (974)	89.4% (1107)	+ 15.8%
	b) Are published immediately	26.4% (350) Total Responses 1324	10.6% (131) Total Responses 1238	

uates launched into solid research. One such avenue is the deployment of peer instruction providers. Not only can more introductory courses be reached, but the students can learn more effectively. The librarians, too, can learn about student habits and needs from the students they train and employ. Just as importantly, a net gain in time and energy will allow librarians to address student research needs at a more advanced level. This is a win-win situation for everyone, and a way to advance the profession of academic librarianship.

Notes

- Jana Ronan and Mimi Pappas, "Library Instruction Is a Two-Way Street: Students Receiving Course Credit for Peer Teaching," *Education Libraries* 25, no 1 (Summer 2001): 19-24. Ronan and Pappas reviewed education and library literature, also posted a request for examples of peer-led instruction sessions on the ACRL bibliographic instruction listserv, and described what they found as only a "handful of instances," 19-20.
- Keith Topping and Stewart Ehly, "Introduction to Peer-Assisted Learning," in *Peer-Assisted Learning*, ed. Keith Topping and Stewart Ehly, 1-23 (Mahwah, New Jersey: Lawrence Erlbaum Associates, 1998); Diane M. Hogan and Jonathan R. H. Tudge, "Implications of Vygotsky's Theory for Peer Learning," in *Cognitive Perspectives on Peer Learning*, ed. Angela M. O'Donnell and Alison King, 39-66 (Mahwah, New Jersey: Lawrence Erlbaum Associates, 1999); Alexander W. Astin, *What Matters in College? Four Critical Years Revisited* (San Francisco: Jossey-Bass, 1993), 398; Ernest T. Pascarella and Patrick T. Terenzini, *How College Affects Students*, vol. 2 (San Francisco: Jossey-Bass, 2005), 187.
- Matthew R. Wawrzynski, Carl L. LoConte, and Emily J. Straker, "Learning Outcomes for Peer Educators: The National Survey on Peer Education," *New Directions for Student Services*, no. 133 (Spring 2011): 17-27; Andrea Adam, Jane Skalicky, and Natalie Brown, "Planning Sustainable Peer Learning Programs: An Application and Reflection," *The International Journal of the First Year in Higher Education* 2, no. 2 (July 2011): 9-22; Lee B. Williams, "The Future of Peer Education: Broadening the Landscape and Assessing the Benefits," *New Directions for Student Services*, no. 133 (Spring 2011): 97-99.
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- Topping and Ehly, "Introduction to Peer-Assisted Learning," 12.
- Ibid., 14.
- Dania Bilal, "Grounding Children's Information Behavior and System Design in Child Development Theories," in *Information and Emotion: The Emergent Affective Paradigm in Information Behavior Research and Theory*, ed. Diane Nahl and Dania Bilal, 39-50 (Medford, New Jersey: Information Today, 2007).
- A detailed review of the history of undergraduate peer reference and instruction, as well as a more detailed accounting of the deployment of the peer reference and instruction at California Polytechnic State University San Luis Obispo, is provided in Brett Bodemer, "They CAN and They SHOULD: Undergraduates Providing Peer Reference and Instruction," *C&RL* electronic preprint, at <http://crl.acrl.org/content/early/2012/11/08/crl12-411.full.pdf+html>
- Linda Piele, "Reference Assistance Project at the University of Wisconsin-Parkside," *College & Research Libraries News* 43, no.3 (March 1982): 83-84; Barbara MacAdam and Darlene P. Nichols, "Peer Information Counseling: An Academic Library Program for Minority Students," *The Journal of Academic Librarianship* 15 no. 4 (September 1989): 204-09; William F. Heinlen, "Using Student Assistants in Academic Reference," *Reference Quarterly* 15 (Summer 1976): 323-25

10. Ronan and Pappas, "Library Instruction Is a Two-Way Street", 19-20.
11. Katherine Furlong and Andrew B. Crawford, "Marketing Your Services Through Your Students," *Computers in Libraries* 19, no. 8 (September 1999): 23-26; Ronan and Pappas, "Library Instruction is a Two-Way Street": 21-22; Suzanne Julian, *The Power of Peer Mentors in Library Instruction*, ACRL Conference 2011, Poster Presentation March 21.