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A Philosophy Revisited for the 1980's: Integrating Teaching and Research

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For faculty members of Land-Grant institutions, the topic of integrating teaching and research may seem trite. After all, we are aware that Land-Grant institutions are institutions of the people, and that teaching, research, and service are primary functions. However are we currently successful in merging the functions of teaching and research for the mutual benefit of all?

Certainly, as a teaching faculty member at any college or university we should see our major function as teaching and our major goal as facilitating learning. Therefore, let's look closer at integrating teaching and research as a way of improving learning in the 1980's.

I would like further to structure this discussion by operationally defining teaching and research. To me, teaching can be broadly defined as directing the learning experience. This definition assumes, again, that our role is to cause, encourage, or facilitate learning; learning then, is our goal and teaching is a way to reach that goal. This definition may be easy to accept at first glance, but it quickly becomes a philosophical issue when we consider our orientation to teaching. If we accept the definition, it means that we have objectives for each course we teach that are stated in terms of the students. We will be successful when students achieve a certain learning level (when the objectives are achieved). The procedures that we use may be varied and are selected to facilitate the achievement of stated objectives. Our goal is to "cause" learning.

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On the other hand, many teaching faculty have "teacher" objectives, as can be judged by their teaching behavior. If we are in this category, our focus is on "covering" a certain amount of material. We see our role as one of exposing students to all of this text or covering this much material in English I because English II starts on page X. In such cases, instructional procedures are usually less varied; most teachers lecture because that procedure is quicker (covers more material) and is easier.

Another aspect of this issue is the academic preparation of teaching faculty. Most university teaching faculty are competent in their subject matter fields, but have never been taught "how to teach." This situation enhances the idea that "I know my subject, I'll cover this material, and those students who can get it will; those who cannot won't (and maybe shouldn't)." In such a role, teachers are not teaching, but are serving as a screening agency to measure innate ability and motivation of students. The position taken in this paper, though, is opposed to this idea. Teaching faculty should direct the learning experience. We should do the things necessary to see that students learn — not just expose them to an opportunity to learn.

Research is also a means to the same end — learning. It may be defined as critical, disciplined inquiry which varies in technique and method according to the nature and conditions of the problem identified, and is directed toward clarification and/or resolution of a specific problem or toward the discovering of new information/knowledge. From this perspective then, both teaching and research are to stimulate learning. There is certainly merit in utilizing the research method in cases where the answer may already be known by others; e.g., such activities profoundly influence learning in the affective domain, and learning how to scientifically answer questions or solve problems is a valuable skill in itself.

Rationale

If teaching and research are both to stimulate learning, should the two be integrated and will this lead to an improvement in instruction? The following are supportive ideas that we may want to consider:

1. Research results provide first-hand instructional material which makes our instruction more up-to-date, realistic, and interesting — to us and our students. Certainly, we must recognize that all research cannot be brought into the classroom, but this surely doesn't mean that none can be.

2. Research is a part of our professional responsibility, even though position descriptions vary. Our involvement may range from directing an undergraduate special problem study or a masters thesis to directing a doctoral dissertation or an externally-funded research project.

The extent of instructional faculty involvement in research will depend on limitations such as semester hour teaching load, experience and competence of the teacher, and other responsibilities. However, if you are thinking that no research is involved in your position, I'd surely hate to be in a course that you teach because you

are virtually assuring me that it will be dry, boring, and probably out-of-date.

3. Research and teaching are mutually supportive. They are two faces of the same coin, with research providing ideas for teaching and teaching providing ideas for research. Without an integration of the two, both lack life.

4. Research enhances professional development of faculty and provides a source of renewal and enrichment for both faculty and students.

5. Research allows for graduate student training and teaches them an important source of information.

6. Research improves the professional image of faculty members — on and off campus. This image determines to a large extent the type of students that attend, especially at the graduate level.

7. Research is a source of material for publications, which are beneficial to our various publics.

8. The integration of teaching and research is compatible with principles of learning and with the goals we should be striving to achieve. To me, this is the best justification for integrating teaching and research — improvement of instruction. Our posture on this issue is guided largely by our goals. Are we seeking for our students a mastery of subject matter content or are we concerned with students being better able to deal effectively with society and the future?

Certainly we are to teach subject matter content, but if that becomes, by purpose or by accident, our major goal, we are doing great harm to our students and our profession. We are charged, at least implicitly, with much more than teaching subject matter content. Dr. Neil Harl, who is the Charles F. Curtiss Distinguished Professor of Agriculture and Professor of Economics at Iowa State University, and also a member of the Iowa Bar, identified three key abilities needed by every university graduate (December, 1980). They are:

- a. The ability to think and reason creatively, analytically, and thoroughly. This requires an insatiable curiosity and a sense of great impatience with the status quo. We can help students develop these qualities by:
 1. encouraging them to search out the issues
 2. helping them learn how to analyze the issues
 3. helping them draw justifiable conclusions and communicate the results of analyses clearly and effectively.
- b. The ability to communicate in writing accurately and precisely.
- c. The ability to speak effectively.

Too many of us use only one technique for directing the learning experience — we stand in front of our classes and lecture while our students sit and take notes. Periodically we give a test to see how much of what we told our students can be regurgitated. These procedures are effective for low-level cognitive learning, yet our students need to be able to analyze, synthesize, and

evaluate. The skills of analysis, synthesis, and evaluation require practice and are best taught in association with research.

Method

If integration of teaching and research offers the previously mentioned advantages, how can it be done? I believe that an essential requisite is the general attitude or spirit of inquiry. This is the element that makes teaching interesting and effective. It is the element that goes beyond training and prepares our students to cope effectively with a diverse and constantly changing society.

1. Research invigorates instruction and makes it alive. This "aliveness" is a result of the approach of the teacher — such as "I wonder whether...?", "Why does such and such...?" and "It would be fun if..." The attitude is both sophisticated and child-like. The methodology, design, and analysis techniques are rigorous and sophisticated. The child-like, yet mature, attitude is responsible for some of the most successful children's stories which were written by noted researcher-teachers, such as Lewis Carroll, C.S. Lewis, and J.R.R. Tolkien. This sophisticated inquisitive attitude should be our goal — for ourselves as teachers and for our students.
2. Use the results of research in your subject area as subject matter. This will help to keep the curriculum relevant.
3. Conduct research related to your subject area. This will keep you involved and on the "cutting edge" of your profession.
4. Use the results of educational research to improve instructional methodology.
5. Use research as a teaching technique by having students conduct research. This practice:
 - a. provides students an opportunity to work more actively and independently than does the traditional lecture alone.
 - b. helps students learn to identify and solve problems.
 - c. helps students improve their skills in writing and exposition of ideas.
 - d. teaches the attitude and skill of disciplined inquiry.
 - f. teaches the place of cause/effect and correlational conclusions.

Summary

Accepting these kinds of responsibilities will demand more time and commitment; however, our students, our university, and our profession will benefit.

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