Public schools are increasingly investigating portfolio assessment as a means of evaluating student performance. A project examined student participation in portfolio assessment and cooperative learning in a "Reading in the Content Areas" class for preservice teachers. Students were a diverse group which included preservice middle school and secondary teachers of English, science, music, and art--as well as preservice elementary teachers seeking to learn methods for teaching math, social studies, science, and art. Of the 30 students, 18 were traditional undergraduate students; 2 were returning students who had been classroom teachers; 5 held baccalaureate degrees but no teacher certification; and the remaining 5 were nontraditional undergraduate students. During the 15-week semester, 10 projects were completed, 8 in cooperative groups and 2 individually. The instructor assessed student knowledge of and attitudes toward portfolios, cooperative learning, and learning logs in the beginning, mid-semester, and at semester's end. Students all agreed that portfolios seemed fair and were an improvement over traditional forms of grading and that cooperative learning has advantages over traditional methods of instruction. This methods course appeared to accomplish its task of preparing preservice teachers to be effective teachers of portfolios, cooperative learning, and learning logs. (Contains 2 figures, a table of data, a list of project assignments, the survey instruments, and 19 references.) (CR)
Teacher Education Methods Courses:
Modelling Practice, Not Perfection

by
Sandra M. Stokes, Ph.D.
416 Wood Hall
University of Wisconsin at Green Bay
Green Bay, Wisconsin 54311
(414) 465-2406


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Abstract

Teacher preparation programs are changing to reflect the best practices of interactive learning found in K-12 settings. This article explains success using portfolios as assessment, cooperative learning, and learning logs in a teacher education class; qualitative and quantitative results are provided.
Background

In May of 1986, the Carnegie Foundation released its report entitled *A Nation Prepared: Teachers for the 21st Century*, which made several recommendations for change in teacher education programs. Several months later, the Holmes Group released its report on teacher education, *Tomorrow's Teachers: A Report of the Holmes Group*. These reports and subsequent investigations and reports from the states have all contained recommendations for improving teacher education programs. One result has been that professional educators within teacher preparation programs have been examining not only curricular issues but also issues surrounding methodologies used to prepare preservice teachers for employment.

At about the same time that the education reform efforts were being reported, the Commission on Reading issued its landmark 1984 report on reading instruction in the United States, *Becoming a Nation of Readers*. One salient finding by the Commission was that teacher education programs studied for this report did not include a sufficient exposure to methods for teaching reading. Tied to this recommendation was the finding that faculty in teacher preparation programs "sometimes do not keep abreast of the best thinking and research in their fields" (p. 107). Although teacher education programs have attempted to address these deficiencies by adding faculty members knowledgeable in the newer methods, many teacher education programs still include elements from so-called traditional teaching methods.

Best Practices in Language Arts

Research spurred by advocates of whole language has changed the view of reading so that it is now seen as a process (Graves, 1982; Graves 1983; Tierney & Pearson, 1984; Wittrock, 1984; Tway, 1985; Goodman, 1986; Stevens et al., 1987; Routman, 1988; Smith, 1988; Goodman, Goodman & Hood, 1989; Routman, 1991). This new view of all language arts has resulted in dramatic changes in instruction and assessment in reading as well as in language arts.
Methods

Although reading/language arts methods courses have changed focus from teacher-centered with the teacher standing in front of the class speaking to rows of preservice teachers, assessment of the students has tended to remain rooted in the traditional: multiple choice tests, research papers, essay exams, and the like. In addition to retaining traditional forms of assessment, teacher educators' evaluation of student performance is not often based on allowing for learning and improvement in a class; in other words, a test given in the beginning of a course would be weighted the same as a test given near the end of a course.

Public schools, however, are increasingly investigating portfolio assessment as a means of evaluating student performance (Tierny, Carter et al., 1991; Johns & Liersburg, 1992). This type of assessment gauges the progress each student makes and examines the process the student uses; thus, portfolio assessment is seen as being more appropriate for deciding on student achievement and progress. It is only recently that research has begun on the use of portfolios in colleges for purposes other than introductory writing courses. For example, increasing research is being done with preservice teachers on the college level with reported success (Ohlhausen and Ford, 1990; Stahle and Mitchell, 1993). Most of the classes assessed in this manner are language arts and reading methods classes for preservice elementary teachers and composition classes for students in all majors. Portfolio assessment has rarely extended beyond the above-mentioned courses.

One Sample Classroom

One of the classes taught by the author of this paper is Reading in the Content Areas. Due to the diverse nature of the students (who include preservice middle school and secondary teachers of English, science, mathematics, science, music, and art--as well as preservice elementary teachers seeking to learn methods for teaching math, social studies, science, music, and art in elementary schools) as well as due to a desire by the author to teach collaboration, the author had the class participate in portfolio assessment and cooperative learning, seemingly
with success. The course description for Reading in the Content Areas in the teacher education program states:

Practical guidelines for classroom teachers in subject areas--English, social studies, mathematics, science, etc.; suggestions for teaching reading and study skills related to content, specialized and technical vocabulary, developing study guides; dealing effectively with reading problems in the content areas (Undergraduate catalog 1994, p. 108).

Portfolios kept by the students in this class included reaction papers, learning logs, tests, and projects which required preparing pre-teaching activities and which were intended to be useful to the students in future teaching situations. The learning logs incorporated what students gleaned from their class texts as well as from classroom activities and discussions as well as group work and discussions. Tests in the class required application, synthesis, and evaluation of class material and could be revised if the students so chose. Test revision by students at first occasioned a debate over the "fairness" of such a practice; most students concluded that such revisions were reflective of requirements found in the "real world." Some students chose to not revise their tests; their decisions were accepted and respected.

There were ten projects required of students over the 15-week semester. Projects assigned were completed both in cooperative groups and individually; projects five and 10 were done individually while the remaining eight projects were done in cooperative groups. These projects were as follows:

1. Students were to develop a student interest inventory.
2. Students were to develop a tool for assessing the background knowledge K-12 pupils might have.
3. Students were to develop a method for assessing K-12 pupil knowledge of graphs, charts, and other visual aids found in
the various content areas.

4. Students were to develop three lists of vocabulary words:
a list of words particular to a content area; a list of words
which has both a particular meaning and a common meaning
used in general discourse.

5. Students were to develop activities to teach the vocabulary
identified in the previous project.

6. Students were to analyze textbooks for their content area
to determine which type of expository text structure was
the predominant type used.

7. Students were to evaluate one textbook in their content area
using readability formulas, readability measures, and the
standards of their content area (e.g., National Council of
Teachers of English, National Council of Teachers of
Mathematics).

8. Students were to compile a professional bibliography and
a list of readings for students (e.g., historical fiction, science
fiction).

9. Students were to develop an outline for a unit plan which
would integrate disciplines.

10. Students were to compile and organize a content area notebook
containing the above projects.

There were 30 students in this class. Of the 30, 18 were
traditional undergraduate students; two had been classroom teachers but had taken time off to raise families; five held baccalaureate degrees but no teacher certification; and the remaining five were "nontraditional" undergraduate students.

In a class using methods of instruction and assessment such as those described above, it is of vital importance to gauge student reaction and learning to ensure that once these preservice teachers have their own classrooms, that they feel comfortable enough to use these methods with their students. To this end, the instructor assessed student knowledge of and attitudes toward portfolios, cooperative learning, and
learning logs in the beginning of the class at mid-semester, and at the end of the semester.

**INSERT SUMMARY TABLE 1 HERE**

**The Assessments and Their Results**

The assessment at the beginning of the semester (Figure 1) revealed that students were not familiar with portfolios, had heard about cooperative learning, and were somewhat familiar with learning logs; this assessment did not seek to ascertain attitudes toward these methods. Of 30 assessments returned by the students, 30 did not have first hand experience with portfolios; 24 had an inaccurate view of cooperative learning; and 10 were not anxious to complete a learning log. Among the comments received were such statements as: "I don't know about portfolios but would like to learn;" "I don't like working in groups because I've been in groups before where one or two students don't do any work and still get all the credit;" "I know about journals but learning logs are new to me."

The mid-semester assessment (Figure 2) revealed many positive changes in the attitudes of the students. Of 29 assessments completed and returned by the students (One student was absent.), all 29 respondents either agreed or strongly agreed that portfolios seemed both fair and were an improvement over traditional forms of grading. All 29 respondents believed that cooperative learning had advantages compared to traditional methods of instruction; ironically, however, two of those respondents stated that they preferred working individually. Twenty of the 29 respondents either agreed or strongly agreed that they liked writing in the learning logs. Comments included such statements as: "It makes sense to me that what I learn is reflected in my grade so I'm glad the learning logs are included in the grading process;" "I like cooperative learning because it helps teach skills in diplomacy and getting along with others;" "I like the learning logs because they do help me think about what I've learned;" "I definitely like working with others. I feel as if I'm learning more by sharing;" "Learning logs are a good indicator of learning/reflection."
By the end of the semester, student feeling remained positive. All 30 students were present for the final survey regarding all aspects of the course. Of the 30, not one disagreed that portfolios are an improvement over traditional forms of grading or that this type of assessment is fair. In fact, of the 30, 20 strongly agreed with these two statements; the remaining 10 agreed. Cooperative learning also scored high: 24 of the students strongly agreed that cooperative learning has advantages over traditional methods of instruction and learning; the remaining six agreed.

Comments from the surveys: "Portfolios are a very good idea for students...Teachers can evaluate tapes, artwork, games, [and] projects." "I think it makes assessment more personal and often includes students in the evaluation process. It also values the process and not just the product." "[Portfolios] need to involve students' self-evaluations and reflections and require higher order thinking skills to be effective." "Learning and assessment should be for the students' benefit or assessment should not exist! Teachers need to be...able to take time to authentically assess and evaluate..." "I believe that portfolios do a much better job of assessing and learning and therefore create a more accurate grade and grading system."

Conclusion
The favorable attitudes thus expressed by the preservice teachers in this class indicate that they feel comfortable with the methods of portfolios, cooperative learning, and learning logs. Their better understanding of these methods may well indicate that these future teachers will use methods such as portfolios, cooperative learning, and learning logs in order to both instruct and assess student learning. This methods course, then, appears to be accomplishing its task of preparing preservice teachers to be effective teachers of portfolios, cooperative learning, and learning logs when they have their own classrooms. A subjective word about the methods used in this class: the author (and instructor) learned more about these methods by using them and enjoyed the interactive teaching the methods promote.
Answer the following questions using the Likert scale format with 5 being very familiar and 1 being not very familiar.

1. I know about portfolios.  5 4 3 2 1

2. I believe that portfolios are a good way of assessing student knowledge and performance. 5 4 3 2 1

3. I would like to have my grade based on a portfolio. 5 4 3 2 1

4. I know about cooperative learning. 5 4 3 2 1

5. I would like to use cooperative learning in class. 5 4 3 2 1

6. I know about journals. 5 4 3 2 1

7. I know about learning logs. 5 4 3 2 1

Figure 1
Reading in the Content Areas
Survey
Answer the following questions using the Likert scale format.

<table>
<thead>
<tr>
<th>Agree</th>
<th>Agree</th>
<th>Neutral</th>
<th>Disagree</th>
<th>Disagree</th>
</tr>
</thead>
<tbody>
<tr>
<td>Strongly</td>
<td>Strongly</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

1. Portfolio assessment seems fair to me.
2. Portfolios are an improvement over traditional methods of grading.
3. I like using cooperative learning in class.
4. I think that cooperative learning has advantages compared to traditional methods of instruction.
5. I like writing in a learning log.
6. I like having my learning log included in my grade.

Figure 2
<table>
<thead>
<tr>
<th></th>
<th>Semester</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Beginning</td>
<td>Mid-term</td>
<td>End</td>
</tr>
<tr>
<td>Favored portfolios</td>
<td>0</td>
<td>29</td>
<td>30</td>
</tr>
<tr>
<td>Did not favor portfolios</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>No experience with portfolios</td>
<td>30</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Favored cooperative learning</td>
<td>6</td>
<td>20</td>
<td>30</td>
</tr>
<tr>
<td>Did not favor cooperative learning</td>
<td>24</td>
<td>10</td>
<td>0</td>
</tr>
<tr>
<td>Favored learning logs</td>
<td>20</td>
<td>20</td>
<td>24</td>
</tr>
<tr>
<td>Did not favor learning logs</td>
<td>10</td>
<td>10</td>
<td>6</td>
</tr>
</tbody>
</table>

\[ n = 30 \quad n = 29 \quad n = 30 \]
The projects assigned to the students in the Reading in the Content Areas class were as follows:

1. Students were to develop a student interest inventory.
2. Students were to develop a tool for assessing the background knowledge K-12 pupils might have.
3. Students were to develop a method for assessing K-12 pupil knowledge of graphs, charts, and other visual aids found in the various content areas.
4. Students were to develop three lists of vocabulary words: a list of words particular to a content area; a list of words which has both a particular meaning and a common meaning used in general discourse.
5. Students were to develop activities to teach the vocabulary identified in the previous project.
6. Students were to analyze textbooks for their content area to determine which type of expository text structure was the predominant type used.
7. Students were to evaluate one textbook in their content area using readability formulas, readability measures, and the standards of their content area (e.g., National Council of Teachers of English, National Council of Teachers of Mathematics).
8. Students were to compile a professional bibliography and a list of readings for students (e.g., historical fiction, science fiction).
9. Students were to develop an outline for a unit plan which would integrate disciplines.
10. Students were to compile and organize a content area notebook containing the above projects.
References


Tway, E. (1985). *Writing is reading.* Urbana, IL: NCTE.
