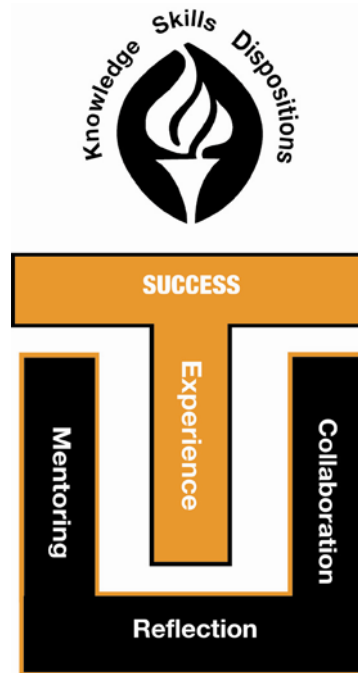


Analysis of Teaching for Professional Development



University of Tennessee
College of Education,
Health and Human Sciences

Education 574

Revised: August 2009
E01-1724-002-09



Internship Important Dates Calendar

July and August 2009	July and August 2009	Interns report for In-Service
August 19, 2009	UT Classes Begin	
September 2009	General Informational Sessions at Partnership Schools or online session (for administrators, faculty liaisons and mentoring teachers)	
December 13, 2009	UT Graduation	Interns remain full time in schools until school system closes for the holidays
January 13, 2010	UT Classes Begin	
February 26, 2010	Deadline for submission of Research Abstract	
March 17, 2010	Teacher Recruitment Fair and Interview Day	
April 21, 2010	Capstone Conference and **Reception for Elementary and Special Education Interns, Mentoring Teachers, Administrators and UT Faculty	
April 22, 2010	Conference and **Reception for Secondary Education Interns, Mentoring Teachers, Administrators and UT Faculty	
May 13, 2010	UT Graduation	

NOTES

- Liability insurance must be obtained by each intern before reporting to the placement school
- Interns will refer to their school system's master calendar for school holidays
- Interns will refer to the Praxis II Exam Bulletin (available in Bailey Education Complex 309) for all test dates and registration deadlines

**The Capstone Reception will last approximately 1-1½ hours and will include: light refreshments, greetings by UT personnel, short intern presentations, and distribution of certificates to interns. All mentoring teachers, school administrators, and UT faculty are invited.

COURSE TITLE - Education 574 Analysis of Teaching for Professional Development (2 credits)

INSTRUCTOR(S) - UT Professors (and/or Designees)

COURSE DESCRIPTION AND OUTCOMES

Strategies to document and analyze effectiveness of teaching and professional development which includes the study and application of various approaches.

LEARNING OBJECTIVES - Interns will be able to:

- A. Distinguish between reflective and non-reflective teaching practices;
- B. Describe strategies used for inquiry-based teaching practices;
- C. Develop and implement activities for each inquiry-based teaching strategy;
- D. Describe how knowledge of learning styles, characteristics of learners, teaching roles, and the school in society influence teaching decisions and practices; and
- E. Analyze self-effectiveness as a component of professional development.

REQUIRED TEXTBOOKS AND READINGS

Required text is Education 574: Analysis of Teaching for Professional Development.
Additional readings may be assigned.

LEARNING FORMATS

Requirements for All Students

1. Read assigned materials
2. Write a personal statement of beliefs about the teaching/learning process
3. Use inquiry-based approaches to analyze teaching situation
4. Identify an action research project that will be implemented during the internship year. Timetable and activities relating to the action research project will be determined by each professor.

Class Meetings

Class sessions will be a combination of lectures, discussions, and panels of practicing professional educators. Classes will meet in large-and small-group formats and will base discussions on experiences in placement schools and communities, as well as on pedagogical issues and concepts.

Field Experience - Education 575 Internship - Fall Semester, which is a co-requisite.

Schedule - See Fall Semester timetable and UT professors for details on course schedule.

Evaluation Criteria

1. Research Project Proposal (research activities)
2. Class participation
3. Additional requirements may be assigned at the discretion of the individual course instructor

Grading - A letter grade based on fulfillment of requirements.

**EDUCATION 574
ANALYSIS OF TEACHING**

PART I

**UNDERSTANDING THE SOCIOCULTURAL
CONTEXT OF SCHOOLS AND COMMUNITIES**

EDUCATION 574
ANALYSIS OF TEACHING FOR PROFESSIONAL DEVELOPMENT

**PART I: UNDERSTANDING THE SOCIOCULTURAL CONTEXT
OF SCHOOLS AND COMMUNITIES**

The first theme of this course deals with understanding the contexts in which schooling takes place. Through reading current literature, studying school and community contexts, and reflecting on these experiences, you will develop a thorough understanding of your school and community. This understanding should enable you to reflect on how your particular school and community compares with other schools and communities. Even more important, it will enable you to better capitalize on the assets of your community and students in making your teaching more relevant to students' lives.

The beginning of this section provides a series of activities related to the sociocultural context of schools. Some of these activities will be assigned, but others will be supplementary, depending on your 574 instructor.

The principals and teachers at your school will be working with you and your mentoring professors in designing an internship that will provide a wide variety of experiences. You should begin the year with a variety of observations throughout the school, many of which will need to be documented in the **Documentation of Internship Experiences** booklet (see page 9 in **The Handbook for the Professional Year Internship**). The observational assignments in this booklet will help to structure these experiences.

SUGGESTED ACTIVITIES FOR EXPLORING THE SOCIOCULTURAL CONTEXTS OF SCHOOLS AND COMMUNITIES

The following activities are offered to guide your initial observations in schools and surrounding communities. Your 574 professor will assign many of these activities in the initial portion of the course for class discussion. These guiding questions will be useful in your study of the school in which you are now teaching.

Community Descriptions:

1. Describe the community or communities where the children in your school live.
2. Begin by finding out the boundaries of the school district. You may be able to obtain a map of the district from the administrators in your school.
3. Determine what student and family services are offered both before and after school.
4. Ride around the community. What facilities are available for children during after-school hours? Is there a library in the community? Recreational facilities? What kinds of stores and other services are available in the community? Arrange with the principal of your school to ride one or more of the buses which transport the children in your school. This activity reveals much about the lives of children before and after school.

School Descriptions:

1. How many students and faculty are at this school?
2. Describe the physical characteristics of the school (when built, layout, etc.). You may want to make a map of the school or may be able to obtain such a map from the principal.
3. Describe the support staff and specific programs offered to students.
4. How are grouping and tracking done at your school? How are children placed in these groups? Can they move from one ability group to another? How? Who makes these decisions?
5. How does this school compare to the school you attended?
6. Describe the makeup of the faculty and staff. How many males and females are in administrative positions? Support staff positions? Teaching positions? Other staff?
7. How do the administrators interact with the teachers? How do the administrators interact with you? What are the responsibilities of the different administrators in the school?
8. Talk to several teachers:
 - What responsibilities do they have beyond the planning of classroom instruction?
 - Do they feel involved in the decision-making process within the school?
 - What do the teachers see as their most important responsibilities? As least important?

9. What interactions are there between teachers and administrators?
10. How is the school governed?
11. How is the school day structured? How does this fit with what is known about child development?
12. What role does the state play in the policies and practices in the school? (You may need to ask your colleagues as well as administrators.)

Classroom Observations:

1. Develop a race, ethnicity, social class, and gender profile of the student population in your school and in your classroom. Determine the number of African American, Asian, European American, Latino and Native American students in the school.
2. Take careful field notes during several class periods from beginning to end with discussion, questions, activities and time noted. What percentage of the classroom interaction involved teacher talk? About what? What percentage of the classroom interaction involved student talk? About what? How many student-initiated questions and comments were there? How many teacher-initiated questions and comments were there? What kinds of questions? What levels of questions? How were student responses distributed (volunteers/non-volunteers, front/back, male/female, white/nonwhite, middle class/working class)?
3. How did teachers use praise? Reprimands? Wait time?
4. Observe reading groups and develop a profile of the student composition of each regarding gender, ethnicity, and social class.
5. Observe interactions among students and between students and faculty. Notice the number of times students are called on in class, given help during seat work, disciplined, etc.
6. During several class periods, tally the number of males and females who ask questions, answer questions, make comments, etc.
7. During several class periods, tally the questions and comments made by teachers to male and female students.
8. What motivational techniques do various teachers use with students? How is student effort rewarded?
9. Observe teachers (both regular education and special education) working with students. What do you notice about the interactions you observe? What do you notice about the tasks used with the students? What stands out for you in the observations of special-needs students?
10. How do teachers convey their expectations to students? Describe the ways teachers manage their classrooms and discipline students.

11. What are the values and beliefs of the teachers with whom you are working? What is important to them? How do you know? What is the evidence for your judgments?
12. What are the directives, rules, and practices that shape the configuration of time, space, and curriculum?
13. Reflect on your observations. What did you think of the classroom interactions? What kinds of interactions worked best? Were appropriate? Why? What problems did you observe? What patterns did you observe? What would you do differently about the communication patterns in your own classroom?

Observations of Your Own Teaching:

1. What are your own values and beliefs about teaching and learning? About how children learn?
2. Tape record one of your lessons. Carefully listen to the tape. Note how much “teacher talk” there was. Note the amount of student talk. What stands out for you in listening to your audio-taped lessons? Use the Reflecting Information Record from the State Evaluation Framework to reflect on your lesson.
3. Throughout the year, videotape several of your lessons. You may ask a colleague (either mentoring teacher or fellow intern) to watch, critique, and discuss your videotape with you. Use the Appraisal Record form from the State Evaluation Framework to reflect on your lesson.
4. Reflect on your observations.
 - How did the audio-taped or videotaped recording of your lessons match your own values and beliefs about your teaching?
 - What kinds of interactions worked best? Were appropriate? Why? What problems did you observe? What would you do differently about the communication patterns in your classroom?
 - What did you notice about your interactions with the students?

Textbook Analyses:

1. What role do texts play in the curriculum? What are the underlying values and messages in the formal curriculum?
2. Examine the textbooks and other curricular materials that you are using. Is there gender balance in the content of the curriculum? Be sure to examine illustrations, text, and activities. How do your findings relate to the literature?
3. If there are any special-needs students in your classes, what provisions are being made to adapt the textbooks to better meet the needs of these students?

Community Mapping

Every school is located in a community, and that community has both a historical record and current resources that can enhance teaching and learning. However, too often the school and the community remain isolated from each other, neither teachers nor the teacher education programs that prepare teachers situate learning in the community context, thus missing the opportunity to incorporate the community in building the knowledge, skills and values that could enhance learning. The relationship between a community and a school should be a two-way street since both have something to offer each other, but making that a reality requires that teachers know both what is available and how to make use of that knowledge. And most significantly, they must develop the disposition that experiential learning is possible, interesting, and important. Community mapping is a process that promotes increased traffic on the school-community street, engaging teachers, students, and pre-service teachers in more systematic information gathering and use of the community in teaching and learning (Treadway, 2000, p.2).

Treadway, L. (2000). *Community Mapping*. Unpublished manuscript prepared for Contextual Teaching and Learning Project, Ohio State University and U.S. Department of Education.

Preparation Checklist

1. **Identify the number of participants.** Divide the number into teams (6-7 is ideal, more than 9 is too many).
2. **Develop maps.** Select sites for each of the teams to map. These could be sites surrounding a particular school or a cross-section of sites across the school system. Each team should create a map that is large enough to read clearly. Highlight the specific blocks the team will “map.”
3. **Prepare Community Mapping Bags.** One bag per team should include: two clipboards (one with note paper for the “notetaker,” one with blank paper for the “mapper”); a pencil and/or crayon and tracing paper for the “imprinter;” two markers for additional team needs, and two floppy disks for the digital camera for the “photographer.” A schedule with the time to return from the expedition might also be included.
4. **Gather supplies for each group to use in preparing presentations.** The following should be available when the teams return:
 - Poster board (at least three per group)
 - Construction paper
 - Boxes with basic supplies (pens, scissors, glue, tape)
 - Extra floppy disks (at least two per group)
 - White paper for printing pictures (for groups who do not want to make PowerPoint presentations)
5. **Reserve technology needed for the process.** The following should be available as the session begins:
 - One digital camera per team
 - One laptop computer per team (for the second half – preparing and sharing presentations)
 - One LCD projector
 - Extra floppy disks (at least two per group)
6. **Prepare the participants.** Participants should wear comfortable shoes for walking throughout the

areas. They should also dress casually to accommodate weather conditions, but not so casually that they will not be viewed appropriately by those with whom they will come in contact during the mapping experience.

- 7. Send the participants, in teams of six or seven, to walk through a designated segment of the community.** As this is also a “team building” learning opportunity, create teams of interns from different grade levels or subject areas. Identify as many differing areas (approximately 4 blocks each with a mix of houses, businesses, etc.) of the school community as you have teams and assign each team to one of identified areas. If the session begins in the morning, have the participants eat lunch in the area they are assigned to map. This gives them an additional perspective and time to talk with others from the community. As the team members walk through their area, they might ask the following questions depending on what is located on their walk:

Possible questions for a predominantly business area?

- What do you notice about retail centers? What can you find out about the history of these locations:
- Who do you notice is hanging about at these retail centers:
- What do you notice about the mix of tenants in this area?
- What services are provided in this neighborhood?
- Are there any historic plaques in the area? Should there be?

Possible questions for a group that mapped a predominantly residential area

- What services are available for youth and families in this area?
- Note the use of the park space? Consider use of open space in this district (safety issues for children & youth).
- What kinds of retail options are available?
- What housing has been improved – and what housing has not been addressed?

Questions for group focused on recreational and safe spaces for children to play and get to school

- What would you consider as safe ways to get these students to school?
- What do you notice about the differences in housing stock?
- What kind of open spaces are there for physical recreation?

Product

Share the outcomes of the Community Mapping Exercise with faculty members. Use technology (e.g., PowerPoint) or other means to highlight important outcomes of the experience.

**EDUCATION 574
ANALYSIS OF TEACHING**

PART II

PERSONAL LEARNING PORTAL (PLP)

Personal Learning Portal (PLP)

The PLP is an electronic portfolio that allows you to take part in the electronic documentation of your progress toward program completion and or licensure. As you progress, you will be expected to upload required artifacts and to have them evaluated using the PLP rubric system. The data will be used to evaluate you as well as your program and college as a whole. You may use the PLP and items you upload to create a showcase portfolio to be used as a tool in job searches and interviews. Please feel free to contact Bill Wishart, the system administrator (wwishar1@utk.edu) if you have questions or need support.

Required artifacts for upload to the PLP or Personal Learning Portal

Pre Internship/Student Teaching Artifacts	Generated	Modified (optional)
1. Philosophy paper	400/PLP	591
2. Classroom management plan	401/PLP	591
3. Personal theory of learning	401/PLP	591
4. Lesson plan that has accommodations for special needs students	402/PLP	Methods
5. Design for (or a link to) a web page created by the intern	486/PLP	
Internship/Student Teaching Artifacts		
6. Unit plan (including one utilizing technology – unit & lessons evaluated individually)	Methods/PLP	Spring 575/591
7. Lesson Plans (3 total with one utilizing technology and one from the unit Plan)	Methods/PLP	Spring 575/591
8. Action research (Interns Only)	591/PLP	
9. Pre-Post assessment (may be from unit plan, action research or EIR)	591/PLP	

AUTHORIZATION FOR USE OF MY CHILD’S PHOTOGRAPH, LIKENESS, VIDEOTAPES, OR TRANSCRIPTIONS

I _____, am the parent or legal guardian of _____. I hereby authorize The University of Tennessee, its employees, agents, and personnel acting on behalf of the University, to duplicate, in whole or in part, distribute, and use photographs, video images, other likenesses, and transcripts (the material) of my child for purposes related to the educational mission of the University. I have had an opportunity to review the photograph or video of my child that the University wishes to use by receipt of a copy by letter dated _____.

This authorization applies to that (those) photograph(s) and no other. I understand and acknowledge that such material of or involving my child will be included in a web-based portfolio system designed to be used for the evaluation of future teachers and of the teacher preparation program in the College of Education, Health, and Human Sciences.

I understand that The University of Tennessee and its employees, agents, and personnel acting on its behalf will take responsible measures including but not limited to password protected access, redacting identifying information and archiving material offline following periodic program reviews to prevent unauthorized use but cannot absolutely warrant or guarantee that my child’s material will not be subject to further dissemination. Accordingly, I hereby expressly release the University, its employees, agents, and personnel acting on its behalf from any and all liability relating to the University’s use of the material.

I understand that my child will not be identified by name, but may be identified by age or program level.

I acknowledge that all material in the web-based portfolio system belongs to the University and that neither I nor my child will receive any payment or compensation in connection with their use.

I make this release of all claims and authorization on behalf of myself, my child, my heirs, executors, administrators or assigns.

I have read this document, understand the contents, and have willingly agreed to the above conditions.

Parent or Guardian

Signature

Date

Printed Name of Parent or Guardian

Street: _____

City, State, Zip: _____

Telephone: _____

**EDUCATION 574
ANALYSIS OF TEACHING**

PART III

**TEACHER AS RESEARCHER
UNDERSTANDING THE ACTION RESEARCH PROJECT**

EDUCATION 574 ANALYSIS OF TEACHING FOR PROFESSIONAL DEVELOPMENT

PART III: THE ACTION RESEARCH PROJECT

Practical inquiry is undertaken by practitioners to improve their practice. (Educational Research, Vol. 23, No. 5, pp. 5-10)

Practical inquiry is conducted by practitioners to help them understand their contexts, practices, and, in the case of teachers, their students. The outcome of the inquiry may be a change in practice; or it may be an enhanced understanding. Inquiry should be a deliberate attempt to collect data systematically that can offer insight into professional practice (Clift, 1990).

Practitioners who engage in action research inevitably find it to be an empowering experience. Action research helps the practitioner to be more effective in his/her teaching and in the development of his/her students' learning. Teacher-conducted inquiry enables you to have convincing evidence that your teaching practices make a real difference in your students' learning goals.

Clift, R., Veal, M.L., Johnson, M. & Holland, P. (1990). Research on Teaching and Teacher Research: The Issue That Divides. Educational Research, 19(2), 2-11.

Comments from a survey of previous interns concerning the impact of Action Research on their teaching practice:

"I improved my ability to assess the success of a lesson and make changes as needed."

"It helped me to better understand how to assess and evaluate the success of my students in math. It also helped me to be open to new ideas and teaching strategies."

"I targeted a specific area and focused on it for improvement. It improved my ability to look at a problem and devise a program or contract to solve it. I am able to look at things more qualitatively than quantitatively."

"My growth as a researcher has been tremendous; research terminology, researching literature, documenting procedures and biases, and applying research directly to students are a few of the many lessons I take away from this project."

CONDUCTING ACTION RESEARCH

WHAT IS ACTION RESEARCH?

The following persons contributed to the writing and editing of this document: Kathleen Bennett deMarrais, Sherry M. Bell, Pattie Davis-Wiley and Susan Benner.

Action research (AR) is a way for classroom practitioners to study their own practices through the identification of problems or concerns, implementation of strategies to address these problems, and, ultimately, analysis and dissemination of their results. Methods can either be quantitative or qualitative, descriptive or experimental. With increasing attention to preparing teachers to be reflective practitioners, action research has become a prominent topic in the literature concerning instructional practices, particularly in the K-12 classroom arena. Beverly Johnson (1993) provides the following brief history of action research:

While the concept of action research can be traced back to the early works of John Dewey in the 1920s and Kurt Lewin in the 1940s, it is Stephen Corey and others at Teachers College of Columbia University who introduced the term action research to the educational community in 1949. Corey (1963) defined action research as the process through which practitioners study their own practice to solve their individual instructional problems.

Even more recently, Sirotnik (1987) and Joyce (1991) identified action research (AR) “as a process that develops a problem-solving ethos” (Field, 2003). Furthermore, Field (2003) credits Sagor (2000) as identifying three main purposes for AR which focus on creating a reflective practitioner, dealing with school-wide priorities, and “building a professional culture in the educational arena. Each of these outcomes helps create an environment of learning and progress toward educational goals...”.

Why do our interns conduct action research projects?

As a member of NCATE, (National Council for Accreditation of Teacher Education), our College is committed to preparing its graduates for the 21st Century and, consequently, infuses the standards of this national organization into all of its teacher preparation programs. By having our students engage in an action research project as an integral component of their internship year and graduate program, our interns meet several of NCATE’s standards of excellence for the profession. More importantly, our graduates know how to apply research and inquiry in improving student outcomes

Steps to Follow in the Action Research Project

As a graduate student matriculating EDU 574 and EDU 591 Clinical Studies, you may wish to use the following action research process to help you think about planning, designing, and implementing your action research project. You may also wish to click on the following link to explore a truly excellent on-line resource for AR from Johns Hopkins University: <http://www.sitesupport.org/actionresearch/>.

1. What problems or concerns do I have that I would like to better understand?

Since you are attempting to solve problems in your own classroom practice, action research lends itself to studying your own classroom. You might want to think about the concerns or problems you have in dealing with your students. For example, you may find that you are having difficulty with a particular student. You may feel that your questioning strategies are not as good as you would like them to be. You may find that

you are interacting more with some students than with others. You may have difficulty getting students to complete assignments or to hand in their homework assignments. You might think your lessons are not as interesting as they should be even though you are spending what you consider to be a sufficient amount of time in their preparation. You may want to investigate why some students are more motivated to learn than others, or perhaps, why some appear to learn better than others. All of these concerns lend themselves to action research projects because they deal with improving your own personal instructional practice.

Often as an intern you may want to study issues outside your classroom. This can become problematic because of the limited time you have outside the classroom. Thus, it may be more beneficial and time economical to plan something that you can do as part of your teaching experience, during your teaching days, that will give you a chance to examine and improve yourself as an effective classroom teacher. If a topic of concern outside your classroom is to be the focus of the action research project, it is important to get input from your mentor teacher(s) to ensure a manageable and do-able study.

Once you have decided on a problem or concern, you should conduct a search of the current literature on the topic to discover what other researchers have found out about your particular issue. Your ITES 486 class has already prepared you to examine the on-line educational databases available in the library which can easily be accessed either on campus or remotely. Do not hesitate to ask for guidance from your instructors who should be well versed in this process. Be sure that some of the articles you retrieve are actual empirical *research studies* in addition to *how to* articles, which tell you how to carry out a particular teaching strategy. You will also find essays or theoretical articles that will give you the theory behind a particular topic or classroom practice or issue. For example, if you are interested in cooperative learning, you will find some theoretical essays in which the philosophy underlying cooperative learning is articulated. You will also find many articles with specific strategies for implementing cooperative learning in your classrooms. You may find both of these types of articles useful in your review of the literature. However, be sure to look for articles that report actual research studies related to cooperative learning. Authors of these articles generally tell you what their research question was, which research methods they used, and what they found out from conducting the research. Be sure to start your literature search early while you are developing your research project.

2. How can I study these problems?

Your review of the literature may help you to think about ways to study your problem. Be sure when you design your methods that your study is do-able. You can make the study too big an undertaking. On the other hand, you want to make sure the study is a good, solid piece of work. A quickly-designed study, completed a week before the Intern Capstone Conference in April, will neither result in a quality product nor will it adequately complete the requirements for your two research courses.

- You may have a student in your class who you just cannot seem to reach. This problem lends itself well to a case study or single-subject approach. See later sections on case study and single-subjects for more detail.
- You may find that your questioning techniques in the classroom could be better. You may want to observe yourself via videotape regularly, analyzing the tapes to document improvement in your classroom questioning strategies. Be sure to follow school procedures for videotaping in the classroom.
- You may discover that you are having difficulty getting students to complete assignments. This problem could lend itself to a systematic recording of the assignments as well as student responses to

these assignments over a period of time prior to implementing your improvement strategies. Your systematic recording and analysis of the type and length of assignments could serve as pre-test or baseline data in an experiment.

- You may want to better understand peer interactions in your classroom. This problem lends itself well to participant observation and interviews. See later section for details on these research methods.

3. How can I establish baseline data?

You will want to be sure to establish baseline data *prior* to implementing your change strategies. This simply means that you systematically find out what is happening right now in your classroom. You can do this in a variety of ways, including observations, checklists, administering surveys, documenting academic and/or behavior grades, testing, videotaping, audio taping, and/or keeping a student behavior journal. You want to be sure that you keep track of baseline behaviors for a period of time (at least a week or two) so you have a good understanding of what is currently happening in your classroom. Read the later section concerning seeking proper permission to conduct this research.

4. What can I try that might make a difference in my understanding or in students' learning?

Once you have identified and studied a problem through the literature and by establishing baseline data in your classroom, you can decide which strategies you may want to use to try to make a difference in your own practice and/or in your students' learning. When you implement new classroom strategies, be sure to use them long enough for students to become accustomed to your new approach and learn to use it. It is important not to try something for a day or two and then, skip to something else. While it is impossible to set an absolute standard, implementation should generally last at least 3 weeks. Given the time and other constraints of this process, you will need to plan far ahead in order to accomplish this. While you are using the chosen strategies, be sure to document what you are doing and what results you are having. Action research requires systematic documentation.

5. How can I collaborate with others in the process?

It is helpful to collaborate with others in your research process so that you can discuss your project and get feedback. You may find others (your mentoring teacher(s), other interns, an administrator or faculty liaison at your school) who might be interested in working with you on the project. Be sure that you discuss your project with your 574/591 instructors, your mentoring teacher(s), your university supervisor, and perhaps with your faculty liaison. They will be able to help you design a study that is both significant for your growth as a professional teacher and do-able given your time constraints. They will also be able to help you avoid studies that are potentially problematic.

6. Do I need to ask permission to conduct my AR study?

Once you have decided what you will be studying, have completed a search of the published relevant literature on the topic, and have planned the design of your study (see below for descriptions), you will need to seek permission to conduct your AR study. Since each school and its respective school district has its own special procedures, it will be your responsibility to ask your school administrator in charge of interns the best way for seeking formal permission before you start collecting data. It is federal law, for example, that if you are involving students under 18 years of age, formal, written permission must be sought from their parents or guardians for their participation. Usually, this permission form briefly describes the research

to be conducted, when and how it will be conducted, ensures the anonymity of the research participants, and states that they are participating voluntarily, that they will not be at risk in any way, and that the results will not impact their grade in the class in which they are enrolled. Those students or participants in your study who are over 18 can sign their own informed consent forms. Your 574/591 instructor should be able to assist you with this very necessary step in your AR research project.

7. How can I share my results with others?

You will be formally presenting the results of your AR project in two ways: one, a written paper, and two, a presentation at the spring Intern Capstone Conference. It is suggested that you follow the format given to you by your 574/591 instructor who is well-versed in research methodologies and the production of formal research papers. Usually, the APA 5th edition format is followed. An online resource of the salient features of this handbook is available to you at: http://owl.english.purdue.edu/handouts/research/r_apa.html

You will have the opportunity to share your work with others in a formal venue in addition to informally sharing your research with the people at your school. You will have an opportunity to present your research study to other interns, college faculty, and college administrators at the Intern Capstone Conference, usually held in April. This is a professional conference and a required activity for all interns. Thus, you should remind your school personnel that you will need to be absent from your classroom obligations on this day so that you can fully participate in the conference. Do this early in the semester.

A SAMPLING OF APPROACHES/DESIGNS FOR YOUR RESEARCH PROJECT

Once you have identified what you want to investigate, you need to decide how you will conduct your investigation. Two basic approaches are qualitative and quantitative. Qualitative research is often associated with constructivist philosophy and tends to focus on the perspectives and the experiences of the research participants. Quantitative research is often associated with positivist philosophy and tends to focus on cause and effect and relationships among variables being studied. Data analyses in qualitative studies usually involve analyses and descriptions of themes, which reflect the experiences of the participants. Data analyses in quantitative studies usually involve comparisons or statistical analyses of numbers (e.g., increase in quiz scores following implementation of a new teaching strategy or the calculation of the means or medians of Likert scale items on a questionnaire). Both approaches are effective and appropriate for action research, depending upon the questions and problems being investigated. In addition, it is possible and sometimes desirable to combine the two approaches in one project. For example, if you decide to use a survey instrument with your target population, and the instrument consists of several Likert scale items followed by a few open-ended qualitative questions at the end of the instruments, you are combining both quantitative and qualitative approaches to collect your data. See later section for a brief explanation of the Likert scale.

Sometimes it is difficult to distinguish between research design and method of data collection. The two are related but not always the same. For example, you may implement a new instructional strategy (e.g., a new reading activity) in an elementary classroom after a few weeks of collecting baseline data. The baseline data might consist of both qualitative (e.g., field notes) and quantitative (e.g., scores on reading comprehension quizzes) data. The research design would be considered *quasi-experimental* (a quantitative design) because an intervention was implemented with pre and post data but the data collection is both qualitative and quantitative.

QUALITATIVE

A comprehensive and user-friendly resource explaining the different types of qualitative research, including when and how to use which type, can be found in *Doing Qualitative Research in Educational Settings* (Hatch, 2002). Some of the common formats of qualitative research that you may pursue for your AR project are explained below.

CASE STUDIES

A case study approach is used when you want to study one person, one group, or one site. As mentioned above, you might want to study a particular student in your class and can do this with a carefully designed case study approach. A case study does not necessarily mean that you study a child who is a problem in the classroom. You could have a variety of reasons for studying a particular child—she may be exceptionally gifted in some way; she may be an avid reader, etc. You should be clear why you want to better understand this particular student before you decide what information you need to collect.

In a case study, you can use many different methods to obtain the data you need to understand the individual you have selected. After getting the necessary permission (from the parents/guardians, teacher(s), administrator, school district's research office, and 574/591 instructor) to undertake such a study, begin by making regular observations of the child in field note form (see participant observation studies below). You may want to keep a journal of the student's written work, drawings, and other documentary materials. Talk with others about the student, being sure to document these conversations. If you have access to test scores and other forms of assessment, these may help you to better understand the student. In short, a case study is a systematic way for you to paint a portrait of a particular student of interest to you. A case study approach helps you to better understand a particular student from a number of different perspectives.

If you wanted to add an implementation component to your case study after collecting sufficient baseline data, you would then try different strategies to change or improve the way in which you work with the student to improve his/her learning.

OBSERVATION STUDIES

Observation studies or participant observation studies rely primarily on written observations of people's behaviors collected over time. Participant observation studies come from the tradition of anthropologists who attempt to understand cultures and cultural behaviors through long-term systematic observations of the people in a particular culture. Educational anthropologists have used these methods for decades to better understand classroom behaviors of teachers and students. If you are asking a research question which leads you to a participant observation study, you will want to be careful to take regular and systematic field notes in order to understand what is happening in your classroom.

Participant observation studies are especially useful for teachers trying to better understand their classrooms. An example of a participant observation study was a study conducted by one of our interns in recent years. This teacher was interested in trying cooperative learning activities with her fifth graders. During the weeks in which she completed her teaching experience, she had the children engaged in many cooperative learning activities. While they worked, she took field notes as a participant observer. This served as the data for her study. She watched the children, noted their behaviors and their comments to one another. She tried to take notes that were as complete as possible given her role as a teacher. In addition, she interviewed several students after each of the activities to find out their perceptions of the process. She thematically analyzed both the observational and interview data to finalize her research study. This intern was able to systematically examine cooperative learning activities in her own classroom with her students.

VIDEOTAPE STUDIES

Videotape studies are particularly suited for research questions that involve classroom interactions. After you have constructed your research question or problem, you may want to videotape classroom interactions. In a prior example, it was suggested that you may want to study your questioning strategies. If this were the case, you would want to have someone videotape you periodically over a period of time in lessons where you are practicing your questioning skills. A videotape study could also focus on your travel patterns in the classroom, your use of students' names, praise, or negative comments, or perhaps the amount of pause time that you have between asking a question and calling on a student in your classroom. An analysis of your data would require you to watch the videotapes, taking systematic notes on your classroom questions, or any of the particular behaviors you wished to study in depth.

OPEN-ENDED INTERVIEW STUDIES

Sometimes the best way to answer research questions or problems is to interview people. An open-ended interview study enables us to understand from the insider's viewpoint what people's perceptions are about a particular issue or problem. A former intern was concerned that she was not prepared to work with special education children who were integrated into regular classrooms. She was interested in what other regular education teachers' perceptions were about working with children with disabilities. She designed an interview study in which she conducted in-depth interviews with teachers at her school. This study enabled her to better understand how experienced teachers worked with this population of children within a regular classroom setting.

In designing an open-ended interview study, the research question usually is worded like the intern's in the example given above: *What are teachers' perceptions of working with special education students integrated in regular education classrooms?* Remember that the research question is not the interview question, but it is important to create interview questions that will answer the overall research question. In the study described, the intern began by asking teachers to tell about their experiences in working with specific children who had been integrated into their classrooms.

In designing the interview schedule or guide, write approximately 7-10 open-ended questions which will elicit as much conversation as possible from your participants. Good qualitative, open-ended questions are non-leading, non-biased, ask only one thing (i.e., do not have several parts), and cannot be answered by a yes or a no.

Also, remember that when you are conducting the interview, do not have a two-way conversation with the participant, do not interject your thoughts on the topic or on what he/she said, yet be encouraging and receptive to what your participant is saying.

Suppose you are conducting an interview study about teachers and their experiences with anger. Always begin interviews with teachers by having them tell about several specific times in which they experienced anger in classroom or school situations. For example, "Think of a time that...Describe that event." As they are talking, listen actively and carefully, using probes from what they've told you. Look for things in their talk that you are not sure you understand in the same way that they do and then follow up with a probe. You may say, "you mentioned _____ (a word or phrase from their conversation). Tell me more about that."

In an interview study, it is usually best to audiotape the interviews so that you can get direct quotes from your participants. You will need to ask permission on tape to record the interview. Your statement may be, "Do I have your permission to record this interview? Your name will not be used in any way in this study and the tape will be destroyed after the data is analyzed." Do not rely on note taking; you will never be able

to write enough to capture what the interviewee says, and it will be distracting to the interviewee. A tape recorder is essential for an interview study.

This type of data lends itself best to thematic analysis. To conduct such an analysis, as with all descriptive or qualitative studies, you will want to read over all your data or listen to it if it is in the form of audiotapes. You may repeat this process of reading or listening several times. You will begin to see categories or patterns emerging from the data. You will want to make sure that the categories or themes you see are supported with evidence from your participants. All findings must be supported with data you have collected. Making a grid for each question in which you can enter salient comments (use quotes) from the interview, and then coding them for similarities and differences, can be most helpful as you start to interpret and report your findings. There are also software programs available for this type of data analysis which should be available in the ISC and/or the TEC lab in the College. Large amounts of data can be entered into the programs, which in turn identify reoccurring categories and themes in the data.

QUANTITATIVE

For many, the word quantitative implies having a high level of mathematical prowess. This will probably not be the case for your AR projects. The following pages contain examples of this research approach.

EXPERIMENTAL/QUASI-EXPERIMENTAL

Most people remember learning about experiments in elementary school, perhaps in preparation for a science fair. Quantitative researchers consider experiments to be the most powerful type of research design because a true experiment is well controlled. However, true experiments in education are rare because they require random assignment of participants to one of the experimental conditions. In education, researchers have limited or no control over who is in the classes. In addition, ethical considerations prohibit educators from randomly assigning some students to a condition that may be a much better instructional situation than another. Consequently, most experiments in education are actually quasi-experiments in which there is a pre-test and post-test and often a control or comparison group.

Experimental Group:

Data Collection (Pre-test/Observation 1)	>	Intervention	>	Data Collection (Post-test/Observation 2)
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Control Group

Data Collection (Pre-test/Observation 1)	>	No Intervention	>	Data Collection (Post-test/Observation 2)
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Ultimately, you may wish to expose both groups to the intervention; the second group is the comparison group. Some people do this by delaying the intervention with the second group until implementation with the first group is completed and pre-test and post-test data are collected for both groups.

In some cases, it is not feasible to have a control or comparison group. It is still possible to collect pre-test and post-test data on the experimental group; however, you will be less sure that the results are due to the intervention (as opposed to some other classroom or non-classroom variable) than if you have a control/comparison group. Results compare pre-test with post-test changes of both groups.

SINGLE-SUBJECT DESIGNS

Quantitative single-subject designs differ from qualitative case studies in their method; they focus on the effects of an intervention on specific behaviors of individual students. Single-subject studies are actually a type of experimental design in which the researcher precisely describes the behavior(s) to be studied, collects baseline data, and implements an intervention while continuing to collect data on the behavior of the student. Single-subject designs are sometimes referred to as *N of 1* designs because the *N* (number) of participants is one. However, more than one student can be studied in a single-subject design as long as the baseline behaviors and the effects of the intervention on each student's behavior is studied individually. Results are best presented in the form of graphs. Three variations of single-subject studies are described below.

A-B-A-B Design

A (Baseline) > B (Intervention) > A (Return to Baseline) > B (Return to Intervention)

Baseline observations/measurements are made on one specific behavior (e.g., getting out of seat without permission). An intervention is implemented while continuing to measure the behavior (e.g., praising hand-raising before getting out of seat). The intervention is discontinued while continuing to measure behavior. Finally, the intervention is re-implemented while continuing to measure behavior. If the behavior improves during the intervention, worsens during the return to baseline and improves again upon re-implementation, it is very likely that your intervention made a difference in the student's tendency to get out of his/her seat without permission.

Single Subject Design with More Than One Behavior

In some cases, you will want to target more than one behavior for improvement (e.g., getting out of seat without permission and talking out in class without permission). Instead of returning to baseline after the first behavior noticeably improves, you would continue the intervention for the first behavior (e.g., praising hand raising before getting out of seat) and implement a second intervention (e.g., praise hand raising before talking out in class). You continue to observe the first behavior but also begin to observe the second behavior. Continue the intervention until a change occurs or until you are pretty certain the behavior won't change. You can even add a third behavior if you like. However, it is important to define the behaviors you want to improve before intervening and continue to observe all behavior under all conditions. If the specified behavior improves only after you have implemented an intervention, you can be pretty sure your intervention worked.

Single Subject Designs with More than One Participant

You may want to implement a behavior change program and observe the effects on more than one student. In this case, you would collect baseline data (e.g., talking out during a small group language lesson) on each individual, implement the intervention and collect data on each student. You can be more confident of your results if you can implement the intervention and note changes one at a time. However, it may be more practical in a classroom to implement an intervention for several students at once (e.g. praising each of the students in the small group to raise their hands before talking out).

STRUCTURED SURVEY RESEARCH

“Survey instruments or questionnaires, are used to collect data about subjects' demographics, personal histories, knowledge, behaviors, and attitudes” (Passmore, Dobbie, Parchman, & Tysinger, 2002, p. 281). A good survey is one that is carefully designed. A good survey question asks one thing and is clearly stated and unambiguous. Similar types of questions on the survey are usually grouped together in a logical sequence. For each item, a statement is made, or a question is asked, and the subject responds selecting a

rank order (1-4, never to always, strongly disagree to strongly agree, for example, if using a Likert scale), an alternate response (two items, yes, no; true, false); or even a multiple choice (with several items from which to choose). Many surveys end with open-ended questions, which are designed to elicit data that could not otherwise be gathered using another format.

There are several good resources for constructing a survey. One such online resource describes the different types of surveys, a variety of formats of questions that can be used on the survey, and the specific steps to follow in their construction. This site (<http://www.stfm.org/fmhub/fm2002/apr02/rs1.pdf>) actually comes from a journal in family medicine, but has good, solid information, and presents an understandable overview of this type of data collection instrument.

A key point to remember in writing items for your survey questionnaire is to make your questions clear. Suskie (1992) makes the following suggestions in writing questions for your survey:

- Keep items short and straightforward.
- Keep items readable by simplifying the vocabulary and avoiding jargon.
- Make sure each item asks only one question.
- Vary types of items to avoid monotony—keep the questionnaire interesting to the reader.
- Make items as specific as possible.
- Avoid loaded, leading, or sensitive questions.
- Avoid biased questions.
- Make items easy and fast to answer.
- Be sure that each question is meaningful and contributes to the objectives of your study.

Also, you will want to consider the following questions from Suskie (1992):

- What are the objectives of your survey or interview?
- How will the results be used?
- What are the critical questions to be answered?
- What concepts need to be defined?
- What have others done on this topic?
- What information do you need to answer the questions?
- How will you analyze and report the data?
- Whom will you survey or interview?
- How many people should you survey or interview?
- How will you select your sample?
- What design should you use?
- Will you administer it on paper or orally?

It is essential that you have someone familiar with survey research go over your instrument to make sure it is in the best form possible before distributing it to your participants. You might have someone pilot test it for you to provide feedback from a respondent's point of view. Ask your 574/591 instructor to help you design a good instrument that will help you answer your research question(s).

RELATIONSHIP RESEARCH

Interns often want to determine if there is a relationship between two variables of interest to them but sometimes the variables are not under the intern's control, and thus, are not suitable for an intervention (e.g., time parents spend reading to children and literacy levels in kindergarten; dress code and student behavior).

Generally, you are encouraged to pursue projects in which you can affect some sort of change. However, your mentor may approve a relationship study on a topic of educational importance. Because most action research projects don't use complicated statistical techniques (i.e., regression analysis, *t*-tests) to analyze results, relationships can be hard to determine. However, in the literacy example above, you could gather information via a survey or interview to determine how much time parents read to their children. You could obtain a type of literacy score or ranking based on children's performance in the classroom. You could then group parents by amount of time spent reading and high literacy and low literacy students and compare the lists to see how much commonality there is. If you want to investigate relationships as described above, you need to think clearly about what question(s) you want to ask and how you will use your data to answer your question(s).

N.B. Descriptions of some of the research designs described above are taken loosely from Gall, J.P., Gall, M.D., & Borg, W.R. (1999). *Applying educational research: A practical guide*. (4th ed.). New York: Longman.

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Additional helpful resources for K-12 teacher-action researchers

Calhoun, E. F. (1994) *How to use action research in the self-renewing school*. Alexandria VA: ASCD.

McNiff, J., Lomax, P., and Whitehead, J. (1996). *You and your action research project*. NY: Routledge.

Other research methods and statistics texts that may be useful

Bogdan, R., & Biklen, S. (1998). *Qualitative research in education* (3rd ed.). Boston: Allyn & Bacon.

Cresswell, J. (1997). *Qualitative inquiry and research design: Choosing among five traditions*. Thousand Oaks, CA: Sage.

Marshall, C., & Rossman, G. (1998). *Designing qualitative research* (3rd ed.). Thousand Oaks, CA: Sage.

Maxwell, J. (1996). *Qualitative research design: An interactive approach*. Thousand Oaks, CA: Sage.

Handbook for action research paper format

American Psychological Association (2001). *The American Psychological Association Publication Manual* (5th ed.). Washington, DC: American Psychological Association.

APA 2001 format is also available on-line at:

http://owl.english.purdue.edu/handouts/research/r_apa.html - Your Reference List

Excellent websites for AR: [retrieved July, 2005]

<http://www.sitesupport.org/actionresearch/>

http://mypage.iusb.edu/~gmetteta/Classroom_Action_Research.html

WRITING YOUR RESEARCH PAPER

Your research abstract should be submitted to Tina Brannon, Bailey Education Complex 329, by February 27, 2009. See page 30 for the abstract format.

One of the major assignments you will complete in Education 574/591 is a research project. Your Education 574/591 professor(s) will be working with you on this project throughout the year. The following are suggested guidelines for you to use in writing your research paper. Please refer to department personnel for program-specific guidelines.

Suggested Format

- Title Page
- Abstract
- Introduction
- Literature Review
- Methods
- Findings
- Conclusions
- References
- Appendices (optional)

Title

The Title is concise, descriptive, and informative. The Title should describe the content of your paper in as few words as possible.

Abstract

The Abstract is a very brief overview of your entire research project, which contains a preview of the paper and a summary of the principal findings. It is a self-contained document, between 80 and 85 words, that can be read independently of the paper.

Introduction

The Introduction is a clear statement of the project which includes your reasons for choosing the topic, the context of the study, and the significance of the study.

Literature Review

The Literature Review allows you to review the research that has already been published concerning the subject you will be studying. Your Education 574/591 professor(s) will provide more details about how to conduct a literature review.

Methods

The Methods section describes how you conducted the study (research design), what materials you used, and what methods or procedures you followed. How did you collect data? How did you analyze the data? The section should be written in a narrative paragraph format and in a precise manner. Do not leave the reader with unanswered questions.

Depending on your research topic, the Methods section may include a discussion of your specific school-based population. In a case study project, the discussion of the participants would be better done in a section after the Methods portion of the research paper. You may find that it is better to provide a separate section where you discuss the school-based population and attempt to paint portraits of your participants. Remember not to include any information that could identify the participants.

Findings

The Findings section contains all the major findings of the study and presents them in a logical order with text and visuals that complement and supplement each other. If visuals are used, they should highlight an important point, be referred to somewhere in the text and be well-designed so that they are clearly understood without reference to the text. The visuals should not be redundant. The text should summarize the data collected, point out the important features, and connect the results with one another.

Data are often presented thematically for qualitative studies. What were the major themes that came out of the data analysis? In the Findings section you must support these themes with evidence from data. If you find a discrepant case or something that is clearly contrary to the commonly accepted patterns of behavior or interaction, you may also present it in this section. For qualitative studies, findings typically include numbers – e.g., test scores, averages, and frequency counts. The raw data should be presented in a table and/or graph and should be explained in the Findings section. The Findings section of the research paper answers the questions: What did I find out and what evidence do I have to support these findings?

Conclusions

The Conclusions section is an analysis of your results. It is a concise discussion of your most important results in the context of others' work (as reported in the Literature Review section) and the conclusions drawn based upon your research findings. The Conclusions section should:

1. Briefly restate your research question(s);
2. Explain how your data either supported or rejected your initial research question(s);
3. Show how your results agree or contrast with previously published work (include appropriate literature citations);
4. State your conclusions as clearly as possible;
5. Summarize your evidence for each conclusion;

6. Acknowledge any limitations which affect results and discuss any other factors over which you have no control and explain their possible effect on study outcomes;
7. Discuss any theoretical implications or practical applications of your work; and
8. Make recommendations for future research.

References

A citation is the formal acknowledgment within the text of references used. The citation serves as a link between the text in which it appears and the formal, alphabetical list at the end of the paper called References. Normally a Reference list differs from a Bibliography, in which you list everything you have read, whether it is cited or not. See the Publication Manual of the American Psychological Association 5th Edition (APA) for writing references.

Appendices (optional)

Copies of surveys, interviews, sample field notes, quizzes, observation forms, sample lessons, and other relevant material can be included here.

All papers should be:

1. Typed using standard 12-point, serif typeface (such as Times) and double-spaced.
2. Printed single-sided on 8 ½ x 11-inch paper with one-inch margins on all sides.

Additional Suggestions:

1. The title page shows the title of the paper, the author's name, and date of submission.
2. All pages except the title page and abstract should be numbered. Type the page number, using Arabic numerals, within the one-inch margin on the bottom of the page. The numerals should be centered and should be one-half inch from the bottom edge of the page.
3. Do not include your name on each page of the paper.
4. Use abbreviations sparingly, but if a very long name or term is repeated throughout the paper, an abbreviation is acceptable.
5. Abbreviations should be defined the first time they appear in the text by placing the abbreviation in parentheses following the spelled-out word.

PREPARING FOR YOUR RESEARCH PRESENTATION

You will be expected to make an oral presentation on your Education 574/591 research paper at the Intern Capstone Conference scheduled during April of each year. The following guidelines may help you plan for your presentation. Careful preparation is essential for successfully presenting your research findings.

General Overview

Presentations will be grouped according to research topics, with approximately three or four presentations per 60-minute session, allowing for 12-minute presentations and brief periods of introduction and discussion. Each session will have a moderator to make sure presentation times are equitable.

Many interns invite mentoring teachers, building principals, and other personnel from partnership schools to attend the presentations and/or arrange for a “sharing session” at individual schools. Many departments also conduct a “practice session” prior to the Capstone Conference, one to which mentoring teachers are often invited. Check with your mentoring professor and/or mentoring teacher for additional information. Please plan to share your own research during one session at the conference, and then attend the presentations of your colleagues during the additional sessions, thus offering professional support.

Suggestions

Explain your research in enough detail so that the audience understands:

1. What you did;
2. How you did it; and
3. What you learned.

Be sure your presentation is clear, logical and easy to follow.

Avoid jargon or terminology that the audience might not understand. If it is essential to use specialized terms, remember to explain them briefly. Graphs, tables, and other illustrations may help explain your results. Remember to name the variables on each axis of a graph and state the significance of the position and shape of the graph. Do not, however, read each number in the table/figure. Call attention, instead, to important points.

Plan to speak for 10 minutes “Build in” time to finish within the allotted 12 minutes.

If you have written material to share with the audience, make arrangements for the material to be distributed to the audience prior to starting your oral presentation.

Timing/Answering Questions

The oral presentation may not exceed 12 minutes. Each presentation will be followed by a brief question-and-answer period facilitated by the moderator. A session moderator will aid the intern in maintaining the time and in fielding questions from the audience. The session moderator will provide a 10-minute warning signal and will stop the presentation at 12 minutes. The speaker should repeat or paraphrase each question before answering it so the audience understands the entire dialogue.

POWERPOINT SUPPORT WILL BE AVAILABLE IN EACH PRESENTATION ROOM.

Due FEBRUARY 26, 2010
EDUCATION 574/591 RESEARCH PROJECT ABSTRACT FORM

Each intern is to submit an abstract for his/her research project. The abstract is a preview of the paper and a brief summary of the principal findings of the paper. It is a self-contained document that can be read independently of the paper. The abstract is to be written in past tense and should be between 80 and 85 words. If your abstract is longer than 85 words, for publication purposes, it will be shortened.

The abstract should be e-mailed to: Tina Brannon
tbranno1@utk.edu

Your abstract should be formatted in Arial type font with full justification and should contain the following information:

1. Author/Intern
Title (all caps)
2. Purpose of the project, question(s) and/or hypothesis(es) investigated
3. Participants (e.g., fifth grade general education students; high school special education inclusion students; preschool teachers)
4. Method Design: Qualitative (e.g., Case Study, Observation Study, Open-Ended Interview) OR Quantitative (e.g., Experimental/Quasi-experimental, Single Subject, Relationship; Structured Questionnaire or interview).
5. Implementation or Intervention, if any
6. Method of data collection: pretest-posttest, observations (including audiotape or videotape), survey or interview, open-ended interview
7. Findings
8. Conclusions

Abstract Example:

SUSIE SMITH: INFUSION OF TECHNOLOGY INTO MIDDLE SCHOOL MATH LESSONS AND ITS EFFECTS ON QUIZ SCORES

In a quasi-experimental project, technology was infused into daily math lessons for two general education seventh grade classes to determine if math quiz scores and student attitudes would improve. The first nine weeks' math quiz score averages and a math attitude survey constituted baseline data. For six weeks, math lessons, using commercially available software, were presented. Weekly quiz scores improved an average of eight percentage points and post-test surveys indicated an improvement in the students' attitudes toward math.