

JMU Assessment Progress Template

Interdisciplinary Liberal Studies (IdLS) - BS

PART I. Objectives

Description of process for developing objectives: More than a decade ago, a small group of administrators assembled 31 minutely detailed Student Learning Objectives. These were largely defined by the Virginia SOL's and teacher licensure competencies in each of the major subject areas. While fairly detailed, these objectives are largely unassessable. As such, a recommendation was made in the 2008-2009 IdLS Assessment Progress Template to revise the list of IdLS Goals and Objectives. In Spring of 2010, representatives from IdLS met with Keston Fulcher from CARS and discussed the development of new, assessable, program Goals and Objectives that fulfill the IdLS Mission. The IdLS Mission is:

- To support the university's mission to produce educated and enlightened citizens.
- To help students embrace wisdom, inspire learning, and enhance living.
- To meet Virginia teacher competencies by providing breadth and integration across the content areas of English and language arts, history, social sciences, mathematics, natural sciences, and technology.
- To work collaboratively with the Education Unit to reach its goals as articulated in its Conceptual Framework, particularly as they relate to developing a deep understanding of content.

Starting with this APT (2009-2010), the following learning objectives have been developed to serve as APT Program Goals and Objectives for the IdLS program.

Goals	Objectives	Measures and Rationale
IdLS students completing General Education will demonstrate knowledge central to the university's mission, and relevant to the Virginia teacher competencies.	IdLS students will, as a group, match other JMU students on General Education learning outcomes, specifically in technology, information literacy, scientific reasoning, quantitative reasoning, and the global and American experiences.	IdLS vs non-IdLS data from Clusters 1 (Tech Level I & ISST tests), 3 (Scientific reasoning & quantitative literacy subscales), and 4 (Global & American Experience tests). General Education is the base upon which JMU aims to fulfill its mission to produce educated and enlightened citizens, and the specific content areas measured are teacher competencies required by the Virginia Department of Education.
IdLS seniors will demonstrate content-area proficiency on teacher licensure	For all IdLS-related education programs having PRAXIS II content-area licensure exams (i.e., ELED, IECE, and MIED), each program will have at	PRAXIS II scores and pass rates, reported by education program. Content-area proficiency is measured by PRAXIS II tests, and the 80% pass rate on PRAXIS II is a minimum pass

exams.	least an 80% pass rate on those exams.	<p>rate required by NCATE for accreditation.</p> <p>For ELED and IECE, required content-area knowledge is covered by the IdLS core, taken by all ELED and IECE students. For MIED students, required content-area is covered by the IdLS MIED core and upper-level concentrations. SPED students do not have a content-related exam.</p>
IdLS graduates will apply content-area proficiency in pK-8 classroom settings.	For current JMU MAT students who completed the IdLS major, more than 80% will get confirmation that they appropriately applied content-knowledge during their student teaching assignments.	<p>ST-9 data (item A2, “Identifies key principles and concepts of subject matter”) completed by student teacher supervisors and JMU instructors.</p> <p>While the 80% pass rate is not required by any accrediting body, this content-related pass rate mirrors the PRAXIS II pass rate required by NCATE and is therefore an appropriate minimum expectation for content proficiency.</p>

Table 1. IdLS Goals, Objectives, and Measures

Part II. Course/Learning Experiences

Virginia requires all of its teacher candidates to be prepared to teach the material in all of the SOL for the area of licensure, therefore the IdLS program goals and objectives must mesh with the state and federal requirements for teacher education. In 2005-06, IdLS faculty conducted the following alignments of our curriculum.

	Math/Science		Humanities/Social Science	
	Core	Concentration	Core	Concentration
VA – SOL Elementary	X		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		

Table 2. 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 of the 2009-2010 report. 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 of the 2009-2010 report. 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 need to be done to determine if coverage is improved. The individual alignments are found in the appendices associated with the 2005-06 report.

Part III. Evaluation / Assessment Methods

IdLS assessment is very complex. Evaluating students with two distinct upper division concentrations, for their mastery of knowledge, skills / attitudes in each of 4 subject areas poses a challenge. Thankfully several faculty and departments have been extraordinarily helpful in assembling data for our evaluation. CARS staff have done analyses of General Education data (Clusters 1, 3, and 4) that identify IdLS students and calculate their scores separately. The Educational Support Center in COE has provided database queries and provided student information regarding PRAXIS II test results and ST-9 results. (See Table 1 for a description of what each of the instruments are (Clusters in GenED, PRAXIS II, and ST-9) and why IdLS have chosen to use them).

The table below indicates the current status of assessments for candidates' knowledge and skills / attitudes in each of the four core subject areas.

Subject Area	Instruments Used to Evaluate Candidates'	
	Knowledge	Skills/Attitudes
Science	Cluster 3, PRAXIS II	ST-9
Math	Cluster 3, PRAXIS II	ST-9
Language Arts	Cluster 1, PRAXIS II	ST-9
Social Studies	Cluster 4, PRAXIS II	ST-9

Table 3. IdLS assessment methods grouped by subject area versus knowledge or skill / attitude

General Education Instruments

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 (NAW) quantitative reasoning, Natural World scientific reasoning (NAW), Global Experience (GLEX), and American Experience (AMEX). The general descriptions of the instruments appear to be related to the objectives.

As was the case last year (2008-2009), this year (2009-2010) data on the performance of IDLS students on the ISST, the Natural World QR & SR, the Global Experience, and American Experience was evaluated. General description, data collection information, 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 Day. Approximately one quarter of entering freshmen were randomly assigned (via the last two digits of a student's ID) to take the NAW-9 during fall 2007 Assessment Day. Many of the incoming IDLS students who took the NAW-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 NAW-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.

PRAXIS II

All teacher licensure candidates must pass the relevant PRAXIS II exam(s) in order to be licensed. These exams are 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. Short Essays	
1. 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%

<u>Middle School Social Studies Content Categories</u>	<u>Approximate Percentage of Examination</u>
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%

Table 4. Content area coverage and exam breakdown for four Middle School Praxis II content exams.

ST-9

ST-9 is part of the “Assessment of Student Teaching” conducted by the COE at JMU. This form (see Appendix 1), titled “PROFILE OF STUDENT TEACHING PERFORMANCE” is filled out by the cooperating teacher and university supervisor while the IdLS student is Student Teaching. Box A2 of this form pertains to the ability of the STUDENT TEACHER to IDENTIFY KEY PRINCIPLES AND CONCEPTS OF SUBJECT MATTER. A score of:

- **3.0** means that the student teacher explicitly references AND clearly aligns appropriate content standards with planned activities and assessments,
- **2.0** means that the student teacher explicitly references appropriate content standards in daily plans.
- **1.0** means that the student teacher inaccurately and vaguely references OR does not reference appropriate content standards.

The most recent data that is available from the COE is for the 2008-2009 academic year and is what will be presented here.

PART IV. Objective Accomplishments/Results

GENERAL EDUCATION

Cluster 3 NAW Test 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.

NAW9 Descriptive Statistics for Total Score									
	Spring 2008			Spring 2009			Spring 2010		
	mean	SD	N	mean	SD	N	mean	SD	N
Non-IdLS	47.0	7	970	48.3	8	1044	48.15	7.7	1002
IdLS	46.4	7	50	45.8	6.6	69	46.3	7.1	60

Table 4. Test of Mean Differences on Total NW9 Score

NAW9 Descriptive Statistics for Quantitative Reasoning			
	Spring 2010		
	mean	SD	N
Non-IdLS	18.0	3.8	1002
IdLS	16.9	3.4	60

Table 5. Test of Mean Differences on QR Score

Cluster 4 Global Experience and American Experience Tests

These instruments are used to assess performance in Cluster Four of General Education. In American Experience, the non-IDLS students scored 0.24 standard deviation units higher, comparable to previous years. However, the difference between the IDLS student scores and the non-IDLS student scores was not statistically significant ($t_{1,573} = 1.26, p = .207$). In Global Experience, the non-IDLS students scored 0.285 standard deviation units higher. Again, the difference between the IDLS student scores and the non-IDLS student scores was not statistically significant ($t_{1,743} = 1.31, p = .191$).

	American Experience		Global Experience	
	N	Mean (sd)	N	Mean (sd)
IDLS students	36	532.2 (111.6)	28	558.6 (105.4)
Non-IDLS students	539	555.9 (108.8)	717	587.1 (113.4)

Table 6a. Standardized Scores on the AMEX and GLEX for IDLS students and others (Standard Deviation).

On the American Experience test, the interaction between IDLS/not IDLS and pre/post test was not significant ($F_{1,403} = 0.03, p = .862$). Both groups increased their scores about the same amount (.31 standard deviation units for IDLS and .29 units for non-IDLS). Similarly for the Global Experience test, there was not a significant interaction between IDLS/not IDLS and pre/post test ($F_{1,545} = 0.83, p = .364$). In other words, the non-IDLS increase (.87 standard deviation units) was not significantly higher than the IDLS increase (.67 units).

<i>American Experience Pre-Post Comparisons</i>			
	Pretest	Posttest	Difference
IDLS students (N = 28)	503.5 (115.4)	534.7 (94.9)	31.2
Non-IDLS students (N = 377)	542.3 (104.6)	571.0 (103.7)	28.7

Table 7a. Pre- and Post-test comparisons for American Experience (Standard Deviation).

<i>Global Experience Pre-Post Comparisons</i>			
	Pretest	Posttest	Difference
IDLS students (N = 24)	495.9 (83.8)	563.2 (101.3)	67.3
Non-IDLS students (N = 523)	509.3 (104.8)	596.0 (114.1)	86.7

Table 7b. Pre- and Post-test comparisons for Global Experience (Standard Deviation).

Cluster 1 (Tech Level I & ISST tests)

Tech Level I

Unlike the other GenEd tests, Tech I is reported on a number correct scale instead of a standardized scale because outside software, which only allows for number correct scoring, is used for the tests. Each test is on a 20-point scale. Faculty set the passing score at 17 on Word (it was decreased to 16 this year), 15 on PowerPoint, and 12 on Excel. Students may repeat the test as many times as needed, and nearly all students pass by the end of the first year.

Percent Passing Tech 1 (of those who attempted the test at least once)

	Number who Attempted	Number who Passed	% Passed
Word			
IDLS	922	920	99.8%
non-IDLS	2945	2935	99.7%
PowerPoint			
IdLS	921	921	100%
non-IdLS	2940	2935	99.8%
Excel			
IdLS	920	917	99.7%
non-IdLS	2937	2926	99.6%

Table 8. Percent Passing Tech 1 (of those who attempted the test at least once)

IDLS students attempted Word an average of 1.3 times, PowerPoint an average of 1.2 times, and Excel an average of 1.4 times. Non-IDLS students attempted Word an average of 1.3 times, PowerPoint an average of 1.1 times, and Excel an average of 1.4 times.

Scores from the 1st attempt and final attempt are in the table below. For many students, the 1st attempt was also the final attempt; only those who did not pass repeated the test. Thus, scores increased and the standard deviation decreased for the final attempt. Means were virtually identical for IDLS and non-IDLS students (PowerPoint 1st attempts were higher for the IDLS students ($t_{3859} = 2.31$, $p = .0207$, but the difference was statistically significant only because the sample was so large).

Mean Scores

	1 st Attempt		Final Attempt	
	Mean	Std. Dev.	Mean	Std. Dev.
Word				
IdLS	16.6	2.7	17.8	1.3
non-IdLS	16.6	2.6	17.7	1.3
PowerPoint				
IdLS	17.8	1.7	18.1	1.2
non-IdLS	17.6	2.2	18.0	1.3
Excel				
IdLS	12.6	3.5	14.3	1.9
non-IdLS	12.6	3.5	14.3	1.9

Table 9. Mean scores for 1st and final attempts for Tech 1 tests for IdLS others.

ISST

There are two forms of the ISST, so scores are reported only on the standardized scale. In the initial group of examinees, who did not need to pass the test, the scale was set to a mean of 500 and standard deviation of 100. In the following year (and all further cohorts) students had to pass the test, so the mean was higher and the standard deviation was smaller.

The passing score was set by a faculty committee at 513. Scores of 595 or greater receive an Advanced transcript notation. Students may repeat the test an unlimited number of times, and tutorials are available. Nearly all students pass by the end of the 1st year (those who do not probably did not bother repeating the test if they did not intend to remain at JMU).

Percent Passing ISST (of those who attempted the test at least once)

	Number who Attempted	Number who Passed	% Passed	Number Advanced	% Advanced
IDLS	872	857	98%	236	27%
non-IDLS	2763	2683	97%	701	25%

Table 10. Percent Passing ISST (of those who attempted the test at least once)

IDLS students attempted the test an average of 1.35 times, comparable to the non-IDLS students with 1.39 attempts on average.

Scores from the 1st attempt and final attempt are in the table below. For many students, the 1st attempt was also the final attempt; only those who did not pass repeated the test. Thus, scores increase and the standard deviation decreases for the final attempt.

Mean Scores

	1 st Attempt		Final Attempt	
	Mean	Std. Dev.	Mean	Std. Dev.
IDLS	548.0	57.4	569.8	43.0
non-IDLS	543.3	59.9	568.1	43.0

Table 11. Mean scores for 1st and final attempts for Tech 1 tests for IdLS others.

Though the difference between non-IDLS and IDLS student scores was very small, the difference for first attempt scores was statistically significant ($t_{3633} = 2.03, p = .0423$) because the sample size was so large. The difference in final attempt scores was not statistically significant ($t_{3633} = 0.97, p = .3309$).

PRAXIS II

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. JMU students continue to do extremely well on the elementary education content knowledge Praxis 2 test. The median score is 178, 15 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 144.

Elementary Education Praxis 2 results		
9/1/2008 to 8/31/2009		
	ALL	JMU
<i>N</i>	43,271	210
High	200	199
Low	100	144
Median	163	178
Average Range	150-176	170-184

Table 12. PRAXIS II scores for all test takers and JMU cohort

ETS reports the distribution of scores for each institution relative to the national quartiles. Mathematics and Social Studies have 50% and 43% of scores in the top quartile, respectively, while language arts and science have a much lower percentage of scores in the top quartile.

Elementary Education Praxis 2 results				
9/1/2008 to 8/31/2009				
Subscale	Number (Percent) of Scores in each quartile			
	1st (low)	2nd	3rd	4th (high)
Language Arts	8 (4%)	35 (17%)	104 (50%)	63 (30%)
Mathematics	5 (2%)	24 (11%)	75 (36%)	106 (50%)

Social Studies	6 (3%)	39 (19%)	74 (34%)	91 (43%)
Science	10 (5%)	47 (22%)	80 (38%)	73 (35%)
<i>N</i> =210				

Table 13. JMU quartile results for Middle School Mathematics Praxis II.

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.

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 8 students took the test during this year, and their scores ranged from 150 to 191. Virginia's pass score for this test is 164.

Middle Ed Language Arts Praxis 2 results		
9/1/2008 to 8/31/2009		
	ALL	JMU
<i>N</i>	7,017	8
High	200	191
Low	100	150
Median	173	184.5
Average Range	161-184	168-188

Table 14. JMU versus US results for Middle Ed Language Arts Praxis II.

Three of the 8 students scored in the top quartile in composition and rhetoric, two in essays, two in reading and literature study, and three in language study. The weakest areas are Reading and Literature Study and Language Study, with half of the students performing in the lowest 2 quartiles. However, with only 8 students taking this test, the number of students is too small to draw accurate conclusions.

Middle Ed Language Arts Praxis 2 Results				
9/1/2008 to 8/31/2009				
	Number (Percent) of scores in each quartile			
	1 st (low)	2 nd	3 rd	4 th (high)
Reading and Literature Study	1 (13%)	3 (38%)	2 (25%)	2 (25%)
Language Study	1 (13%)	3 (38%)	1 (13%)	3 (38%)
Composition and Rhetoric	1 (13%)	1 (13%)	3 (38%)	3 (38%)
Short Essays	(0%)	3 (38%)	3 (38%)	2 (25%)
N = 8				

Table 15. 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. Passing score in Virginia is 160. Nine students took the test in 2008-09, with scores ranging from 153 to 190.

In 5 of the 7 subscales, the majority of scores were in the highest two quartiles compared to the national average. Using quartile scores it is apparent that Geography and Sociology / Anthropology are the two lowest performing subscales with more than half of the test takers scoring in the lowest two quartiles.

Middle Ed Social Studies Praxis 2 results		
9/1/2008 to 8/31/2009		
	ALL	JMU
N	5,166	9
High	200	190
Low	100	153
Median	165	180
Average Range	153-179	168-184

Table 16. JMU versus US results for Middle Ed Social Studies Praxis II.

Middle Ed Social Studies Praxis 2 Results				
9/1/2008 to 8/31/2009				
	Number (Percent) of scores in each quartile			
	1 st (low)	2 nd	3 rd	4 th (high)
US History	1 (11%)	3 (33%)	4 (44%)	1 (11%)
World History	0 (0%)	4 (44%)	2 (22%)	3 (33%)
Government/Civics	0 (0%)	3 (33%)	1 (11%)	5 (56%)
Geography	2 (22%)	4 (44%)	1 (11%)	2 (22%)
Economics	0 (0%)	4 (44%)	2 (22%)	3 (33%)
Sociology/Anthropology	0 (0%)	5 (56%)	4 (44%)	0 (0%)
Short Essays	0 (0%)	3 (33%)	2 (22%)	4 (44%)
N = 9				

Table 17. JMU quartile results for Middle School Social Studies Praxis II.

Middle School Mathematics

Twenty-seven students took the middle school mathematics exam this year. Their scores ranged from 148 to 195. The median score was 172, which is 9 points higher than the national average. The passing score for this exam in Virginia is 163.

In all 5 subscales, the majority of scores were in the highest two quartiles compared to the national average. Using quartile scores it is apparent that Arithmetic and Basic Algebra, and Geometry and Measurement are the two lowest performing subscales.

Middle Ed Mathematics Praxis 2 Results		
9/1/2008 to 8/31/2009		
	ALL	JMU
<i>N</i>	11,635	27
High	200	195
Low	103	148
Median	163	172
Average Range	151-177	165-180

Table 18. JMU versus US results for Middle School Mathematics Praxis II.

Middle Ed Mathematics Praxis 2 Results				
9/1/2008 to 8/31/2009				
	Number (Percent) of scores in each quartile			
	1 st (low)	2 nd	3 rd	4 th (high)
Arithmetic and Basic Algebra	1 (4%)	10 (37%)	8 (30%)	8 (30%)
Geometry and Measurement	4 (15%)	8 (30%)	7 (26%)	8 (30%)
Functions and their graphs	0 (0%)	8 (30%)	11 (41%)	8 (30%)
Data, probability, statistical concepts, discrete math	1 (4%)	8 (30%)	12 (44%)	6 (22%)
Problem solving exercises	2 (7%)	4 (15%)	12 (44%)	9 (33%)
<i>N</i> = 27				

Table 19. JMU quartile results for Middle School Mathematics Praxis II.

Middle School Science

Nineteen students took this test during the year. The scores ranged from 145 to 184. The median score for JMU students taking the test was 164 compared to the national average of 157. The passing score for this test in Virginia is 162.

In all 5 of the 7 subscales, the majority of scores were in the highest two quartiles compared to the national average. Using quartile scores it is apparent that Earth/space sciences, and Science, technology, society are the two lowest performing subscales.

Middle Ed Science Praxis 2 Results		
9/1/2008 to 8/31/2009		
	ALL	JMU
N	5,208	19
High	200	184
Low	100	145
Median	157	164
Average Range	146-169	152-168

Table 20. JMU versus US results for Middle School Science Praxis II.

Middle Ed Science Praxis 2 Results				
9/1/2008 to 8/31/2009				
	Number (Percent) of scores in each quartile			
	1 st (low)	2 nd	3 rd	4 th (high)
Scientific methodology, techniques, history	0 (0%)	6 (32%)	11 (58%)	2 (11%)
Basic principles	1 (5%)	6 (32%)	6 (32%)	6 (32%)
Physical sciences	3 (16%)	5 (26%)	4 (21%)	7 (37%)
Life sciences	3 (16%)	5 (26%)	9 (47%)	2 (11%)

Earth/space sciences	6 (32%)	4 (21%)	5 (26%)	4 (21%)
Science, technology, society	6 (32%)	5 (26%)	4 (21%)	4 (21%)
Short essays	4 (21%)	3 (16%)	4 (21%)	8 (42%)
N = 19				

Table 21. JMU quartile results for Middle School Science Praxis II.

Preliminary 2009-2010 Analysis of Middle Ed PRAXIS II Data

Dr. Steve Purcell in the COE analyzed the 2009-2010 PRAXIS II results for the middle education program in Spring 2010. The following table summarizes the findings from this group.

Twenty-four of the 29 students who were in the Middle Education program had passed both content area PRAXIS II exams. Two had only passed one on the two areas. While 3 had either not taken either exam yet or had failed both.

The following table summarizes the number of attempts needed that students needed to take individual PRAXIS II tests in order to pass.

Content Area	Passed on 1st Attempt	Passed on 2nd Attempt	Passed on 3rd (or more) attempt	Not Passed <number of attempts>
Mathematics	16	3	0	2 <1>
Science	10	1	4	2 <1>
English	6	0	0	1 <1>
Social Studies	8	0	1	0

Table 22. Preliminary pass information for the 2009-2010 Middle Ed PRAXIS II

This data shows that in the 2009-2010 cohort, 83% of the students who had taken the PRAXIS II tests had eventually passed both exams. It also suggests that Science and Math the two areas that students have the most difficulty passing.

ST-9 DATA (Item A2, “Identifies key principles and concepts of subject matter”)

ST-9 is part of the “Assessment of Student Teaching” conducted by the COE at JMU. This form (see Appendix 1), titled “PROFILE OF STUDENT TEACHING PERFORMANCE” is filled out by the cooperating teacher and university supervisor while the IdLS student is Student Teaching. Box A2 of this form, pertains to the ability of the STUDENT TEACHER to IDENTIFY KEY PRINCIPLES AND CONCEPTS OF SUBJECT MATTER. A score of:

- **3.0** means that the student teacher explicitly references AND clearly aligns appropriate content standards with planned activities and assessments,
- **2.0** means that the student teacher explicitly references appropriate content standards in daily plans.
- **1.0** means that the student teacher inaccurately and vaguely references OR does not reference appropriate content standards.

In the 2008-2009 academic year 195 students were evaluated with the ST-9 instrument with the following statistical results.

ST-9 Analysis for 2008-2009	
Average Score	2.93
High	3.0
Low	2.0
Standard Deviation	0.25
n	195

Table 23. ST-9 scores for 2008-2009

No students scored below 2.0, indicating that all students were able to adequately reference content standards in their daily classroom plans. 164 students scored a 3.0 on item A-2 of the ST-9, meaning that 84% of the students demonstrated the highest level of mastery of content knowledge in their classrooms.

RESULTS

From the data presented here for the 2009-2010 reporting period, it appears the IdLS has met each of its program goals.

- From the Cluster 1, Cluster 3, and Cluster 4 data it appears that there is no significant difference between IdLS and non-IdLS students. While differences do exist, the statistical differences between groups is not significant. It appears that the IdLS core is doing as good of a job as the rest of General Education program in preparing IdLS majors.
- From PRAXIS II data, it appears that each area (El Ed, Middle School Math, Middle School Science, Middle School English, and Middle School Social Studies) is performing better than the national averages. For the 2009-2010 cohort, IdLS achieved an eventual pass rate of ~83% which is better than the target of 80%.
- From ST-9 data, 100% of all achieved an adequate level of content proficiency as demonstrated in the classroom. This is again better than the target of 80%. More impressive yet, is that 84% of IdLS students achieved the highest level of content proficiency as demonstrated in the classroom.

While meeting these assessment goals is meaningful, there are other recommendations that we can make based on the combined results of these assessments. The following is a list of recommendations to be disseminated to the various constituencies in IdLS.

1. Science: Elementary Education PRAXIS II test results and Middle Ed PRAXIS II results suggest that science is the hardest test for the IdLS students (Table 13 and Table 22). For Middle Education: Earth and Space Sciences, and Science, Technology, and Society should be watched for long term trends of poor performance. This is the second year in a row that STS has been a low performer on PRAXIS II. However, it is hoped that a new class (ISAT 495) that was developed two years ago to help improve this area will start to show improvement next in this area with next years PRAXIS results. Work should be done to examine ways to increase the pass rates for Middle Ed PRAXIS II is a problem for the science area.
2. Social Studies: It appears students are being well prepared for Elementary Education in Social Studies (Table 13). From Table 17 it is apparent that Geography and Sociology / Anthropology are the two lowest performing areas for the Middle Education Social Studies area. However, with only 9 test takers this could be a premature conclusion. These areas should be watched for long term trends of poor performance.
3. Language Arts: It appears students are being well prepared for Elementary Education in Language Arts (Table 13). From Table 15, it appears that the weakest areas for Middle Ed Language Arts are Reading and Literature Study and Language Study, with half of the students performing in the lowest 2 quartiles. However, with only 8 students taking this test, the number of students is too small to draw accurate conclusions.

4. Mathematics: The math curriculum in IDLS remains the strongest content area curriculum. All courses were designed from the NCTM standards, and the students all take the same core and concentration courses. Fifty percent of students who took the Praxis II Elementary Content test in 2008-09 had scores in the top quartile nationally. Work should be done to examine ways to increase the pass rates for Middle Ed PRAXIS II is a problem for the Math area.

Part V. Dissemination

Annual assessment report is provided to the program director (Fletcher Linder) and discussed with both steering committees (Math/Science/Technology and Humanities/Language Arts). 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 Thek) 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.

PART 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 sections. A few of the most significant actions are summarized here.

1. Goals, Objectives and Measures were modified this year based on previous years APT reports.
2. Middle Grades curriculum was revised.
3. 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.
4. 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.
5. Chemistry, STS classes, world history courses, and middle education science requirements were all changed in response to assessment results.
6. IdLS 400 piloted a section which includes science and mathematics content.
7. Improved cooperation between CARS and IDLS to assure data analysis in a timely manner.