

# Managing Student Research Ideas with a WWW Database

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Research methods classes emphasize the design and conduct of research. Just as important, however, is finding and selecting a suitable research problem, especially in curricula that emphasize student research. Discussing nascent, potential research ideas in class may be difficult for some students. Allowing today's computer-savvy students to think up and submit their ideas outside of class first is an attractive solution. Additionally, instructors who must manage a classroom's worth of student research ideas need help too. With these criteria in mind, I designed and implemented a password-protected, Web database for my research methods classes.

Finding a research idea is the first step in conducting research. Surprisingly little research exists in this topic and whereas most textbooks in research methods mention the importance of generating research ideas, few emphasize it. However, McGuire (1983) argued the importance of discriminating between important and unimportant research problems. He suggested techniques to help students and others distinguish between these two types of problems. Later, McGuire (1997) suggested over 40 heuristics that teachers could use in order to promote student generation of research problems. For example, he suggested "extrapolating from similar problems already solved" (p. 8) and "shifting attention to an opposite pole of the problem" (p. 15). Langston's (2005) laboratory manual, too, addressed the issue of student generation of research ideas using a wide variety of psychological approaches and methodological techniques. Levens (2006) suggests that researchers should look beyond their core subject (social psychology, in his case) to other disciplines such as history, anthropology, and political science in their search for researchable ideas. McKenna (1995) suggests using local contexts (e.g., schools or daycare centers) as inspiration for student research ideas. Spatz and Kardas (2008) suggest that students read previous research to find topic ideas and relax in their search for an idea, which ultimately will help them feel good about their projects. Thinking of research ideas is hardest in early career, they point out. Eventually, research ideas will come.

Although idea generation is challenging for students, developing their ideas can be a problem for professors. In my department's curriculum, students enroll for a three-semester methods sequence consisting of Statistics, Research Methods I, and Research Methods II. In the Research Methods I course, students must come up with a personal research idea and write a prospectus. In the Research Methods II course, they must actually carry out and report their research. As classes became larger, I had more difficulty managing these student projects. In response, I turned to a Web database as a solution.

## The Web Database and Its Use

I created and served a FileMaker Pro database containing fields for names, semester, research ideas, hypotheses, variables, and instructor comments in 2000. The server version of FileMaker Pro that I use allows for unlimited numbers of users to access the database and costs more than the single-user version. The database has its own domain name (bssdb.saumag.edu:591) assigned by the university and is served on an older model iMac computer. Access to the database is restricted by password that is given to students in class.

I accomplish several goals using the database. The first is that students now have a place to submit their research ideas at a time convenient to them. The second is that I can monitor their submissions and remind students who are in jeopardy of missing the deadline to get their ideas in. Third, the database makes it very easy for me to provide feedback to students about their ideas outside of class time. Finally, the database also proves itself to very useful when the time comes to write letters of recommendation. Finding a particular student's research project is easily done and serves as good focal point for such a letter.

## Student Use of the Database

Students enrolled in Research Methods I are required to submit at least three research ideas by an

early deadline and later pick one idea to develop into a full-blown prospectus that is due by the end of the semester. The database comes with its own help page. I refer questions from novice users to this help page first. In class, I teach them how to use the database, to enter, edit, search, and sort records. I also urge students to use the database as a source for inspiration. The ideas already on the database came from students like themselves and, thus, those topics will likely be of interest to them too.

After the submission deadline, I display the database in class showing everyone their classmates' ideas. I remind them that their ideas will not appear publicly on the World Wide Web but that their classmates will see their names and ideas. By providing a class password (instead of individual ones) I hope to foster a sense of ethics and collegiality. In other words, the database is theirs and they should respect the people who use it and the ideas it contains. I have not had any security problems or need to change the password since I set up the database.

Periodically, I display the database in class and call on all students individually to report their progress and respond to my questions. For example, I might ask how many references they have found, whether they have requested articles using interlibrary loan, or about the articles they have read thus far. The database keeps track of when they last updated their records, thus I can also display who has been interacting with the database recently.

### Managing the Database

There is not much time or effort involved in managing the database once it is created and served. I ask students to notify me should they not be able to access the database because inability to access is an indication that the computer serving it has crashed. That computer has been fairly reliable and only crashes once or twice a year. I take care to back up the contents of the database several times a semester. No data has been lost, even after crashes. Every semester, I reset the field that keeps track of the semester and add a new set of Research Methods I students to the database. I also update the class field, promoting Research Methods I students to the next class and placing Research Methods II students into the "done" category.

The database currently contains 555 individual records, each containing up to three ideas (see Figure 1). A search of common words in the title fields revealed that the word "student" appears 193 times. The word "child" had the next largest total with 91

hits. "Sex" appears 64 times, followed by "women" (52), "men" (35), "gender" (34), and "religion" (29). "Divorce" (20), "race" (18), "traditional" (13), "pregnancy" (11), "athlete/athletic" (10) followed. The last words searched were "obese/obesity" (4), "prison/prisoner" (3), "bipolar" (2), and "terror" (1). The database's contents reveal much about what students are thinking about in terms of research ideas.

### Conclusion

The database approach is useful for faculty supervising multiple student research projects simultaneously. It is also useful for students, especially as a way to submit their first research ideas in private. Faculty who wish to set up similar technological solutions to the problem of generating research ideas can do so using a variety of products on nearly any type of computer. Similar database products include Access, MySQL, or PostgreSQL. The costs of creating databases for managing student research projects are greatly outweighed by the benefits and rewards.

### References

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lastname	<input type="text" value="lastname"/>	firstname	<input type="text" value="firstname"/>	major	<input type="text" value="major"/>	sem	<input type="text" value="sem"/>
idea1	<input type="text" value="idea1"/>						
origin1	<input type="text" value="origin1"/>						
hypothesis1	<input type="text" value="hypothesis1"/>						
IV1	<input type="text" value="IV1"/>						<input type="text" value="comments1"/>
DV1	<input type="text" value="DV1"/>						
apa1	<input type="text" value="apa1"/>						
idea2	<input type="text" value="idea2"/>						
origin2	<input type="text" value="origin2"/>						
hypothesis2	<input type="text" value="hypothesis2"/>						
IV2	<input type="text" value="IV2"/>						<input type="text" value="comments2"/>
DV2	<input type="text" value="DV2"/>						
apa2	<input type="text" value="apa2"/>						
idea3	<input type="text" value="idea3"/>						
origin3	<input type="text" value="origin3"/>						
hypothesis3	<input type="text" value="hypothesis3"/>						
IV3	<input type="text" value="IV3"/>						<input type="text" value="comments3"/>
DV3	<input type="text" value="DV3"/>						
apa3	<input type="text" value="apa3"/>						
datecreated	<input type="text" value="datecreated"/>	datemodified	<input type="text" value="datemodified"/>				
timecreated	<input type="text" value="timecreated"/>	timemodified	<input type="text" value="timemodified"/>				
				class	<input type="text" value="class"/>		

Figure 1. View of the database showing all of its fields.