Libraries Faculty and Staff Presentations

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What do Students Learn from Participation in an Undergraduate Research Journal? Results of an Assessment

Sharon A. Weiner
sweiner@purdue.edu

WHAT DO STUDENTS LEARN FROM PARTICIPATION IN AN UNDERGRADUATE RESEARCH JOURNAL?
RESULTS OF AN ASSESSMENT

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Dr. Sharon Weiner
Professor, W. Wayne Booker Chair in Information Literacy
Purdue University
Vice-President, National Forum on Information Literacy

Outline

- Background of the project (JPUR)
- Method for developing assessment
- Highlights of assessment results
- Recommendations

Effective * Sustainable * Practical

Background:
Journal of Purdue Undergraduate Research

- Established in 2011, faculty-initiated, Libraries/Press

- 2,000 Purdue undergrad research projects annually

- Writing, publishing study results integral part of research process, but need for opportunities

- In disciplinary journal, many authors, student contribution not discernible

Background

- Collaboration:
  - Provost, University Press and Libraries, Faculty Advisory Board, Department of English, Purdue Marketing and Media, faculty mentors, grad and undergrad students

- Provost funded 3 years

- Required strong assessment plan to assess the contribution of the journal to **student success**

Method

Purpose statement was basis for assessment

Assessment strategy:

1. What do you want to achieve with the program/intervention/activity?

2. How do you measure whether you achieved it?

Method: Purpose of JPUR

- *Student authors* will benefit from experiencing the **scholarly publishing process** *from submission, through review and development, to formal publication*

- *Learn* **scientific writing, publication ethics**

- *Develop* **information literacy** *knowledge*

- *Articles will be evidence of achievement***, valuable for careers**

Methods: Purpose of JPUR

- ***Faculty*** *will be motivated to act as* **mentors**

- ***Student editors*** **will learn publishing process** *from behind the scenes, better preparing them to be future academic authors*

- *Benefit* ***administrators*** *for* **recruiting and retention, K-12 outreach, fundraising**

- ***Reach global audience*** *strengthening Purdue's ability to attract outstanding international students*

Methods:
Identify Stakeholder Groups

Student authors of articles	Student Editorial Board	Faculty Advisory Board
Faculty mentors of student authors	Students attended JPUR workshops	Students non-accepted abstracts
Faculty mentors of students non-accepted	University administrators	Global audience

Methods

- Questionnaires

- Workshop evaluations

- Web metrics
  - Google Analytics
  - Purdue e-Pubs institutional repository downloads

Methods:
Questionnaire Dimensions

Self and mentor perceptions of learning

Helpfulness of resources

Influence on career decisions

Do it again?

Methods: Questionnaires

Self and mentor perceptions of learning gains:

BEFORE I WROTE AN ARTICLE for JPUR/AS A RESULT OF WRITING AN ARTICLE for JPUR, I would rate my understanding of each of the following skills as:

BEFORE I MENTORED A STUDENT in preparing an article for JPUR/AS A RESULT OF MENTORING A STUDENT to prepare an article for JPUR, I would rate my understanding of each of the following skills as:

Do you believe that THE STUDENT AUTHOR(s) with whom you worked gained a better understanding of the following areas as a result of writing an article for JPUR?

[Options include: __None __Very little __Some __Sufficient]

Methods: Questionnaires

__How to write for professional publication

__How to write about research for an informed public audience

__The process for publishing an article

__How scholarly publication contributes to the research community

__How to identify and paraphrase the main ideas from an article or book

__How to synthesize information from multiple sources

__How to use evidence to draw conclusions

__How to support my points with evidence

__How to evaluate the credibility of authors of articles/books/reports

__When to cite other authors in a paper

__How to use a citation manager (such as Zotero, EndNote, or Reference Manager) to record and format citations for bibliographies

__How to use a publication style manual to format papers or bibliographies

__How to construct spreadsheets, charts, or graphs to display information

__How to work collaboratively

Methods: Questionnaires

How helpful were the following resources in helping you learn to write your article?

[Options include:

__ Didn't use
__Used but not helpful
__Used and somewhat helpful
__Used and was very helpful]

Methods: Questionnaires

__Faculty Mentor

__Student Editorial Board

__Workshop: 'Abstracts to Articles: Preparing Your Article for JPUR—Part 1' ([workshop date])

__Workshop: 'Abstracts to Articles: Preparing Your Article for JPUR—Part 2' ([workshop date])

__JPUR Website

__Purdue's Online Writing Lab (OWL)

Methods: Questionnaires

Please indicate how the process of writing an article for JPUR influenced decisions about your career.

__As a result of writing an article for JPUR, I decided to pursue a career in research in my field of study.

__As a result of writing an article for JPUR, I decided to pursue a career in research in a different field of study.

__As a result of writing an article for JPUR, I decided not to pursue a career in research.

__Writing an article for JPUR did not influence my career decisions.

Methods: Questionnaires

What techniques did you learn about finding articles and other sources for your literature review by writing an article for JPUR? (Check all that apply)

__I learned about databases of citations to articles about my subject
   (examples given)
__I learned how to retrieve the full text of journal articles
__I learned to set Google Scholar preferences to search for articles
   available through Purdue Libraries
__I learned how to broaden or narrow my search topic
__I learned about the Libraries' Interlibrary Loan service

Methods: Questionnaires

In what ways has the experience of serving as an editorial board member influenced you? (Check all that apply)

__I have learned that I enjoy teaching.
__I have learned that I do not enjoy teaching.
__I have learned that I enjoy editorial work.
__I have learned that I do not enjoy editorial work.
__I have learned that I enjoy scholarly writing.

__I have learned that I do not enjoy scholarly writing.

Would you mentor a student who wanted to publish an article in JPUR again?

Results: Response Rates

Stakeholder Group	Response Rate
Faculty mentors of snapshot authors	76% (n=54)
Article authors	61% (n=22)
Snapshot authors	59% (n=55)
Faculty mentors of article author	57% (n=20)
Faculty Advisory Board (2011)	58% (n=7)
Student Editorial Board members	55% (n=12)
Faculty mentors non-accepted abstract author	18% (n=8)
Non-accepted abstract authors	8% (n=5)

Results:
Table Template Self-reported Learning Gains

Competency	Article Authors Reporting Gains	Snapshot Authors Reporting Gains	Editorial Board Members Reporting Gains
How to write for professional publication			
How to write about research for an informed public audience, etc.			

Results

✓Students experienced gains in learning **as a result of** writing an article, writing a research snapshot, mentoring student author

✓***Because of their involvement with JPUR***, student authors intended to publish articles in the future

✓Faculty were motivated to continue to act as mentors

✓JPUR reaches large global audience

Results

- Student authors benefitted from experiencing full spectrum of scholarly publishing process.

- Students gained knowledge of important IL concepts.

- JPUR influenced student career and scholarly aspirations.

- JPUR supports university priorities for student success, Libraries' strategic priorities

Resulting changes…

- Continue faculty and peer mentoring
- Continue workshops, add research data management, author rights
- Add links to learning resources:
  - using a citation manager
  - constructing spreadsheets, charts, and graphs to display information
  - setting Google Scholar preferences to search for articles available through the Purdue Libraries
  - strategies for working collaboratively
  - subject citation databases
  - interlibrary loan

What we didn't learn…

- Less learning gains in:
  - How to use a citation manager
  - How to set Google Scholar preferences
  - How to access specialized databases
  - Interlibrary loan service

- So, how did they find citations for their articles?
- Did they do thorough searches?
- How did they obtained full text for those articles not available through the library?

What we didn't learn…

- Student Editorial Board felt they gained least in how to work collaboratively
  - essential skill for their role
  - characteristic of research groups

- University administrators perspectives on value for recruitment and retention, K-12 outreach, fundraising

Recommendations

- Base assessment plan on established goals for program or activity

- Be realistic about your strategy

- Give others opportunity to provide feedback, but don't let them hold up the process

- Consult with campus assessment experts

- Communicate results in relevant formats for differing audiences

*Effective * Sustainable * Practical*

Thank you!

Comments and Questions…