Interdisciplinary Liberal Studies
Assessment Progress Template
2008-09

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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 challenge due to organizational complexity.

ASSESSMENT METHODS

- Students should be assessed at three main points in their careers: entering freshmen, mid career, and during the senior year. We are accomplishing this through freshman surveys, freshman and sophomore GenEd assessment, testing in Math 107 and 208, and senior capstone assessment.
- The General Education Cluster assessment instruments are used to assess knowledge in the IDLS core areas, since the IDLS core matches the GenEd Clusters 1-4 curriculum. GedEd data will be mined for IDLS student data, and new analyses will be done in CARS. CARS staff have been extremely helpful in the effort.
- Math content knowledge is assessed with the Learning Math for Teaching (LMT) instrument. Javarro Russell and Robin Anderson from CARS are working on a new reliability and validity study of the measure..
- Praxis II results provide a high stakes exit test of content knowledge. This data goes to COE and through Amy Thelk and Joy Moody it is shared with IDLS. Further analysis of this data is possible now that details are available from ETS.
- Affective traits such as student attitudes and dispositions toward learning and teaching in the content areas are being evaluated with several survey instruments. Collaboration with COE is being explored as we develop senior and alumni 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 some differences in ratings between instructors that should be addressed with a "rubric workshop" to improve the reliability of this measure. This is a very valuable tool, and will become even more useful when the rubric is revised to include math and science skills as well as humanities and social science.
- NCATE accreditation is coming soon. We should work closely with COE to ensure that our instruments and methods meet the NCATE requirements.

OBJECTIVE ACCOMPLISHMENTS

- IDLS 400 students continue to perform well on capstone assessment. In 2009 between 3 and 7% of students across all sections scored 1 or 2 (the lowest scores on the 5 point scale) one of the 4 categories, and 7% had an overall average score less than 3. In 2008 about 10% of students fell into these low scoring categories. The Communication category had the lowest overall average score in 2009, and was lowest in each class section.
- The LMT instrument is a solid measure of math knowledge for teaching. Students show significant improvement after completing the Math core courses.
- Scores for IDLS students on the Scientific Reasoning test were similar to non-IDLS scores in 2008 and lower than non-IDLS scores in Spring 2009. Both IDLS and non-IDLS students had similar score improvement from Fall 2007 to Spring 2009.
- On the American Experience test (AMEX), there were no overall differences between IDLS and non-IDLS student scores, however HSS concentrators scored significantly higher than MS concentrators. On the Global Experience test (GLEX) IDLS students had slightly lower scores than non-IDLS students. The HSS students scored significantly higher than the MS students.

- IDLS and non-IDLS students had similar improvement in scores from freshman to sophomore year on both the AMEX and GLEX tests.
- Scores of IDLS students on the Information Seeking Skills Test (ISST) were slightly lower than non-IDLS students in 2007-08, but they were the same in 2008-09. Both MS and HSS students had similar scores.
- Students who took the Elementary Education Content Knowledge had median scores 13 points higher than the national average. Over 40% of students were in the top quartile of mathematics and social studies subscores, 36% were in the top quartile in language arts, and 27% in science. The percent of scores falling in the bottom two quartiles was 17% for language arts, 20% for mathematics, 18% for social studies, and 31% for science.

USE OF ASSESSMENT RESULTS

- Middle Grades Praxis II pass rates led to a redesign of this curriculum.
- 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. A pilot to include math and science content was very successful.
- World history choices in the core have been changed to better match VA licensure standards.
- Several science course changes to broaden coverage and address middle education Praxis pass rates.

FUTURE DIRECTIONS AND ISSUES FOR IDLS ASSESSMENT

- Create an assessment advisory committee with representation from all 4 core subject areas and College of Education to increase the dissemination of assessment results, and guide the assessment in each subject area.
- Coordinate with Amy Thelk and the COE Unit Assessment Committee to ensure that IDLS assessment will be sufficient for meeting VA and NCATE requirements for licensure and accreditation.
- Continue to identify instruments and designs that assess content knowledge for teaching. Language arts and science assessment are particularly needed.
- Conduct a “rubric workshop” to clarify the IDLS 400 assessment rubric and expand it to cover math and science.
- 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 Commun -ication	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 ATL 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 , ATL 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, ATL
#27 through 31	Science	GSCI 161, 162, 163,164,165, 166 **OR** GSCI 101, 102, 103, 104	Core: Cluster 3 Scientific Reasoning sub-score; ATL

Figure 2: IDLS Objectives and Assessment Indicators.

Figure 3: Detailed list of IDLS Learning Objectives. This list should be interpreted as attributes that IDLS majors will demonstrate by the time they graduate.

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 n 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 tow 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

Math

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 pronciples 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)		

Figure 3: Alignments conducted for IDLS curriculum and accreditation/licensure standards, 2005-06.

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. The world history requirement in the core is being modified as a result of these observations and assessment results.

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. 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 will be 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. Identifying or developing high quality 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.

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

Figure 4: IDLS assessment methods grouped by type of measure: knowledge, skill, attitude.

The table below summarizes the linkage between the IDLS core and concentration courses in all four subject areas and the relevant assessment methods for each. All IDLS students must take the core, but students choose two areas of concentration. Most IDLS students are Elementary Education or Early Childhood education minors. These students must pass a Praxis II exam that covers all four subject areas, and will likely be teaching all four subject areas. Middle Education minors will likely teach only in one or two subject areas and in fact are licensed only in their concentration subject areas. These students must pass Praxis II content exams in the two concentration subjects. IDLS assessment results will be presented by subject area and core or concentration level.

Courses	Assessment Methods
Language Arts	
Core: 3 courses GWRIT 103; GCOMM 121, 122, or 123; GENG 235, 236, 239, 247, 248, or 260	ISST test Attitudes toward Learning Praxis 2 Elementary Content LA scores
Concentration: 7 courses 6 courses in one of the humanities/social science tracks AND IDLS 400 capstone (Each track includes choices in ENG and WRIT, but students are not required to take them.)	Praxis 2 Middle School language arts subscores IDLS 400 assessment
Social Studies	
Core: 8 courses GHIST 101, 102, and 225 GPOSC 225 GPSYC 160 GKIN 100 or GHTL 100 GECON 200 or ECON 201 GANTH 195 or GGEOG 200 or GEOG 280	GLEX and AMEX (Cluster 4 tests) Attitudes toward Learning Praxis 2 Elementary Content SS scores
Concentration: 7 courses 6 courses in one of the humanities/social science tracks AND IDLS 400 capstone (Each track includes choices in ENG and WRIT, but students are not required to take them.)	Praxis 2 Middle School Social studies subscores IDLS 400 assessment
Mathematics	
Core: 3 courses Math 107, 108, 207	Praxis 2 Elementary Content Math scores Learning Math for Teaching Attitudes toward Learning
Concentration: 3 or 4 courses Math 304 – 307 (Must take 3 of the 4)	Praxis 2 Middle School Mathematics subscores
Science	
Core: 6 courses—9 credits GSCI 161 - 166	Praxis 2 Elementary Content Science scores Natural World test (Cluster 3)
Concentration: 3 or 4 courses BIO 353, BIO 364, BIO 366, GEOG 415, GEOL 211, GEOL 301, GEOL 320, ISAT 454, PHYS 215, PHYS 301	Praxis 2 Middle School Science subscores

Figure 5: IDLS Core and Concentration courses and the related assessment methods.

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: Information Seeking Skills Test (ISST), Natural World (NW) quantitative reasoning, Natural World scientific reasoning, Global Experience (GLEX), and American Experience (AMEX). The general descriptions of the instruments appear to be related to the objectives .

This year (2008-2009), data on the performance of IDLS students on the ISST, the Natural World QR & SR, the Global Experience, and American Experience was evaluated. As shown in the table above, they map to objectives in Language arts, mathematics, science, and social studies. General description, data collection information, validity evidence, and desired results are provided for each of these general education tests below.

Information Seeking Skills Test

According to DeMars,Cameron, and Erwin (2003), "the ISST is a web-based test of 53 multiple-choice items. Four content areas (Basic Reference, Database Searching, Internet Skills, Ethics) are crossed with two process areas (Knowledge, Application). …Application questions require students to apply knowledge by finding answers in catalogs and databases and by evaluating web sites. Proctors administer the test in a computer lab." (http://muse.jhu.edu/journals/journal_of_general_education/v052/52.4demars.html)

Because first-year students must pass the test before enrolling in sophomore courses, students typically give a good effort on this test. Practically all IDLS students take this test (i.e., a census). The exact number of IDLS students who took the test is provided in the results section. Reliability analyses over the past several years (via item response theory) reveal that the reliability for the entire test is in the low to mid .70s: a reasonable level for making group decisions in higher education. Librarians developed this test and studies by CARS have indicated that students who have had more exposure to information literacy curriculum (e.g., in class work or practice with web modules) perform better on the test. These factors provide validity evidence that the scores on this test represent information literacy. The desired outcome is that IDLS students exhibit the same degree of competence as non-IDLS students on the ISST.

Natural World Test Version 9, Scientific Reasoning and Quantitative Reasoning Scores

The NW-9 test consists of 66 items, all of which contribute to the scientific reasoning score. Twenty-six of those items also contribute to quantitative reasoning and are totaled for a "QR" subscore. This test is delivered via paper and pencil and computer-based versions, both in the context of Assessment Days. Approximately one quarter of entering freshmen were randomly assigned (via the last two digits of a student's ID) to take the NW-9 during fall 2007Assessment Day. Many of the incoming IDLS students who took the NW-9 in the fall of 2007 retook the test in the spring of 2009. Self-report on motivation scales reveals that most students give a reasonable effort on the NW-9.

The reliability of the SR and QR scores are typically in the .70s and .60s (Cronbach's alphas) respectively. This level of precision is respectable for higher education tests for group level decisions. The test was designed by faculty content experts and these scores relate to both course exposure and course grades in science and math. These factors contribute to validity evidence that the scores do indeed reflect quantitative and scientific reasoning.

In terms of desired results, the IDLS program would like IDLS sophomores (post-test) to score the same as other JMU students. Additionally, the IDLS program would like IDLS students to make similar gains from pre-test to post-test as non-IDLS students. These criteria for desired results are based upon previous data provided by CARS.

Global and American Experience Tests

The GLEX instrument consists of 31 multiple choice items, AMEX consists of 81 multiple choice items. The tests are administered to incoming Freshmen during the August assessment day, and to students with 45-70 credit hours during the Spring assessment day. Tests were developed by content area faculty. Scores on both tests are standardized to a mean of 500 and standard deviation of 100, set so they match the means of the norming groups for the tests (freshmen in 2000 or 2001). The reliability of the AMEX test is consistently in the range of 0.87, the GLEX is typically in the range or 0.75 (Cronbach's alpha). These reliabilities are sufficient to make group level decisions based on aggregated scores.

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). It would also be good to test seniors with this instrument. CARS is conducting a reliability and validity study of 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 (i.e., approximately six raters per project). The data are analyzed for consistency of ratings and generalizability of results by CARS. The results are highly reliable, with phi coefficients (a measure of reliability) of 0.86 in 2005 and 0.90 in 2007. These are the highest phi coefficients that the CARS liaison to IDLS has ever seen. These reliability studies indicate that the IDLS faculty use the rubric consistently. This assessment plan preserves the desirable characteristics of the end of semester "debriefing" and allows faculty to continuously improve this course based on their joint experiences. In addition, the faculty score ALL of the projects in their own section using the same rubric. This gives a measure of the overall performance of the students on these items.

Praxis II

All teacher licensure candidates must pass the relevant Praxis II exam in order to be licensed. This exam is developed at ETS in consultation with teaching experts across the nation. In essence, the tests are designed to correspond directly with teaching objectives. ETS provides reliability and validity evidence for this test: http://www.ets.org/Media /Tests/PRAXIS/pdf/validity.pdf . The reliabilities of these 5 tests range from 0.88 to 0.90 nationally. Because a passing score is required for licensure, students are assumed to provide a good effort on this test.

In the past few years, score reports and institutional summaries of JMU data have been available from ETS. For the Elementary Education Content Knowledge test, scores are provided for each of the 4 subject area subscales. The four subject areas each contribute 25% of the total score. Each of the 4 Middle School subject area tests contains several discipline-related scales (see below). ETS publishes the list of content knowledge that is used to develop the test; this appears to match the IDLS learning objectives fairly well. ETS recommends that Praxis content be aligned with curriculum and learning outcomes before using it to make decisions about programs. The breakdown of content on the exams is as follows:

Middle School Mathematics Content Categories	Approximate Percentage of Examination
I. Arithmetic and Basic Algebra	20%
II. Geometry and Measurement	17%
III. Functions and Their Graphs	13%
IV. Data, Probability, and Statistical Concepts; Discrete Mathematics	17%
V. Problem-Solving Exercises	33%

Process Categories (Distributed Across Content Categories)

Mathematical Problem Solving, Mathematical Reasoning and Proof, Mathematical Connections,

Mathematical Representation, Use of Technology

Middle School Language Arts Content Categories	Approximate Percentage of Examination
I. Reading and Literature Study	37%
II. Language Study	13%
III. Composition and Rhetoric	25%
IV. 1. Short Essays 2. Textual Interpretation, 2. Teaching Reading/Writing	25%

Middle School Science Content Categories	Approximate Percentage of Total Score
I. Scientific Methodology, Techniques, and History	8%
II. Basic Principles	11%
III. Physical Sciences	18%
IV. Life Sciences	15%
V. Earth/Space Sciences	15%
VI. Science, Technology, and Society	8%
VII. Short Content Essays: 1. Physical Sciences 2. Life Sciences 3. Earth/Space Sciences	25%

Middle School Social Studies Content Categories	Approximate Percentage of Examination
I. United States History	18-20%
II. World History	14-16%
III. Government/Civics	11-13%
IV. Geography	11-14%
V. Economics	10-12%
VI. Sociology and Anthropology	0-5%
VII. Short Content Essays	25%

Figure 6: Content area coverage and exam breakdown for four Middle School Praxis II content exams.

Survey Instruments

Periodically, information about students' (and instructors') experiences and thoughts have been sampled with on-line surveys. For the past three 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 or Qualtrics. A senior survey and an alumni survey are being developed.

Attitudes Toward Learning (ATL)

IV. Objective Accomplishments/Results –

Summary of Results:
Math

Science

Language Arts

Social Studies

Detailed 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.

NAW9 Descriptive statistics						
	Spring 2008			Spring 2009		
	Mean	SD	n	Mean	SD	n
Non-IDLS	47.0	7.0	970	48.3	8.0	1044
IDLS overall	46.4	7.0	50	45.8	6.6	69
Humanities/Social Science Concentration	46.0	8.3	30	45.6	6.7	44*
Math/Science Concentration	Sample size under 20			45.7	6.1	23

Note: Sample sizes of HSS plus MS do not equal IDLS total due to missing data for concentration field.
Figure 7: Descriptive statistics for Natural World scientific reasoning test.

NAW9 Pre-Post Test Comparison			
	Pretest	Posttest	Difference
IDLS overall (N=52)	41.9 (5.5)	45.7 (6.4)	3.8
Non-IDLS (N = 724)	44.3 (7.6)	49.1 (7.4)	4.8

Figure 8: Pre and post test comparison for Natural World scientific reasoning test.

Praxis 2 Results:

Elementary Content Knowledge
The Elementary Content Knowledge exam covers basic content knowledge across all 4 subject areas in IDLS. It matches the core curriculum for the program, since this is content that all elementary teachers must teach. JMU students continue to do extremely well on the elementary education content knowledge Praxis 2 test. The median score is 175, 13 points higher than the national average, and the pass score for VA licensure is 143. The lowest score among all JMU students who took the test during this year was 147.

Elementary Education Praxis 2 results		
9/1/2007 to 8/31/2008		
	ALL	JMU
N	42,920	180
High	200	200
Low	100	147
Median	162	175
Average Range	149-174	168-183

Figure 9: JMU and US comparison for Praxis II Elementary Education Content Knowledge exam.

ETS reports the distribution of scores for each institution relative to the national quartiles. Mathematics and Social Studies have 46 and 44% of scores in the top quartile, while language arts and science have a much lower percentage of scores in the top quartile. Science appears to be distinctly different from the other 3 subjects in the distribution of scores. Possible reasons for this are mismatch between course content and test, length of time between taking science classes and taking the test, or poor teaching/ learning in science classes. This is an area of concern that should be evaluated.

Elementary Education Praxis 2 results				
9/1/2007 to 8/31/2008				
	Percent of Scores in each quartile			
Subscale	1st (low)	2nd	3rd	4th (high)
Language Arts	1 %	16 %	48 %	36 %
Mathematics	2	18	33	46
Social Studies	3	15	37	44
Science	7	24	41	27
N=180				

Figure 10: JMU quartile results for Praxis II Elementary Education Content Knowledge exam.

Middle School Content Areas

The Middle School Content Area tests are a high stakes assessment of the concentration curriculum. Students must pass two of these tests, matching their two areas of concentration. None of these tests has sufficient sample sizes to make strong recommendations, but results do provide suggestions for areas of improvement.

Middle School Language Arts

This exam covers content in: Reading and Literature Study (37% of test), Language Study (13% of test), Composition and Rhetoric (25% of test), and Short Essays (25% of test). Only 5 students took the test during this year, and their scores ranged from 159 to 175. Virginia's pass score for this test is 164.

Three of the 5 students scored in the top quartile in composition and rhetoric, two in essays, one in reading and literature study, and none in language study. Possible interpretations of these results, with the caveat that the number of students is too small to draw accurate conclusions, will be discussed in section VI.

Middle Ed Language Arts Praxis 2 Results				
9/1/2007 to 8/31/2008				
	Number of scores in each quartile			
	1st (low)	2nd	3rd	4th (high)
Reading and Literature Study	1	1	2	1

Language Study	1	3	1	0
Composition and Rhetoric	0	1	1	3
Short Essays	0	3	0	2
* N = 5, too small to draw conclusions				

Figure 11: JMU quartile results for Middle School Language Arts Praxis II.

Middle School Social Studies

This exam covers content in US History, World History, Government and Civics, Geography, Economics, and Sociology/Anthropology. Only 7 students took the test in 2007-08, with scores ranging from 144 to 177. Passing score in Virginia is 160.

In 6 of the 7 subscales, the majority of scores were in the lowest two quartiles compared to the national average. Only 1 student scored in the top half of scores on the World history scale. While there are many possible explanations for this result, especially since there are so few students in the sample, it suggests that this curriculum area may need to be evaluated.

Middle Ed Social Studies Praxis 2 Results				
9/1/2007 to 8/31/2008				
	Number of scores in each quartile			
	1st (low)	2nd	3rd	4th (high)
US History	0	5	2	0
World History	2	4	1	0
Government/Civics	2	2	2	1
Geography	3	1	3	0
Economics	2	3	1	1
Sociology/Anthropology	1	4	2	0
Short Essays	1	2	3	1
* N = 7, too small to draw conclusions				

Figure 12: JMU quartile results for Middle School Social Studies Praxis II.

Middle School Mathematics

Sixteen students took the middle school mathematics exam this year. Their scores ranged from 148 to 189. The median score was 167.5, which is 7.5 points higher than the national average. The passing score for this exam in Virginia is 163.

Middle Ed Mathematics Praxis 2 Results		
9/1/2007 to 8/31/2008		
	ALL	JMU
N*	10841	16*
High	200	189
Low	100	148
Median	160	167.5
Average Range	148-174	154-178
*N is too small to draw conclusions		

Figure 13: JMU versus US results for Middle School Mathematics Praxis II.

Although there are too few scores to make strong conclusions, the distribution of scores relative to the national distribution indicates that students are strong in the areas of geometry and measurement (10 students scoring in the top 2 quartiles) and data, probability, statistical concepts, discrete math (9 students scoring in the top 2 quartiles. The weakest area appears to be arithmetic and basic algebra, where only 4 students scored in the top 2 quartiles. While there are many possible explanations for these results, one that should be considered is whether students see this content in any courses past the core sequence (Math 107, 108, 207).

Middle Ed Mathematics Praxis 2 Results				
9/1/2007 to 8/31/2008				
	Number of scores in each quartile			
	1st (low)	2nd	3rd	4th (high)
Arithmetic and Basic Algebra	4	8	2	2
Geometry and Measurement	3	3	5	5
Functions and their graphs	1	9	4	2
Data, probability, statistical concepts, discrete math	0	7	7	2
Problem solving exercises	1	9	2	4
** N = 16*				

Figure 14: JMU quartile results for Middle School Mathematics Praxis II.

Middle School Science

Eighteen students took this test during the year. The scores ranged from 133 to 179. The passing score for this test in Virginia is 162.

Middle Ed Science Praxis 2 Results		
9/1/2007 to 8/31/2008		
	ALL	JMU
N*	4974	18
High	200	179
Low	100	133
Median	156	164
Average Range	146-169	157-169
N is too small to draw conclusions		

Figure 15: JMU versus US results for Middle School Science Praxis II.

Although there are too few scores to make strong conclusions, the distribution of scores relative to the national distribution indicates that students are strongest in the areas of physical science (13 students scoring in the top 2 quartiles and only 1 in the lowest quartile) and earth/space science (11 students scoring in the top 2 quartiles and only 1 in the lowest quartile.) The weakest areas appear to be science, technology, and society (7 students in the top 2 quartiles and only 1 in the top quartile) and life science (8 students in the top 2 quartiles and only 1 in the top quartile.) The performance on short essays is reassuring, with 8 students scoring in the top quartile—a higher percentage than in any other category. While there are many possible explanations for these results, one that should be considered is whether the curriculum matches the test content.

Middle Ed Science Praxis 2 Results				
9/1/2007 to 8/31/2008				
	Number of scores in each quartile			
	1st (low)	2nd	3rd	4th (high)
Scientific methodology, techniques, history	1	7	6	4
Basic principles	2	7	4	5
Physical sciences	1	4	10	3
Life sciences	2	8	7	1
Earth/space sciences	1	6	9	2
Science, technology, society	2	9	6	1
Short essays	3	2	5	8
* *N = 18*				

Figure 16: JMU quartile results for Middle School Science Praxis II.

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.

	American Experience	Global Experience
IDLS students (N = 41)	533.0 (79.2)	549.5 (91.8)
HSS concentration (N = 19)	561.1 (64.0)	583.8 (95.5)
MS concentration (N = 19)	508.4 (87.7)	505.3 (73.9)
Non-IDLS students (N = 756)	528.5 (110.7)	562.7 (113.3)

Note: The standardized scores were defined to have a mean of 500 and a standard deviation of 100 in the norming group of entering freshmen

Figure 17. 2009 Standardized Scores on the AMEX and GLEX for IDLS students and others (Standard Deviation).

On the American Experience test, there was essentially no difference between the IDLS student scores and the non-IDLS student scores. Within the IDLS students, the HSS students scored significantly higher than the MS students ($t_{36} = 2.12$, $p = .04$). However, with these small samples, the 95% confidence interval for the difference between the concentrations ranged from almost zero to very large (2.25 – 103.22 points on the standardized scale).

On the Global Experience test, the non-IDLS students appeared to have a higher mean (perhaps because a greater percentage had completed the Global requirement: 80% of non-IDLS compared to 61% of IDLS), but the difference was not statistically significant ($F_{1,795} = .52$, $p = .470$). Within the IDLS students, the HSS students scored significantly higher than the MS students ($F_{1,36} = 8.02$, $p = .008$).

	Pretest	Posttest	Difference
IDLS students (N = 30)	487.8 (99.8)	538.1 (77.4)	50.3
HSS concentration (N = 13)	543.2 (104.2)	571.7 (68.1)	28.5
MS concentration (N = 16)	454.6 (91.6)	520.1 (80.2)	65.5
Non-IDLS students (N = 367)	521.1 (114.9)	558.0 (107.1)	36.9

Figure 18. Pre and posttest American Experience scores for IDLS students and others (Standard Deviation).

	Pretest	Posttest	Difference
IDLS students (N = 19)	495.5 (89.1)	539.5 (84.6)	44.0
HSS concentration (N = 7)	512.3 (74.2)	569.9 (103.9)	57.6
MS concentration (N = 10)	463.3 (92.2)	502.5 (56.0)	39.2
Non-IDLS students (N = 367)	507.1 (115.3)	578.6 (108.8)	71.5

Figure 19. Pre and posttest Global Experience scores for IDLS students and others (Standard Deviation).

In the pre-post test comparisons, the IDLS increase was not significantly higher than the non-IDLS increase. There also was not a significant interaction between concentration and pre/post ($F_{1,25} = 2.06$, $p = .164$). In other words, the MS increase was not significantly higher than the HSS increase. With these small samples, the difference in the differences could be due to chance alone.

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. In past years the average scores increased significantly between pre and post-tests.

In 2007-08, we concluded that this instrument needed further psychometric work to enhance its use with this population of students. The instrument was developed for in-service teachers. Javarro Russell and Robin Anderson are conducting a reliability and validity study of the JMU IDLS student scores to extend the instrument's usefulness. These results will be available next year. 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.

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.

Freshman Survey ATL Results

The attitudes toward learning instrument (ATL) explores several factors that are important in student learning. Mastery is the extent to which students strive to understand or master the content of their classes. Performance is the extent to which students strive to get high grades in their classes. The approach dimension is a positive dimension, where the avoidance is a more negative, or fear inspired dimension. The work avoidance subscale is exactly what it sounds like—a desire to get by with minimal effort. One form of this test asked students to consider their math and science classes at JMU, the other form asked about their humanities and social sciences classes. The instrument was administered at the end of a freshman survey which contained other items about their background and experiences in math/science or humanities/social science before coming to JMU.

In general, the results indicate that students have different motivations for these two types of classes. In addition, students who choose a math/science concentration have different responses toward math/science classes than those who choose a humanities/social science concentration. There are no differences between concentrations toward the humanities/social sciences classes.

Detailed Results:
In general, IDLS freshmen have higher approach motivation for their humanities and social sciences classes than for their math and science classes. This is especially true for the mastery approach dimension. Students are higher on mastery avoidance for their math and science classes than for their humanities and social science classes. They are also higher in work avoidance for math and science classes. These differences are all significant at p=0.02 or better. The effect size for MAV and PAP is small (Cohen's d= 0.25 for each) and the effect size for MAP and WAV is slightly higher (Cohen's d 0.368 for WAV and 0.407 for MAP).

	Math/ Science Classes Mean *(SD)* (N=171)	Humanities/ Social Sciences Classes Mean *(SD)* (N=190)
Mastery Approach	5.64 *(1.015)*	6.02 *(0.789)*
Mastery Avoidance	4.96 *(0.96)*	4.69 *(0.927)*
Performance Approach	4.87 *(1.238)*	5.18 *(1.153)*
Performance Avoidance	4.58 *(1.249)*	4.65 *(1.306)*
Work Avoidance	2.69 *(1.149)*	2.27 *(1.027)*

Figure 20: Mean (SD) for attitude toward learning subscales among IDLS freshmen (2006-2008).

	SURVEY FORM	Mean	Std. Deviation	t	p	Cohen's d	N
MAP	MS	5.6577	1.01564	-3.863	<.0005	-0.40678	177
	HSS	6.0261	0.79809				195
MAV	MS	4.9359	0.97799	2.352	0.019	0.245416	174
	HSS	4.7013	0.94099				197
PAP	MS	4.8734	1.23402	-2.396	0.017	-0.24845	177
	HSS	5.1671	1.13997				198
PAV	MS	4.589	1.23036	-0.437	0.662	-0.04527	177
	HSS	4.6457	1.27782				199
WAV	MS	2.6742	1.15348	3.551	<.0005	0.368278	177
	HSS	2.2757	1.01986				198

Figure 21: Comparison of means for attitude toward learning toward math/science versus humanities/social science classes among IDLS freshmen (2006-2008).

RESULTS BY CONCENTRATION:
Note: Most freshmen had not declared their concentration when this survey was conducted. These results should be considered preliminary until they are confirmed with more accurate concentration assignment and larger sample sizes. On the Math/Science survey, Humanities and Social Science (HSS) concentrators had lower scores on the Mastery approach subscale and higher scores on the work avoidance subscale ($p < .0005$) than did the Math and Science (MS) concentrators. The HSS students were somewhat higher on the Mastery avoidance subscale ($p = .082$). The effect sizes for these differences are moderate to high (Cohen's d). There were no significant differences between the concentrations on the Humanities/Social Sciences survey.

MATH/ SCIENCE SURVEY	Concentration	Mean	Std. Deviation	t	df	p	Cohen's d	N
MAP	HSS	5.2702	1.02359	-4.216	67.400*	.000	-0.86764	62
	MS	6.0833	.74032					27
MAV	HSS	5.0619	1.01310	1.758	87	.082	.4100	62
	MS	4.6548	.98319					27
PAP	HSS	4.8226	1.22674	-1.598	87	.114	-.3727	62
	MS	5.2500	.98547					27
PAV	HSS	4.6734	1.23024	.766	87	.446	.1786	62
	MS	4.4537	1.27671					27
WAV	HSS	3.0887	1.23814	4.539	72.299*	.000	.90753	62
	MS	2.0741	.82571					27
*Levene's test for equality of variances was significant for these scales.								

Figure 22: Comparison of means for attitude toward learning in math/science classes between IDLS freshmen declaring a math/science concentration and those declaring a humanities/social science concentration (2006-2008).

HUMANITIES/ SOCIAL SCIENCE SURVEY	Concentration	Mean	Std. Deviation	t	df	p	Cohen's d	N
MAP	HSS	6.2125	.62576	.479	72	.634	0.144	60
	MS	6.1250	.56967					14
MAV	HSS	4.7000	.91890	-1.094	72	.278	-0.329	60
	MS	5.0000	.94833					14
PAP	HSS	5.2042	1.34156	.201	72	.841	0.061	60
	MS	5.1250	1.25096					14
PAV	HSS	4.6875	1.21312	.378	72	.706	0.114	60
	MS	4.5536	1.09711					14
WAV	HSS	2.0750	.98107	-1.252	72	.215	-.0377	60
	MS	2.4464	1.07943					14

Figure 23: Comparison of means for attitude toward learning in humanities/social sciences classes between IDLS freshmen declaring a math/science concentration and those declaring a humanities/social science concentration (2006-2008).

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.

Results are also shared with the COE unit assessment committee and the COE Assessment Director (Amy Thelk) as well as several other joint IDLS/COE groups. We anticipate that this exchange will improve as Amy develops the assessment system and as preparation for NCATE accreditation gets underway.

Science

The similarity of IDLS scores and overall scores on the Natural World argues for the effectiveness of the Package G courses as equivalent to the other packages however the distribution of scores on the science subscale of the elementary Praxis II test suggest that this is an area of concern. Steve Baedke is in the process of conducting a syllabus analysis to evaluate the GSCI 16x course offerings. These results will be watched for the next several years. Middle School Science Praxis II pass rates are an area of concern, particularly in the areas of life science and science, technology, and society (STS). The middle education science concentration curriculum was revised in response to these results. Chemistry 280 was designed to meet several deficiencies, and specific course requirements have been established to guarantee more complete content coverage. Discussions are underway for creation of a STS course.

Social Studies

It is hard to interpret results for the Cluster 4 tests without larger sample sizes. The results seem to indicate that HSS concentrators do better on these assessments than MS concentrators. Praxis II social studies scores for Elementary Content knowledge indicate that IDLS students are extremely well prepared in this area. Praxis II Middle School scores suggest that World History is an area of concern. This is consistent with curriculum mapping which showed that world history was an area with limited coverage in both core and concentration. The IDLS core curriculum choices in World History were modified this year, and a new class which addresses more of the VA licensure requirements was developed.

Language Arts

Unlike previous year's results, in the 2009 IDLS 400 assessment communication was the weakest area. The Praxis II results for Elementary Language Arts showed 36% of students in the highest quartile and a total of 84% of scores in the top two quartiles. There are too few scores to interpret middle school results. We need better instruments to evaluate this area.

Mathematics

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. Forty-six percent of students who took the Praxis II Elementary Content test in 2007-08 had scores in the top quartile nationally. Evaluation of the curriculum sequencing for Middle Education students may help improve pass rates for this Praxis II exam.

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. Middle Grades curriculum was revised.
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. Chemistry, world history courses, and middle education science requirements were all changed in response to assessment results.
5. IDLS 400 piloted a section which includes science and mathematics content.
6. Improved cooperation between CARS and IDLS to assure data analysis in a timely manner.