

Dr. Keys -
abstract +
syllabus

Department of Science Education
Master's Portfolio
Draft - June 2000

The construction of a teaching/learning portfolio is the culminating experience in the M.Ed. program in Science Education. The portfolio is intended to document a master teacher's knowledge, understandings, and applications of important ideas related to science teaching and learning.

The framing document for the portfolio is the National Science Teachers Association's Standards for Science Teacher Preparation. These standards were approved by the Board of Directors of NSTA in November 1998 and are available on-line at http://homepages.ius.edu/LZ/SGILBE01/web_docs/nsta98.htm.

Each student is responsible for gathering evidence to be included in a teaching/learning portfolio. The evidence should reflect how the master's program coursework and school teaching experiences have enabled the student to achieve the standards. A special portfolio section of ESCI 7650 - Applied Project in Science Education will be offered in spring semester and summer session of each year to stimulate reflection about the standards and guide the development of the teaching/learning portfolio.

Portfolio Contents

The portfolio will address five standards based on those in the NSTA document, with three being mandatory and two others being selected by the student. The mandatory standards are (a) content/nature of science (combination of NSTA standards 1 and 2), (b) curriculum (NSTA standard 6), and (c) social context (NSTA standard 7).

The following indicators are added to the social context standard to make the multicultural nature of science teaching and learning explicit:

- designs and employs a range of learning activities that address the needs of culturally, ethnically, and economically diverse learners
- demonstrates an understanding of students with special needs and ways in which their special needs may be accommodated in the science learning environment

The details of the portfolio contents are specified in the rubric attached to this description. Evidence for five standards must be represented in the portfolio in addition to a table of contents, a critical autobiography, portfolio goals/rationale, and a final portfolio summary.

Portfolio Submission

Students will submit portfolios for scoring at the mid-point of the semester in which they intend to graduate and will be informed of their scores within three weeks from the time of submission. There is no expectation that students will orally present their portfolios to a faculty committee. As a personal repository of evidence reflective of the five standards, the portfolio may be submitted as a folder, binder, or box or in an electronic format (e.g., CD-ROM or Web site).

Submission dates for 2000 and 2001 are as follows:

- Summer Session 2000: Monday, July 17th**
- Fall Semester 2000: Friday, October 13th**
- Spring Semester 2001: Friday, March 2nd**
- Summer Session 2001: Friday, July 6th**

Portfolio Scoring

Each portfolio will be scored by two member of the Science Education Department faculty using the analytical rubric displayed on the attached pages. A third faculty member will becoming involved in the scoring process when initial scoring results in a mixed vote (i.e., one passing and one failing vote).

The maximum possible score for the portfolio is 215 points. Evidence related to each of five standards may receive up to 36 points, for a total of 180 points for the five standards. The minimum passing score for each of the five sections is 26 points. Additionally, up to 35 points may be awarded for other required elements of the portfolio (i.e., table of contents, critical autobiography, portfolio goals/rationale, portfolio summary, and overall portfolio presentation). The minimum passing score for this section of the scoring rubric is 29 points. The minimum passing score for the portfolio is 139, with a passing score achieved for all five standards.

A student who fails to achieve a passing score on one or more of the five standards may resubmit the portfolio on the next scheduled submission date. Only the section(s) of the portfolio that correspond to the standard(s) that received the failing score will be re-scored.

A passing score on all portfolio components is required for completion of the M.Ed. program in Science Education.

3

2

1

Standard: Content & Nature of Science	Excellent	Adequate	Unacceptable
Standard objectives and rationale	Clear well-thought-out description of reasons for choosing particular standard + evidence	Adequate description of reasons for inclusion	Unclear description; description unrelated to standard
Narratives for each piece of evidence relate to professional indicators within standard	Reflective AND descriptive explanation	Reflective OR descriptive explanation	Little or no reflection, unclear description
3-5 pieces of evidence	3 pieces of evidence	2 pieces of evidence	1 piece of evidence
Variety of portfolio	Wide range of indicators, variety of types of evidence	Moderate range of indicators, limited variety	Little or no variety of indicators or evidence.
Summary for entire standard, explaining personal meaning/significance of standard to student	Reflective and meaningful; provides cohesion to entire section	Adequate reflection, relates to part of section	Unclear meaning, relates to little or none of section; no cohesion

X 2 =

X 3 =

X 2 =

X 3 =

X 2 =

Section Passing Score: 26 out of 36

Total: / 36

3

2

1

Standard: Curriculum	Excellent	Adequate	Unacceptable
Standard objectives and rationale	Clear well-thought-out description of reasons for choosing particular standard + evidence	Adequate description of reasons for inclusion	Unclear description; description unrelated to standard
Narratives for each piece of evidence relate to professional indicators within standard	Reflective AND descriptive explanation	Reflective OR descriptive explanation	Little or no reflection, unclear description
3-5 pieces of evidence	3 pieces of evidence	2 pieces of evidence	1 piece of evidence
Variety of portfolio	Wide range of indicators, variety of types of evidence	Moderate range of indicators, limited variety	Little or no variety of indicators or evidence.
Summary for entire standard, explaining personal meaning/significance of standard to student	Reflective and meaningful; provides cohesion to entire section	Adequate reflection, relates to part of section	Unclear meaning, relates to little or none of section; no cohesion

X 2 =

X 3 =

X 2 =

X 3 =

X 2 =

Section Passing Score: 26 out of 36

Total: / 36

3

2

1

Standard: social context	Excellent	Adequate	Unacceptable
Standard objectives and rationale	Clear well-thought-out description of reasons for choosing particular standard + evidence	Adequate description of reasons for inclusion	Unclear description; description unrelated to standard
Narratives for each piece of evidence relate to professional indicators within standard	Reflective AND descriptive explanation	Reflective OR descriptive explanation	Little or no reflection, unclear description
3-5 pieces of evidence	3 pieces of evidence	2 pieces of evidence	1 piece of evidence
Variety of portfolio	Wide range of indicators, variety of types of evidence	Moderate range of indicators, limited variety	Little or no variety of indicators or evidence.
Summary for entire standard, explaining personal meaning/significance of standard to student	Reflective and meaningful; provides cohesion to entire section	Adequate reflection, relates to part of section	Unclear meaning, relates to little or none of section; no cohesion

X 2 =

X 3 =

X 2 =

X 3 =

X 2 =

Section Passing Score: 26 out of 36

Total: / 36

3

2

1

Standard: student's choice # 1	Excellent	Adequate	Unacceptable
Standard objectives and rationale	Clear well-thought-out description of reasons for choosing particular standard + evidence	Adequate description of reasons for inclusion	Unclear description; description unrelated to standard
Narratives for each piece of evidence relate to professional indicators within standard	Reflective AND descriptive explanation	Reflective OR descriptive explanation	Little or no reflection, unclear description
3-5 pieces of evidence	3 pieces of evidence	2 pieces of evidence	1 piece of evidence
Variety of portfolio	Wide range of indicators, variety of types of evidence	Moderate range of indicators, limited variety	Little or no variety of indicators or evidence.
Summary for entire standard, explaining personal meaning/significance of standard to student	Reflective and meaningful; provides cohesion to entire section	Adequate reflection, relates to part of section	Unclear meaning, relates to little or none of section; no cohesion

X 2 =

X 3 =

X 2 =

X 3 =

X 2 =

Section Passing Score: 26 out of 36

Total: / 36

3

2

1

Standard: student's choice # 2	Excellent	Adequate	Unacceptable
Standard objectives and rationale	Clear well-thought-out description of reasons for choosing particular standard + evidence	Adequate description of reasons for inclusion	Unclear description; description unrelated to standard
Narratives for each piece of evidence relate to professional indicators within standard	Reflective AND descriptive explanation	Reflective OR descriptive explanation	Little or no reflection, unclear description
3-5 pieces of evidence	3 pieces of evidence	2 pieces of evidence	1 piece of evidence
Variety of portfolio	Wide range of indicators, variety of types of evidence	Moderate range of indicators, limited variety	Little or no variety of indicators or evidence.
Summary for entire standard, explaining personal meaning/significance of standard to student	Reflective and meaningful; provides cohesion to entire section	Adequate reflection, relates to part of section	Unclear meaning, relates to little or none of section; no cohesion

X 2 =

X 3 =

X 2 =

X 3 =

X 2 =

Section Passing Score: 26 out of 36

Total: / 36

	7	4	-1
Table of Contents	Accurate, neat, organized, reflects location of evidence	Location of evidence unclear	No table of contents
Critical Autobiography (previously graded)	Teaching philosophy clearly stated, aligned with portfolio evidence	Unclear philosophy, poorly fits with portfolio evidence	Not autobiographical
Portfolio Goals/Rationale	Describes plan, clear reasoning for portfolio	Unclear plan or reasoning	No ambition or goals
Final Portfolio Summary	Reflective, cohesive, relates to all five areas in portfolio	Little or no reflection or cohesion, relates to fewer than five areas	No summary
Portfolio presentation	Neat, creative, organized, easy to navigate, engaging, could be thematic	Organization poorly fits with portfolio, inconsistent organization	Messy, boring, shabby, confusing, a real eye-drooper

Section Passing Score: 29 out of 35

**M.Ed. Program
Science Education Department
Overall Portfolio Score**

Student's Name _____

Date _____

Sections Section Passing Scores Section Scores

Science Content & Nature of Science	26 out of 36	
Curriculum	26 out of 36	
Social Context	26 out of 36	
Student's Choice # 1	26 out of 36	
Student's Choice # 2	26 out of 36	
Required Portfolio Elements	29 out of 35	

Total Score _____

Comments: