

**Interdisciplinary Liberal Studies
Assessment Progress Template
2007-2008**

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Executive Summary

GOALS AND OBJECTIVES

- ❖ The current list of goals and objectives does not capture the full range of qualities we want for our graduates: *“young teachers who have sound knowledge, conceptual and intellectual sophistication and lively imaginations, and who can use pedagogic training in creative ways to make learning a joy and passion for their students.”*
- ❖ Revision of the goals and objectives remains a “dream” while the structural reorganization of IDLS happens.

ASSESSMENT METHODS

- ❖ Students should be assessed at three main points in their careers: entering freshmen, mid career, and during the senior year. This is difficult due to lack of dedicated curriculum and faculty.
- ❖ The General Education Cluster assessment instruments will be used to assess knowledge in the IDLS core areas, since the IDLS core matches the GenEd Clusters 1-4 curriculum. GenEd data will be mined for IDLS student data, and new analyses will be done in CARS. This is proving difficult, but new CARS procedures may make next year easier.
- ❖ Math content knowledge is assessed with the Learning Math for Teaching instrument. This is an excellent assessment instrument, and IDLS and Math should cooperate on sharing this data. Getting this data is also problematic.
- ❖ Praxis II results provide a high stakes exit test of content knowledge. One possible senior assessment is a “practice Praxis” using released Praxis items. We will explore this in the coming year.
- ❖ Affective traits such as student attitudes and dispositions toward learning and teaching in the content areas are being evaluated with several survey instruments.
- ❖ Humanities/Social Sciences concentrators are assessed in the capstone using a 5 item rubric that evaluates aspects of content fluency and content pedagogy. There are significant differences in ratings between instructors that should be addressed with a “rubric workshop” to improve the reliability of this measure. It does not map to the current program goals and objectives, so it can’t contribute to documentation of student success on these measures.

OBJECTIVE ACCOMPLISHMENTS

- ❖ IDLS 400 students continue to perform well on capstone assessment. Overall about 10% of students across all sections are scoring 1 or 2 on each of the categories.
- ❖ The LMT instrument is a solid measure of math knowledge for teaching. Students show significant improvement after completing the Math core courses.
- ❖ Nearly all of the ECED, ELED, and SPED students pass the Praxis II test. This indicates that content coverage for these students is good. The MIED students have difficulty with Praxis II. The IDLS faculty are looking at this problem.

USE OF ASSESSMENT RESULTS

- ❖ Middle Grades Praxis II pass rates, especially in math and science continue to be a problem. Virginia has one of the highest pass scores of any state: 162/200 for math and 163/200 for science. From September 2006 to August 2007, only 9 of the 23 students who took the MS-Science test had passing scores (39%). Fifteen of the 20 students who took the MS-Math test had passing scores (75%).
- ❖ Continued improvement of IDLS 400 has been based on capstone assessment for the past several years. Revisions of course content, materials, and projects all utilize ideas from the end of semester discussion of results.

FUTURE DIRECTIONS AND ISSUES FOR IDLS ASSESSMENT

- ❖ Continue to identify instruments and designs that assess content knowledge for teaching. Science assessment is a particular need. Concept inventories or released Praxis items (or a combination) are possible options.
- ❖ “Capturing” students at the three main assessment checkpoints (entering freshmen, mid career, and during the student teaching semester) is extremely difficult since IDLS has no courses in common, no faculty, and little “pull” in the senior year when students are focused on Education classes.
- ❖ Formalize the process of obtaining data and reports from CARS, COE, and Math.
- ❖ Develop a plan to assess seniors on assessment day.
- ❖ Conduct a “rubric workshop” to clarify the IDLS 400 assessment rubric.
- ❖ CLARIFY AND REVISE GOALS AND OBJECTIVES!

I. Goals and Objectives -

The IDLS program was established with goals and objectives drawn from the list of VA Teacher Licensure competencies. It is important that the IDLS program’s objectives mesh with what is expected for teacher licensure, since all program graduates also minor in a teacher licensure area. Teacher education programs are also expected to follow best practices, as recommended by the professional specialty associations (SPAs) in each of the discipline areas. In the case of IDLS, these SPAs include NAEYC, ACEI, NMSA, NCTM, NSTA, CEC, NCSS, and NCTE. Making sense of all of these sometimes conflicting recommendations is one of the major challenges for the IDLS program.

The IDLS program fits into the Education Unit’s Conceptual Framework within element 2: The education professional demonstrates **deep understanding of the content** to be taught and ways to effectively teach their content. Deep understanding includes understanding the structure, skills, core concepts, and methods of inquiry of the discipline(s) taught or practiced; demonstrating conviction of the worth of the discipline or subject; and creating learning experiences that make these aspects of subject matter meaningful to students.

The goals derive directly from Conceptual Framework element 2 and the idea that future teachers need to develop “content fluency” in each of the 4 core subjects: language arts, social sciences, mathematics, and natural sciences. We consider our mission to be developing **content knowledge, skills, and attitudes** in each of the 4 core subject areas. Furthermore, every candidate should become competent in those aspects of each subject area to pass the Praxis II exam and to satisfy the requirements for VA teacher licensure in their selected education field. Our goals and objectives will (eventually) emphasize college level mastery of the content, with appropriate knowledge, skills, and attitudes to be effective classroom teachers and reflective practitioners and will also be consistent with state requirements.

Program Goals

The IDLS major has four goals, with goal #1 subdivided into four parts. Figure 1 summarizes the IDLS goals and assessment measures for the Core and the Concentrations. These are not stated as student learning goals, but rather as goals that program faculty strive to achieve.

Goals of IDLS Program
1a. To produce an education professional who understands the structure, skills, core concepts, and methods of inquiry of the language arts and oral communication as relevant to the licensure area.
1b. To produce an education professional who understands the structure, skills, core concepts, and methods of inquiry of the social sciences as relevant to the licensure area.
1c. To produce an education professional who understands the structure, skills, core concepts, and methods of inquiry of mathematics as relevant to the licensure area.
1d. To produce an education professional who understands the structure, skills, core concepts, and methods of inquiry of physical and natural science as relevant to the licensure area.
2. To develop understanding and appreciation of the worth of each of the core disciplines (mathematics, science, social science, and language arts) to students and to the broader community.
3. To provide knowledge and learning experiences that assist the teacher in making his or her subjects meaningful to students.
4. To encourage thoughtful, critical and inspiring perspectives on the values and philosophies that animate the classroom, and the implication of these values for family, school and community.

Figure 1: IDLS Program Goals.

Student Learning Objectives

The learning objectives as currently defined for IDLS are minutely detailed, defined by the SOLs and teacher licensure competencies in each of the major subject areas, and (often) do not specify specific behaviors or skills to be assessed. Figures 2 and 3 detail the objectives, summarized by number, subject areas, courses, and assessment methods.

Objectives	Subject Area	Course/Learning Experiences (CORE)	Evaluation/Assessment Methods
#1 through 6	Oral Communication	GCOM 121, 122, OR 123	Core: Passing grade in course, Cluster one tests
#7 through 19	Language Arts	GWRIT 103 GENG 235, 236, 247, 248, 239, OR 260	Core: GenEd Cluster 1 (Tech level I, ISST), SAT or Praxis I scores Concentration: capstone assessment
#20A through 21	Social Studies	GHIST 101, 102, 225; GPOSC 225; GECON 200 OR ECON 201; GEOG 280 OR GANTH 195; GPSYC 160; GHTH 100 OR GKIN 100	Core: GenEd Cluster 4 tests: Global, American Concentration: Capstone assessment
#22 through 26	Mathematics	MATH 107, 108, 207	Core: Praxis I or SAT scores, Cluster 3 Quantitative Literacy sub-score, Math for Teachers Exam, NCTM survey
#27 through 31	Science	GSCI 161, 162, 163, 164, 165, 166 OR GSCI 101, 102, 103, 104	Core: Cluster 3 Scientific Reasoning sub-score; NCTM, EBAPS surveys

Figure 2: IDLS Objectives and Assessment Indicators.

Figure 3: Detailed list of IDLS Learning Objectives

Oral Communication

1. Evaluate information sources in terms of accuracy, authority, bias and relevance in oral communication
2. Use information effectively by adapting it to a communicative purpose, organizing it, and acknowledging and properly documenting sources.
3. Describe and employ the components of communication theories and the variables involved in the process of human communication
4. Use standard conventions of spoken English to communicate information and ideas
5. Display interpersonal communication skills in groups by defining problems, eliciting and recognizing member contributions, synthesizing opinions, mediating conflicts and reaching consensus.
6. Use oral communication to create a statement that includes a clear, strong and significant thesis, adequate and relevant supporting evidence, appropriate documentation, and clear and valid assumptions and conclusions.

English/Literature

7. Evaluate information sources in terms of accuracy, authority, bias and relevance in written communication
8. Use information effectively by adapting it to a communicative purpose, organizing it, and acknowledging and properly documenting sources.
9. Use standard conventions of written English to communicate information and ideas

10. In any written document, identify, paraphrase and evaluate the thesis, essential supporting evidence and assumptions, unstated assumptions, and conclusions
11. Distinguish and analyze various forms of written discourse and their roles in critical thinking
12. Demonstrate the mastery of written processes including such essential practices as invention, arrangement, revision, and editing
13. Be proficient in the ability to utilize and demonstrate strategies in literal, interpretive, critical, and evaluative comprehension
14. Knowledge of major works from one of the following four areas of literature: British, American, world, ethnic/minority
15. Be proficient in the knowledge, skills, and processes necessary for effective writing, including grammar, punctuation, spelling, syntax, etc.
16. Skills necessary to demonstrate in the writing process and to differentiate among the forms of writing (creative, expository, persuasive, and technical)
17. Demonstrate the ability to exhibit creative thinking and expression through imaginative writing
18. Demonstrate the ability to foster appreciation of a variety of literature
19. Knowledge and understanding of grammar usage and mechanics and its integration in writing.

History and Social Science

20. Understand the following foundational knowledge, skills, and processes of history and the social science disciplines

a. the American Experience

- 1. the evolution of the American constitutional republic, its ideas, institutions, and practices from the colonial period to the present; the American Revolution, including ideas and principles preserved in significant Virginia and US historical documents*
- 2. the influence of religious traditions on the American heritage and on contemporary American society*
- 3. the changing role of America around the world. Relations between domestic affairs and foreign policy, global political and economic interactions*
- 4. the influence of immigration on American political, social, and economic life*
- 5. origins, effects, aftermath and significance of the two world wars and the Korean and Vietnam conflicts*
- 6. tensions between liberty and equality, liberty and order, region and nation, individualism and the common welfare, and between cultural diversity and civic unity*

b. Global Perspective

- 1. the political, philosophical, economic, social, and cultural legacies of ancient American, Asian, African, and European civilizations*
- 2. origins, ideas, and institutions of major religious traditions*
- 3. the culture and ideas of the Renaissance and the Reformation, European exploration, and the origins of capitalism and colonization*
- 4. the cultural ideas of the Enlightenment and intellectual revolution of the 17th and 18th centuries.*
- 5. the social consequences of the Industrial Revolution and its impact on politics and culture*
- 6. the global influence of European ideologies of the 19th and 20th centuries (liberalism, republicanism, social democracy, Marxism, nationalism Communism, Fascism, and Nazism)*
- 7. the origins and effects of the two world wars and their aftermath and significance*
- 8. the evolution of human values, the historical development of contemporary global systems, and origins of current global issues and problems*

c. Civics and Economics

1. *essential characteristics of limited and unlimited governments*
2. *importance of the Rule of Law for the protection of individual rights and the common good.*
3. *rights and responsibilities of American citizenship*
4. *nature and purposes of constitutions, and alternative ways of organizing constitutional governments*
5. *American political culture*
6. *values and principles of the American constitutional republic*
7. *structure, functions, and powers of local, state, and national governments*
8. *the structure and function of the US market economy as compared with other economies*

d. Geography

1. *use of maps and other geographic representations, tools, and technologies to acquire, process, and report information*
2. *the relationship between human activity and the physical environment in the community and the world*
3. *physical processes that shape the surface of the earth*
4. *how political forces influence the division and control of the earth's resources*

e. Social, Cultural, and Individual Processes

1. *respect for and knowledge of the diverse ideas, values and practices found in human societies throughout the world*
2. *understand the cultural assumptions, values, and perceptual and behavioral patterns common to American cultures and how these impact our interactions with other cultures*
3. *analyze social processes and structures from the local to the global scale using diverse theories and methodologies*
4. *compare and contrast models that explain how people interact with each other, institutions and communities*
5. *identify interpretations of and solutions to social issues and social problems across and within cultures*
6. *describe how social, political, economic and ideological forces shape cultural systems and social policies and programs across time and geographic space*
7. *describe the influence of morals and ethics on the evolution and stability of societies and their institutions*
8. *describe how diversity affects our ability to work with others*
9. *apply different value systems to particular situations to explore possible courses of action*
10. *describe theories of human development and behavior*
11. *use reputable resources to learn about and evaluate current societal trends in health and social behavior*

21. Understand the nature of history and social science, and how the study of the disciplines assist students beyond critical thinking skills to help them appreciate:

- a. *the significance of the past to their lives and society*
- b. *diverse cultures and shared humanity*
- c. *how things happen, how they change, and how human intervention matters*
- d. *the interplay of change and continuity*
- e. *the relationship among the social sciences*
- f. *the difference between fact and conjecture, evidence and assertion, and the importance of framing useful questions*

22. Understand math as a way of knowing.
23. Use mathematical concepts to investigate problems encountered in a modern society.
24. Evaluate mathematical arguments at a level commonly encountered.

25. Demonstrate understanding and competency in the core knowledge base of concepts within mathematics including the following content:
 - a. number systems, their structure, basic operations, properties*
 - b. elementary number theory, ration, proportion, and percent*
 - c. algebra: operations with monomials and polynomials, algebraic fractions, linear and quadratic equations and inequalities, linear systems of equations and inequalities, radicals and exponents, arithmetic and geometric sequences and series, algebraic and trigonometric functions, transformations among graphical, tabular, and symbolic form of functions.*
 - d. geometry: geometric figures, their properties, relationships, Pythagorean Theorem, deductive and inductive reasoning, perimeter, area, surface area of 2- and 3- dimensional figures, coordinate and transformational geometry, constructions.*
 - e. probability and statistics: permutations and combinations, experimental and theoretical probability, prediction, graphical representations including box and whisker plots, measures of central tendency, range, normal distribution.*

26. Understand the nature of mathematics, to include study of the following:
 - a. the sequential nature of mathematics*
 - b. the multiple representations of mathematical concepts and procedures*
 - c. the ways to reason mathematically, solve problems, and communicate mathematics effectively at different levels of formality*
 - d. the contributions of different cultures toward its development*
 - e. the role of mathematics and its applications in culture and society*
 - f. the changes in the way technology has influenced mathematics education*

Science

27. Understand the knowledge, skills, and processes of the earth, life, and physical sciences
28. Understanding of the nature of science and scientific inquiry including
 - a. function of research design and experimentation*
 - b. role of science in explaining and predicting events and phenomena*
 - c. science skills of data analysis, measurement, observation, prediction, and experimentation*
 - d. the role of theories in science as unifying principles that explain observations and make predictions*
29. Understanding of science knowledge, skills, and processes including the ability to
 - a. conduct research projects and experiments*
 - b. implement safety rules/procedures and ensure that students take appropriate safety precautions*
 - c. organize key biological content into meaningful units*
 - d. incorporate technology in science*
 - e. evaluate the use of scientific arguments in the analysis of public policy issues involving science and technology*
30. Understanding of the core scientific disciplines including
 - a. the placement of science in appropriate interdisciplinary context*
 - b. the processes and organize concepts common to the natural and physical sciences*
 - c. the diversity and unity that characterizes life*

31. Understanding of the contributions and significance of science to include
- a. *its social and cultural significance*
 - b. *the relationship of science to technology*
 - c. *the historical development of scientific concepts and scientific reasoning*

II. Course/Learning Experiences

The IDLS program has the unique advantage of being involved in teacher education in Virginia. Therefore, our goals and objectives must mesh with the state and federal requirements for teacher education. Virginia requires all of its teacher candidates to be prepared to teach the material in all of the SOL for the area of licensure. In 2005-06 we conducted the following alignments of our curriculum:

	Math/Science		Humanities/Social Science	
	Core	Concentration	Core	Concentration
VA SOL—Elementary	x			
VA Licensure Standards-Elementary Education	(Math Only)	(Math Only)	x	x
VA Licensure Standards-Middle Education	x	x	x	x
SPA Standards	(Science Only)	(Science Only)		

Results of these alignment studies revealed that our core curriculum in both math/science and humanities/social sciences includes nearly all of the essential components for teacher licensure. A few specific subject areas in science have little or no coverage (weather, plants, soil, technology for example) and in language arts students are exposed to one or at most two of the 4 literature areas (American, British, World, Ethnic) but overall the core curriculum provides an excellent foundation in all 4 subject areas.

The concentration curriculum was evaluated in two ways. First, transcripts of all recent Middle Education graduates were analyzed. Since students have many choices in their concentration coursework, it was felt that direct evaluation of transcripts would give the best information of what is actually covered in students' programs. These data are found in the Appendices. Second, the courses themselves were analyzed for the SOL or licensure areas that the instructors cover in the course. These data are found in the Appendices. Transcript evaluation showed that most of the MIED humanities/social sciences students choose courses that cover less than half of the required licensure competencies. Particular weaknesses were in civics/economics and world history. World history is covered extensively in the core, but civic/economics coverage appears weak in both core and concentration.

Math/science MIED concentrators' transcripts were not evaluated in the same way, because the science component of this concentration has changed significantly in the past several years. These data are found in the Appendices. This evaluation showed that students are choosing courses which fall into one or two science disciplines (as the old guidelines recommended). The new concentration guidelines are more restrictive of course selections and require a broader choice of discipline areas. Future evaluations will be done to determine if coverage is improved.

The individual alignments are found in the appendices associated with the 2005-06 report.

III. Evaluation/Assessment Methods –

IDLS assessment is by its very nature complex. Evaluating students with two distinct upper division concentrations, for their mastery of knowledge, skills, and attitudes in each of 4 subject areas poses a creative challenge. Add to that the fact that there is only one IDLS designated course, and only humanities/social sciences students take that course, and the confounding problems increase even further.

Fortunately several faculty and departments have been extraordinarily helpful. In particular the Math department has provided class time and faculty attention to the administration of math tests in the core classes. CARS staff have done analyses of General Education data that identify IDLS students and calculate their scores separately. The Educational Support Center has done database queries and provided student information from their database, and COE faculty have assisted with getting information to students and emphasizing the importance of assessment so that participation rates could be increased.

The IDLS steering committees are interested in knowing where students are learning their content knowledge and solidifying their attitudes and beliefs (for example: in IDLS or in COE classes, in the core or the concentrations within IDLS). To do this, several assessment measures are evaluated at three points in the curriculum: entrance to JMU, entrance to teacher ed classes or the point of entrance to the IDLS concentration (usually at the start of the junior year), and leaving JMU.

The table below indicates the current status of assessments for candidates' knowledge, skills and attitudes in each of the four core subject areas. The only area which has at least some assessment of knowledge, skills and attitudes is math. Identifying or developing instruments to assess content knowledge for teaching, skills, and attitude in each of these subject areas should be a high priority in IDLS assessment over the next several years.

Subject Area	Instruments Used to Evaluate Candidates'		
	Knowledge	Skills	Attitudes
Math	LMT, Cluster Three (NAW), Praxis I and II	LMT	MCTP
Science	Cluster Three (NAW), Praxis II		EBAPS, MCTP
Language Arts	Cluster One (ISST, Oral Comm.), IDLS 400, Praxis I and II	IDLS 400	
Social Sciences	Cluster Four (GLEX, AMEX), IDLS 400, Praxis II	IDLS 400	

General Education Instruments

One way to reduce the problem of the dispersed nature of the curriculum is to look for institutional measures that can be adapted for IDLS assessment. One of the best of these is the JMU General Education assessment program. Each of the 5 GenEd clusters has a well defined assessment program designed to measure content knowledge in the cluster. The Core component of the IDLS curriculum includes all or most of the courses required for GenEd Clusters 1, 2, 3, and 4, therefore GenEd assessment scores should be a reasonable measure of content knowledge in the IDLS core. We should be able to determine scores for IDLS students on the following General Education assessment instruments: ISST, Oral Communication, Natural World quantitative reasoning, Natural World scientific reasoning, Global Experience, and American Experience. The items on each test should be related to program objectives to determine which objectives are being measured.

Obtaining data is a problem. In some cases, the sample of students who took the test is too small to be meaningful. In other cases, obtaining the data is the stumbling block. This needs to be discussed with CARS staff.

Learning Math for Teaching (LMT)

The LMT instrument was developed to specifically address the math knowledge needed to teach beginning mathematics students. We are administering this instrument as a pre-test in Math 107 (the first math course that IDLS students take) and at the end of Math 207 (the last course in the core). Again, obtaining data is an issue. It would also be good to test seniors with this instrument.

Humanities Capstone

IDLS 400 provides an integrative experience for humanities/social sciences concentrators. The capstone project is assessed using a rubric that measures the students in 4 areas: intellectual maturity, dispositions and attitudes, communication, and imagination and creativity. These 4 areas are each rated on a 1-5 scale. The faculty meets at the end of the year to “debrief” and validate their results with each other.

Prior to the meeting, each IDLS instructor selects 3 projects from his or her section of IDLS 400. Projects are selected to represent the range of performance in the section. Each of these projects is scored on the rubric items by all participating faculty. The data are analyzed for consistency of ratings and generalizability of results. In addition, the faculty score ALL of the projects in their own section using the rubric. This gives a measure of the overall performance of the students on these items. While not the perfect design statistically, this preserves the desirable characteristics of the end of semester “debriefing” and allows faculty to continuously improve this course based on their joint experiences.

EBAPS, MCTP Attitudes Instruments

The attitude a teacher has toward each subject can be as important to her/his students as what the teacher knows about the subject. We are exploring two attitude instruments. The EBAPS (Epistemological beliefs about physical science) was created for physics and chemistry students by Andrew Elby, John Frederiksen, Christina Schwarz, and Barbara White at the University of California, Berkeley. EBAPS probes students' views along five non-orthogonal dimensions: 1) *Structure of scientific knowledge*. 2) *Nature of knowing and learning*. 3) *Real-life applicability*. 4) *Evolving knowledge*. (The extent to which students navigate between absolutism and relativism), and 5) *Source of ability to learn*. This instrument was given over WebSurveyor to entering freshmen and to students during their student teaching semester (either second semester seniors or 5th year MAT students, depending on licensure area).

The MCTP instrument is titled “Attitudes and Beliefs about the Nature of and Teaching of Mathematics and Science”, and is a 38-item instrument developed by the Maryland Collaborative for Teacher Preparation, a National Science Foundation-funded project. This instrument has five subscales: 1) Beliefs about mathematics and science, 2) Attitudes toward mathematics and science, 3) Beliefs about teaching mathematics and science, 4) Attitudes toward learning to teach mathematics and science, and 5) Attitudes toward teaching mathematics and science. This instrument was also given over WebSurveyor to entering freshmen and to students during their student teaching semester (either second semester seniors or 5th year MAT students, depending on licensure area).

This test is given to entering freshmen. It should also be given to seniors.

Praxis II

All teacher licensure candidates must pass the relevant Praxis II exam in order to be licensed. JMU students generally have excellent pass rates, in the 95 to 100 % range for most of the tests. Four particular tests have been providing difficulty for our candidates: middle education exams in each of the 4 core subject areas.

There are problems with using results from a high-stakes national test in program assessment. The biggest problem is that the test comes at the end of a student’s career at JMU. As a result, it is nearly impossible to evaluate what part of the program to improve. Further complicating this is that feedback that we get from ETS is limited. There is no easy way to determine what to do about the problem area(s). Another issue is that IDLS supports 4 different education programs, and students in each program take a different Praxis test. Only the middle school tests are subject specific—all of the others cover all 4 subject areas in addition to pedagogy.

Other Survey Instruments

Periodically, information about students’ (and instructors’) experiences and thoughts have been sampled with on-line surveys. For the past two years, incoming freshmen have been surveyed about their high school experience, plans for the future, and attitudes toward learning in the disciplines. The surveys were administered with Websurveyor.

IV. Objective Accomplishments/Results –

NAW Results:

The Natural World instrument measures general scientific reasoning and analysis skills, independent of specific content. As such, it is a good test of students' overall science ability or skill, but not of their specific subject area knowledge. IDLS students had average scores on both the quantitative and scientific reasoning components of the Natural World test that were almost identical to those of the rest of the JMU population as both entering freshmen and second semester sophomores. All averages increased significantly from the pre-test to the post-test, with IDLS and other JMU students showing nearly identical gains. Humanities/Social Science concentrators show a larger gain than Math/Science concentrators—their initial scores are lower than the JMU overall and they “catch up” to the total JMU population in the Spring test.

NAW9 Descriptive statistics						
	Fall 2007			Spring 2008		
	Mean (%)	SD (%)	n	Mean	SD	n
JMU overall	63.91	11.31	1408	71.16	11.86	1020
IDLS overall	62	9.116	62	69.94	10.6	51
Humanities/Social Science Concentration	61.73	8.554	39	70.05	12.36	34
Math/Science Concentration	64.36	8.982	19	69.19	6.43	9

Elementary Education Praxis II Results:

Of the 95 reported scores for students taking the Praxis II for Elementary Education: Content Knowledge, the average score was 175.9 (SD = 11.39). Median score was 176, compared to the national median score of 163 (n=90447).

Subscale Results for Students Completing Elementary Education Praxis II, September 2007 – June 2008.

	N	Minimum	Maximum	Mean	Std. Deviation
Language Arts	166	21	30	25.96	2.753
Math	166	11	30	24.36	3.953
Social Studies	166	8	28	19.80	3.666
Science	166	14	27	21.25	3.547
Valid N (listwise)	166				

Middle Education Praxis II results

Five students took the MIED LA Praxis II test during this time period. One of these students attempted the test twice. Four of the five students passed the test; the fifth student failed both attempts. The median score on all 6 attempts was 171.5. The national median score for this test is 174.

Nine students took the MIED Math test; two of these students attempted the test twice. Five of the 9 passed the test. The two students who repeated the test failed both attempts. The median score for all 11 attempts was 155. The national median score is 161.

Six students took the MIED Social Studies test; two of these students attempted the test twice. Three of the 6 passed the test. The two students who repeated the test failed both attempts. The median score for all 8 attempts was 154. The national median score is 165.

Fifteen students took the MIED science test; two of these students attempted the test twice. Ten of the 15 passed the test. One of the two students who repeated the test failed both attempts. The median score for all 17 attempts was 162. The national median score is 158.

Global Experience and American Experience Tests

These instruments are used to assess performance in Cluster Four of General Education. IDLS student show scores somewhat lower than other JMU students on both of these exams (Table 3). The differences were not significant. The average improvement of IDLS students was higher than that of other JMU students on the American Experience test, while the differences were nearly identical on the Global Experience test. This may reflect the greater number of “American” courses required in the IDLS core than in the overall University’s General Education requirements.

Data analysis for 2007 and 2008 is not yet available.

Table 1. Raw Scores on the AMEX and GLEX for IDLS students and others (2005-06 data).

		Pretest Mean	SD	Post-test Mean	SD	Change
American Experience	IDLS students	36.40	9.76	42.65	9.31	6.25
	Other students	40.14	11.05	44.33	10.77	4.19
Global Experience	IDLS students	17.92	3.53	20.21	3.74	2.29
	Other students	19.27	4.44	21.84	4.25	2.57

Note. The possible score range for the American Experience test is 0 – 81, and the possible score range on the Global Experience test is 0 – 32.

Learning Math for Teaching (LMT)

The LMT instrument was developed to specifically address the math knowledge needed to teach beginning mathematics students. The pretest is given in Math 107 and the posttest in Math 207. Student scores for this test have not been made available to the IDLS program coordinator, however the Math department indicates that average scores increase significantly between pre and post-tests.

The overall reliability of the instrument is excellent. The next steps for this instrument are to (a) identify which areas are well represented by the test (possibly creating subscales), and (b) establish standards for performance on the instrument so that individual student performance can be evaluated. Items could be added for content areas not measured with this instrument.

The IDLS assessment coordinator should become certified to administer this instrument, so she can have access to items and scores.

Learning Math for Teaching Item Mapping to NMTA Standards, Spring 2006

Mary Handley, Judy Kidd, BJ Miller

Although the IDLS program goals are not yet based on NMTA standards, these are the best math content standards for teachers. This table shows the number of items on the LMT which map to each standard for Middle and Elementary Grades. Most of the standards map to a large number of items.

Middle Grades Standards:	Number of items	Elementary Grades Standards:	Number of items
Standard 1: Knowledge of mathematical problem solving	50	Standard 1: Knowledge of mathematical problem solving	50
Standard 2: Knowledge of reasoning and proof	58	Standard 2: Knowledge of reasoning and proof	58
Standard 3: Knowledge of mathematical communication	28	Standard 3: Knowledge of mathematical communication	28
Standard 4: Knowledge of mathematical connections	62	Standard 4: Knowledge of mathematical connections	62
Standard 5: Knowledge of mathematical representation	41	Standard 5: Knowledge of mathematical representation	41
Standard 9: Knowledge of number and operation	35	Standard 9: Knowledge of number and operation	35
Standard 10: Knowledge of different perspectives on algebra	45	Standard 10: Knowledge of different perspectives on algebra	45
Standard 11: Knowledge of geometrics	28	Standard 11: Knowledge of geometrics	28
Standard 12: Knowledge of calculus	0		
Standard 13: Knowledge of discrete mathematics	0	Standard 13: Knowledge of discrete mathematics	0
Standard 15: Knowledge of measurement	12	Standard 15: Knowledge of measurement	12

Humanities Capstone Assessment

The capstone assessment process continues to be one of the strongest elements of IDLS assessment. The faculty “debriefing” after each semester provides a rich contextual evaluation of what went right (or not) in each section of this class and also of the strengths and weaknesses of individual students and the group as a whole. As deficiencies are noted, plans for addressing them are proposed and discussed. Each semester the course is strengthened and the collaboration among the faculty is more apparent.

Analysis of the past three years’ data shows that roughly 10% of all students in the capstone class score 1 or 2 on at least one rubric area. A small proportion of students are getting low scores on several rubric categories. Negative consequences for extremely low performance on this project should be considered. There are significant differences between scores given by faculty members both within their own class and on projects selected for overall assessment. Standardization of rubric responses among faculty should be a priority in the future. Some COE faculty have indicated interest in following up the project with a requirement that one or more of the lessons developed in IDLS 400 be taught in a K-8 class. This would be a strong addition to assessment in both programs.

V. Dissemination and Use of Assessment Results

Annual assessment report is provided to the program director (Fletcher Linder) and discussed with both steering committees. The IDLS program's assessment efforts are evolving as the program evolves. Substantial progress has been made over the past several years and this is anticipated to continue until a mature assessment program has been developed. The IDLS Executive Committee and the two steering committees receive assessment information. Specific instrument results are shared with relevant area coordinators and faculty. The GSCI core faculty meets annually, and assessment results are discussed at that meeting.

NAW—Results of this assessment have not been used directly. Indirectly, the similarity of IDLS scores and overall scores argues for the effectiveness of the Package G courses as equivalent to the other packages. A better science content instrument should be developed for IDLS, perhaps based on the well developed conceptual inventories in specific disciplines. The lack of specificity of the NAW test limits its usefulness in IDLS assessment.

GLEX/AMEX—Results of this assessment have not been used directly. Like the NAW instrument, lack of specificity limits the usefulness of these instruments. Back translation of these instruments to specific program objectives or licensure competencies might increase their relevance.

Praxis II—Lower Praxis II passing rates for Middle Grades candidates led directly to two program initiatives. First, funding for faculty to take the test and provide feedback to IDLS and COE faculty was provided by the STEP grant. This allowed a close look at the test's structure and problem areas. Second, a proposal for complete revision of the IDLS curriculum for middle grades candidates has been developed. The new curriculum provides greater depth of content knowledge in the students' two areas of specialization.

Humanities capstone—The capstone assessment process continues to be one of the strongest elements of IDLS assessment. The faculty "debriefing" after each semester provides a rich contextual evaluation of what went right (or not) in each section of this class and also of the strengths and weaknesses of individual students and the group as a whole. As deficiencies are noted, plans for addressing them are proposed and discussed. Each semester the course is strengthened and the collaboration among the faculty is more apparent.

EBAPS, MCTP— Establishing baseline values is an important component of evaluating attitudes. Our results indicate that IDLS students have less sophisticated beliefs about the nature of science than do science majors (comparison with ISAT students, data not published), and freshmen are less sophisticated than graduating students. These were predicted results which do address the validity of the instruments. Likewise, students who are concentrating in math/science show different responses than those who are concentrating in humanities/social sciences. Instruments such as these in language arts and social sciences would help round out our evaluation of students' attitudes. Also, reliability and validity testing that incorporates think-alouds, reflective essays, focused interviews, or surveys would improve their usefulness.

LMT—This instrument has tremendous potential to give detailed information about the strengths and weaknesses of our candidates in the particular areas of mathematics that are relevant to elementary and middle grades teachers.

The math curriculum in IDLS is the strongest content area curriculum. All courses were designed from the NCTM standards, and the students all take the same core and concentration courses. The LMT instrument, combined with this excellent course design, should provide the best possible understanding of what our candidates know and can do in the area of mathematics.

VI. Uses of Evaluation/Assessment Results and Actions Taken

Several specific actions have been taken as a result of assessment results. Most of these are discussed in the previous section. A few of the most significant actions are summarized here.

1. Proposal to revise the Middle Grades curriculum in IDLS based on Praxis II pass rates.
2. Ongoing improvement in IDLS 400 based on annual faculty evaluation of student projects. This is especially useful to new faculty and guarantees consistency across sections and years.
3. Increased “transparency” of advising and scheduling, and enhanced cooperation between COE and IDLS to facilitate scheduling and sequencing of concentration courses based on formal and informal surveys of students and faculty.
4. Alignment of IDLS content with several sets of licensure and accreditation competency standards. Identification of missing elements and commitment to “plugging the holes” through curriculum and/or course revision.
5. Improved cooperation between CARS and IDLS to assure data analysis in a timely manner.

Recommendations:

1. CARS coordination should be improved.
2. Mary should become trained to administer the LMT.
3. HSS faculty should have a “rubric workshop” to help standardize capstone scoring.
4. MS and HSS faculty should align the GenEd instruments with IDLS goals/objectives.
5. Give the NAW9 to all IDLS students, preferably as entering freshmen and again as seniors.
6. Consider doing assessment in the new science capstone.
7. Begin assessing seniors on assessment day, either with existing instruments or a “mock Praxis”.
8. REVISE THE GOALS AND OBJECTIVES!