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Research for excellence in Teacher Education

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Abstract
Research is the application of the scientific method in the study of problems. Educational research aims to make a contribution towards the solution of problems in the field of education by the use of scientific & Philosophical methods, the method of critical reflective thinking. The teacher's primary role to teach and research project must interface with this commitment, the teacher should be committed to the research problem under study; Classroom research where possible should adopt a perspective where all members of a school community build and share a common vision. Teaching and learning centers provide an array of programs and services to assist the instructor who is struggling or the excellent teacher looking for something new. The pedagogical tools suggested can range from collaborating group work to problem-based learning to on-line instruction. Research Excellent in Teacher Education will help to discover the works best in your classroom situation. It is a powerful integration of teaching that provides a solid basis for instructional decisions. Its mastered techniques provide insights into teaching that result in continual improvement. Thus a new dimension of Research Excellent in Teacher Education provides both a measure of teaching effectiveness and a record of continuous improvement. These are particularly appropriate for teaching, where they complement descriptions of teaching strategies and students learning. It helps to renew excitement in teaching. It provides a new lens for examining your teaching, learning methods etc.

Keywords: Research, Excellence, Teacher Education

Introduction: Research a systematic attempt to obtain answers to meaningful question about phenomena or events through the application of scientific procedures. It is a objective, impartial, empirical and logical analysis and recording of controlled observation that may lead to the development of generalization, principles or theories, resulting, to some extent in prediction and control of event that may be consequences or causes of specific phenomena. Research is scientific, and as such, is not satisfied with isolated fact, but seeks to integrate and systematize its findings. Educational Research is the systematic & scholarly application of the scientific method in the boarder sense to the solution of educational problems. Traditional educational research has limited usefulness for classroom teachers. It often requires the carrying out of specific research project to the exclusion of their teaching. When educators talk about teacher research or teaching as research they envision teachers extending their role to include critical reflection upon their teaching. Some examples of teaching as research include educators who wish to undertake research in their classroom or schools for purpose of improving teaching, to test educational theory, or to evaluate and implement an educational plan. Teacher

researchers have adopted the label "action research" to describe their particular approach to classroom research.

Kurt Lewin (1946) has been credited with the development of the idea of action research. The evolution of an action research agenda within education has been influenced by people such as Kemmis (1983), Ebbutt (1985), Elliott (1991), Hopkins (1985), and others, Hopkins (1985) offers good advice on teacher research when he advocates the development of teacher's professional expertise and excellence. He provides a basis for the selection of classroom research by teachers:

- The teacher's primary role is to teach and research project must interfere with the commitment;
- The method of data collection should be demanding on the teacher's time;
- The methodology used must be reliable enough to allow teachers to formulate hypotheses confidently and develop strategies applicable to the classroom situation;
- The teacher should be committed to the research problem under study;
- Teacher must follow ethical procedures when carrying out research; and
- Classroom research where possible should adopt a perspective where all members of a school community build and share a common vision.

Often the hardest part in classroom research is deciding on a focus. Teacher research does not require a precise hypothesis. In fact you do not have begin with a problem. Hopkins (1985) suggests that "All you need is a general idea that something should be improved. Your general idea may stem from a promising new idea or the recognition that existing practice falls short of aspiration. "Once the focus of the research has been decided, planning for data collection, followed by actual data collection and analysis occurs. A member of other research methodology (Hedges, Laine, and Greenwald 1994; Greenwald, Hedges, and Liane 1996; Krueger 2002) and how he weighted (or didn't weight) the studies (Krueger 2002) How to get started on a Research Project for Teacher Education. At a functional level, excellence of knowledge might be seen as linked to a higher education institution's research mission (Calhoun, 2006).

Borrowing heavily from Hollingsworth (1994) and Hopkins (1985) offer the following practical suggestions for the teacher research process:

1. Decide on a focus

Start with autobiographical data by locating your best professional self, some questions you might ask

- What are your broad interests in teaching and learning? What are your specific interests? What are manageable questions? Choose something you feel passionate about.

- Justify that the project is your best solution to the problem.

2. Develop a plan to gain insights

- Develop a time-line to gather evidence or data to examine what you are trying to accomplish/resolve/do in light of "what your do not know yet".

- Decide what evidence you want to collect. Evidence includes such things as questionnaires/surveys, observations (video or written notes), collaborations (i.e. video or audio tape of meetings, peer coaching) interviews, tests and records, students work, video and audio tape transcripts, personal journal, library readings, etc.

3. Analyze the data by looking for patterns of themes across the evidence

a. Keep logs and journal, periodically read over the evidence, code data from themes and patterns, draw or chart patterns, try to summarize what you have learned as you go, by nothing images, metaphors, and new questions.
b. Check out your understandings by triangulating evidence (same theme, code, pattern appears in more than two types of data), and by talking to peers, students, friends.

4. Report on what you have learned

c. To your colleagues, to parents, at conferences, in journals.
d. Summarize what you learned – in an essay, narrative, poster, video, poetry.
e. Tell how the problem changed, didn't change, or became worse because of changes in your practice.

A key component of Action Research is sharing what you learned. A number of techniques ranging from video to formal presentation have already been suggested, but consider the following as potential audiences as well:

1. Colleagues at a staff development day
2. Parents and students
3. Email discussion groups
4. Publications from professional organizations

Once teacher research is shared it allows for further action on the part of the teacher, or broader educational community o continue. The educational community has become increasing supportive of teacher research.

Improving Teaching Excellence through Classroom Action Research: Teaching and learning centers provide an array of problem and services to assist the instructor who is struggling or the excellent teacher looking for something new. The pedagogical tool suggested can range from collaborative group work to problem-based learning to on-line instruction. The dilemma facing the individual instructor is choosing from a myriad of teaching strategies to use in a particular classroom instructor's own skills and style are also critical factor. Classroom Action Research (CAR) is systematic inquiry with the goal of informing practice in a particular situation. CAR is a way for instruction to discover what works best in their own classroom situation, thus allowing informed at one end to traditional. CAR occupies a midpoint on a continuum ranging from teacher reflection at one end to traditional educational research at the other. It is more data-based and systematic than reflection, but less formal and controlled than traditional educational research. Instructors use data readily available from their classes in order to answer practical questions about teaching and learning in their classrooms. Further CAR integrates the two faculty roles teaching and scholarship and is one form of the scholarship of teaching and learning (Cross & Steadman, 1996).

Steps of Classroom Action Research (CAR)

The CAR process includes seven manageable steps.

Step 1: ***Identify a question:*** A good question has three major qualities. First, the question is significant to your classroom situation; that is, you think that it might make a difference in student learning. Second, the research findings will lead to a project that is feasible in terms of time of time, effort, and resources. Some questions seek to describe, such as,"How many of my students read the assignments before coming to class?" Other questions may look for relationship, such as, "Do students who participate frequently in class do better on the exams?" Many questions take the form of "How does X affect student learning?" For example, "Are students' test scores higher when I use case studies?" or "Do students pay more attention and perform better on exams when I use presentation software (such as PowerPoint)?" Good question might involve using a particular teaching strategy, a change in course structure or materials, or different assessment techniques.

Step 2: Review the literature: You need background information on your question, but a brief review of secondary sources is adequate for these purposes. One good source of information is general books teaching, often available through your teaching and learning center. Another excellent source is the Educational Resources Information Center (ERIC) database, which indexes teaching – related publication of all types. You can search the database at http://ericir.syr.edu/. The information from these sources may help refine our question and choose your method of research.

Step 3: Plan a research strategy: There is no single best strategy for data collection. Depending on your research question, you might gather data about individual students or an entire class. You might describe a single situation (e.g. skills of entering students), look at the relationship between different types of data (e.g. the impact of homework assignments on test performance). Although a tightly controlled experimental design is usually impractical, you can use a quasi-experimental design such as comparing student outcomes from two sections of the same course.

Step 4: Collect data: This data could be quantitative (e.g. test scores, grades, survey result) or qualitative (e.g. dialogue from focus groups or class discussions). Start with data that you already have, such as assignments, exam scores, and teacher evaluations. If more information is needed, chose data that is fairly easy to collect and analyze. Angelo and Cross (1993) provide a comprehensive set of assessment tools, along with excellent advice n their use. In general, you should try to collect several different types of data to see whether results are consistent. This triangulation provides a measure of validity. For example, you might assess the effectiveness of your new group activity on student learning by looking at exam grades, comments during a class discussion, and observation of behaviours white in the group. Student evaluations of teaching also yield useful information. Comparisons between data from students who were taught in different ways can also be informative.

Step 5: Analyze data: The goal of data analysis is to look for patterns. Did your teaching strategy result in better student performance on exams compared to their pre-test or to another group of student? Were their comments in class more in depth? A simple grouping of comments by themes or a table of average test scores will reveal any major trends in the data.

Step 6: Take action based on results: Your research findings should inform your teaching decisions. If the new strategy increases student learning, you would continue to use it in that teaching context. If it does not increase student learning, you might return to your old strategy, or continue to test new strategies. You might also consider the time and effort required for a new strategy is a small learning increase worth the trouble?

Step 7: Share your finding: Teaching can be a solitary activity, with successes and failures rarely acknowledged to other. Sharing your CAR finding can provide an exciting forum for discussions on teaching. Result can be shared informally, through departmental or teaching center brown-bags, or more formally at teaching conferences.

Conclusion:

Research Excellence in Teacher Education will help to discover the works best in your classroom situation. It is powerful integration of teaching that provides a solid basis for instructional decisions. Its mastered techniques provide insights into teaching that result in continual improvement. A new dimension of Research Excellence in Teacher Education provides both a measure of teaching effectiveness and a record of continuous improvement. These are particularly appropriate for teaching, where they complement description of teaching strategies and students learning. It helps to renew excitement in teaching. It provides a new lens for examining your teaching, learning methods etc.

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