School of Informatics

PRAC Annual Report

Assessment of Student Learning Outcomes
2011-2012

Authored: July 2012

Table of Contents

The 2011-2012 PRAC Annual Report presented evidence and summarizes the assessment activities and student learning outcomes using three examples from the Informatics and Media Arts and Science Programs in the School of Informatics at IUPUI. This report also includes evidence of student degree completion and employment statistics. This report concludes with recommendations for improvement for the upcoming 2012-2013 academic year.

Introduction

During 2010-2011, the School of Informatics completed a two year focused review of its undergraduate programs. In 2011-2012, the School selected two undergraduate programs for this academic year PRAC Annual Report. These programs are: Media Arts and Science and Informatics. Note: In 2012-2013 the Schools' focus will turn to the Health Information Administration (HIA) undergraduate program and the Bioinformatics and Human Computer-Interaction graduate programs.

In 2010-2011, the School's Teaching and Assessment Committee consulted with the faculty members serving as PRAC members and discussed a potential framework needed to support good assessment processes. As the committee concluded its activities in May 2011, it recommended that assessment activities be lodged with the Informatics Faculty Council's (proposed) Academic Program committee. The formation of this committee was delayed until February 2012 thus, its charge of assessment review has been delayed until the upcoming fall 2012 semester. The committee further recommended that the School's representatives to PRAC become members of the oversight committee that continues this work. In addition, the committee recommended that a once yearly discipline-specific workshop on assessing outcomes should be used to embed a culture of assessment in the School.

Finally, the School implemented a comprehensive revision of the tools used to track students graduating from the programs. The results of this tool have been included in this report. Prior to 2011-2012 those systems had been largely paper-based and dependent upon face-to-face contact. The new system is now online and appears in the social media venues that students use during their time at IUPUI. Alumni continue to use this system post graduation as they find places in the workforce.

The School is aware that the NCA HLC is placing an increasing emphasis on student learning outcomes. The desired learning outcomes form the basis for this report providing evidence of student learning in the programs aforementioned using the Rubric for Assessing PRAC Reports developed by the PRAC Subcommittee on Assessment and Learning Outcomes.

Bachelor of Science in Informatics

Student Learning Outcomes

Informatics is an applied, professional computing discipline. It responds to society's need to solve increasingly complex problems in all fields of human endeavor by acquiring, managing and interpreting data. Informatics studies the ways in which people, information and digital technologies interact. Nearly all fields benefit from the rapidly evolving fields of computing and information science. Informatics graduates solve problems through the application of computing or computation in the sciences, business, the humanities and the arts.

Computing and information technology are evolving rapidly. The student learning outcomes articulated here are central to educating Informatics graduates who possess both the technological and human-centered design skills necessary to develop and deploy useful digital tools that acquire and manage data for informed decision-making. They incorporate intellectual and ethical standards that every School of Informatics graduate should attain.

The Informatics undergraduate student will acquire competencies in the technical dimensions of informatics and information technology (IT). Students will:

1. Demonstrate knowledge and skills in the mathematical and logical foundations of informatics.

2. Define terms and explain basic principles essential to the design and development of IT and computing systems.

3. Acquire fundamental concepts and skills in software architectures and the development of information systems.

4. Demonstrate knowledge and skills in data representation, models, structures, and informatics-centric management.

The Informatics undergraduate will acquire competencies in the social dimensions of informatics and information technology. Students will:

1. Articulate and acquire strategies for staying abreast of major societal trends, such as access, privacy, intellectual property, security and others, affecting the development and deployment of modern day IT.

2. Critically analyze the intended and unintended consequences of IT on individuals, groups, formal and informal organizations at local and global levels.

3. Apply a user-centered approach to interaction design and product usability, including techniques for quantitative and qualitative testing of interface and interaction design.

4. Utilize digital tools to communicate with a range of audiences.

5. Analyze the social, cultural, and organizational settings in which IT solutions will be deployed to increase the chances of successful implementation.

Students will develop critical thinking and problem solving skills that can be applied to at least one other domain of endeavor, such as business, science, the arts, or humanities. They will:

1. Define terms and explain basic principles, concepts and theories from another domain or discipline in which the students' IT skills will be applied.

2. Demonstrate the ability to deploy IT resources in the context of another domain and/or discipline.

3. Synthesize, analyze, and conceptualize information and ideas from multiple sources and perspectives.

4. Evaluate data, arrive at reasoned conclusions and solve challenging problems.

5. Execute a "real world" senior informatics capstone that demonstrates the skills they have acquired throughout their undergraduate education.

Students will develop collaborative skills and the ability to work in teams. They will:

1.Select and effectively utilize oral, written, visual and quantitative communication skills within the context of an interdisciplinary team.

2.Identify and demonstrate the skills, behaviors and attitudes necessary to function as an effective team member, including working cooperatively with diverse group members.

3.Acquire the skills to initiate, manage and execute an IT project.

4.Articulate legal and ethical issues when using the creative work of others; respect the intellectual property of others.

Students will acquire the behaviors of an autonomous, socially responsible professional capable of conducting professional informatics best practice. They will:

1.Create a personal code of ethics; articulate principles for resolving ethical conflicts.

2.Commit to a regular program of continuing education and lifelong learning that is independent of employer sponsorship.

3.Participate in professional organizations that promote responsible computing and service to society.

Assessment Measures and Findings

Two examples of PULs in Undergraduate Courses in the School of Informatics are presented.

Informatics I453 – Computer and Information Ethics

The first course selected for the 2011-2012 academic year PRAC report is I453- Computer and Information Ethics.

Course

I453 Computer and Information Ethics (3 credit hours, online course). New course. Required course for undergraduate Informatics program. Course enrollment was 35 students for Spring 2012.

Description

Ethical and professionalization issues that arise in the context of designing and using networked information technologies and information resources. Examines frameworks for making ethical decisions, emergent technologies and their ethical implications, information/computer professionalism. Topics include privacy, intellectual property, cybercrime, games, social justice, and codes of professional ethics.

Purpose of the Project

This project will examine PUL 6 Values and Ethics of IUPUI's Principles of Undergraduate Learning in an online course, I453 Computer and Information Ethics, which is a required course in the undergraduate Informatics curriculum at IUPUI. PUL 6 is defined as "[t]he ability of students to make sound decisions with respect to individual conduct, citizenship, and aesthetics. A sense of values and ethics is demonstrated by the student's ability to (1) make informed and principled choices and to foresee consequences of these choices; and (3) understand ethical principles within diverse cultural, social, environmental and personal settings."[1] Moreover, the School of Informatics, IUPUI, has identified student learning outcomes that specifically address professional ethics, including that students will "[a]rticulate legal and ethical issues when using the creative work of others and respect the intellectual property of others; [c]reate a personal code of ethics and articulate principles for resolving ethical conflicts; and [p]articipate in professional organizations that promote responsible computing and service to society." [2] This project is important as the school refines its definition of informatics and more clearly articulates what it means to be an informatics professional.

Intended Outcomes of the Project

The primary outcome is to evaluate whether this online course had an impact on the students' beliefs about professional ethics. This feedback will be used to enhance the content of this course as it relates to professional ethics, for overall curriculum development and to

determine whether stated student learning outcomes for the undergraduate Informatics program are being met. A secondary outcome is that students will be able to self-reflect on their own beliefs about professional ethics, whether and why these beliefs might have changed as a result of taking this course and whether they believe that they are prepared to address the ethical situations that they might be confronted with as informatics professionals.

Assessment Methods

The assessment method for the project was to have students in the course complete a short questionnaire (Pre-Test on Computer and Information Ethics) comprised of 30 questions on professional ethics at the beginning of the semester and then complete the same questionnaire (Post-Test on Computer and Information Ethics) at the end of the semester. These questionnaires were part of the course requirements and were administered through the OnCourse Test and Survey Tool. After completing the Post-Test, access to the responses to both the Pre-Test and the Post-Test were made available to students, who were then asked to compare their responses from both questionnaires and to answer some open-ended questions about the extent to which their responses to the questions changed over the semester and what they believed was responsible for any significant changes in their responses (Self-Reflection on Computer and Information Ethics). As part of the Self-Reflection, students were also asked whether they believe that they are prepared to address any ethical situations that they might be confronted with as informatics or IT professionals and what other information would be helpful to having in making ethical decisions in the future. Students were not asked about whether the course had an impact on their ethical beliefs or their ability to make ethical decisions, because the faculty member wanted any impact to be shared spontaneously by students rather than through prompting them for feedback about the course. The Pre-Test, Post-Test and Self-Reflection were required assignments (with points given for participation in each of the three activities) and the Self-Reflection could not be completed without participating in the Pre-Test and Post-Test. Questions for the Pre-Test and Post-Test were taken from surveys reported in two journal articles.[3-4]

Results

Thirty-five students completed the Pre-Test on Computer and Information Ethics. However, only 34 students completed the Post-Test on Computer and Information Ethics and thus only 34 students were eligible to submit the Self-Reflection on Computer and Information Ethics.

Twenty-eight students cited the course specifically as being responsible for changes in their ethical beliefs or in their approach to making ethical decisions. Four students did not mention the course as a reason for any changes. One student noted that he had already taken another ethics course and another student indicated that he already had a solid framework for ethics.

Twenty-nine students indicated that they believed that they were prepared to address the ethical situations that they might be confronted with as an informatics or IT professional. Three students indicated that they felt somewhat prepared and one student did not respond to this

question. One student indicated that he was not yet prepared and characterized himself as a "work in progress" as far as his comfort level in deciding ethical questions, but noted that the course did help.

Students identified a variety of types of information that would be helpful in making ethical decisions in the future; much of this information would be something that would be from a potential employer or professional organization or by working in a specific profession rather than from the content of the course. However, the faculty member will keep these suggestions in mind as she refines the course in the future (which will be taught again in Fall semester 2012).

- Policy of the company she works for that addresses any ethical situations
- A document showing codes, laws and rules by state for comparison
- Intensive knowledge of the law surrounding his professional field
- Having a coach or mentor, at least at the start of your professional career
- Copies of software vendor license agreements and documented policies and procedures at the company where she works
- Having the company's Code of Ethics and reading professional journals related to the IT field
- Would like to have more understanding of the controversial technologies that exist today, such as GPS tracking
- Have the background of the people he is interacting with (ethnicity, religious views, personal morals)
- Defined Code of Ethics
- More knowledge about new laws in IT – important for him to continue to read the news to learn about laws that are being passed or considered
- More discussion about ethical issues in technology and listening to the opinions of others
- Better understanding of certain laws, a better understanding of the Code of Ethics for his profession and practice at making ethical decisions
- Different professional organizations/ethical organizations and their Codes of Ethics and hearing from actual professionals in the field
- Written Code of Ethics for the company she is working for and references to situations that have happened in the past

References

1. Principles of Undergraduate Learning. http://academicaffairs.iupui.edu/plans/pul/, accessed 45/1/12.
2. Undergraduate Programs, Student Learning Outcomes, Bachelor of Science in Informatics. http://www.iupui.edu/~bulletin/iupui/2010-2012/schools/informatics-newmedia-healthinfo/undergraduate/student_learning_outcomes/informatics.shtml, accessed 5/1/12.
3. Woodward, B., Davis, D.C. and Hodis, F.A.: The relationship between ethical decision making and ethical reasoning in Information Technology students. *Journal of Information Systems Education* 18(2):193-202, Summer 2007.

4. Simon, J.C. and Chaney, L.H.: Trends in students' perceptions of the ethicality of selected computer activities. *Academy of Educational Leadership Journal* 10(1):1-9, 2006.

Informatics I211 – Information Infrastructure II

A second Informatics course, I211 – Information Infrastructure II, was selected for this years' PRAC Report.

PRAC Project Title:
Assessing My Critical Thinking

Course

I211 – Information Infrastructure II (4 credit hours, online course). Required course for undergraduate Informatics program.

Description

This course explores topics in systems architecture of computer applications in greater depth, with emphasis on practices of developing well-designed, reusable software. Designing with reusability is the major information that needs to be delivered. Basic and advanced object-oriented programming skills and applications are introduced. The well-known software architectural pattern Model/View/Controller (MVC) is used.

This project consists of a pre-survey and a post-survey. The pre-survey was completed on 1/10/2012 and the post-survey was completed on 4/17/2012. Both surveys were anonymous. The same group of students (I211 class) and the same questions were used in the surveys. The following are the survey questions:

Q1: When I analyze information, data (facts and figures) or ideas in class or at work……

_____ a. I often copy the work of others and still may make mistakes.

_____ b. Generally, I can report what I have read and heard with only a few mistakes.

_____ c. I can comfortably apply what I have read and heard in other similar contexts.

_____ d. I can provide in-depth analysis of the data or ideas that I use to solve problems or complete assignments.

Q2: When I try to apply formulas, procedures, or principles to a new problem, assignment, or situation.…

_____ a. I have trouble thinking of the right formula or concept to use.

_____ b. Usually, I can think of the right formula or concept, but I often have trouble using it correctly.

_____ c. I can use the right formula or concepts accurately if the situation or problem is familiar.

_____ d. I can use formula or concepts accurately to solve new problems or new situations.

Q3: When I try to think about a subject, problem, or situation from more than one point of view ……

_____ a. Most of the time, I can think of only one way.

_____ b. Usually, I can approach most of them from different perspectives, but tend to think one is right.

_____ c. I can approach them from different perspectives and pick more than one right ways.

_____ d. I can approach them from different perspectives and pick the most efficient way.

Q4: When I try to come to a conclusion about something I am thinking ……

_____ a. I have trouble thinking of anything to say.

_____ b. I can comfortably restate what has been said.

_____ c. My conclusion is consistent with the evidence that has been presented.

_____ d. I can create a conclusion that is logical and reflective of my thoughts.

Q5: When I try to synthesize multiple ideas to get the big picture ……

_____ a. I often see the pieces better than the big picture.

_____ b. I can arrange most ideas into a pattern, if it's not too complicated.

_____ c. I can arrange the ideas into a pattern that includes clear relationships among ideas.

_____ d. I can link ideas together in complicated patterns and explain complex relationships.

The following graphs illustrate 4 levels of critical thinking skills: beginning, developing, competent, and accomplished.

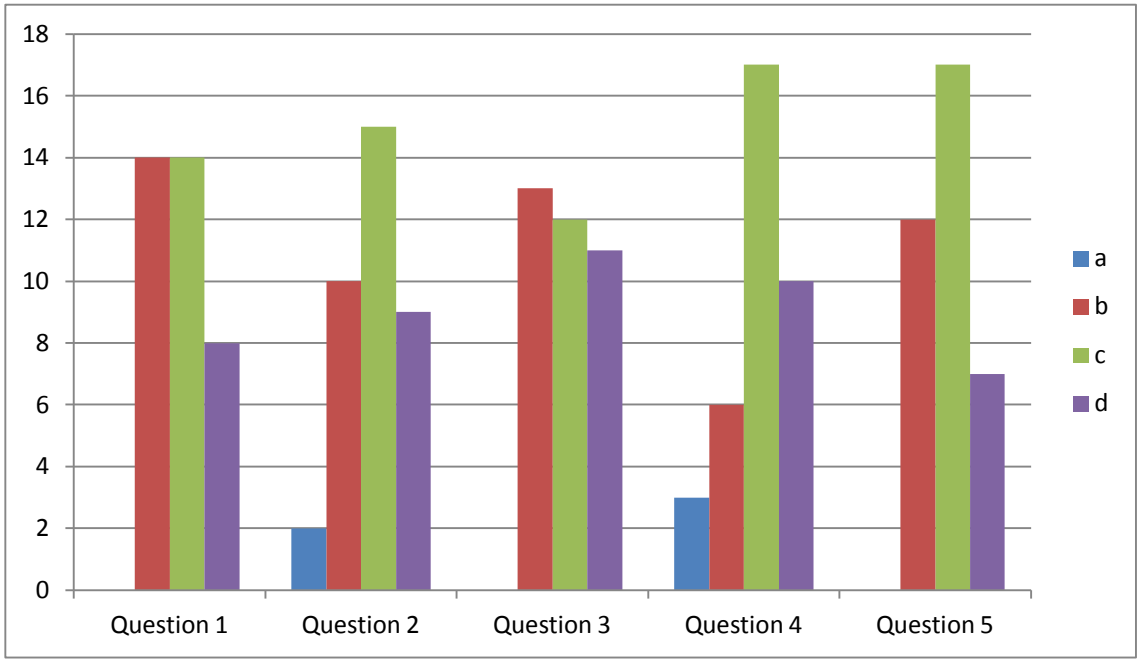
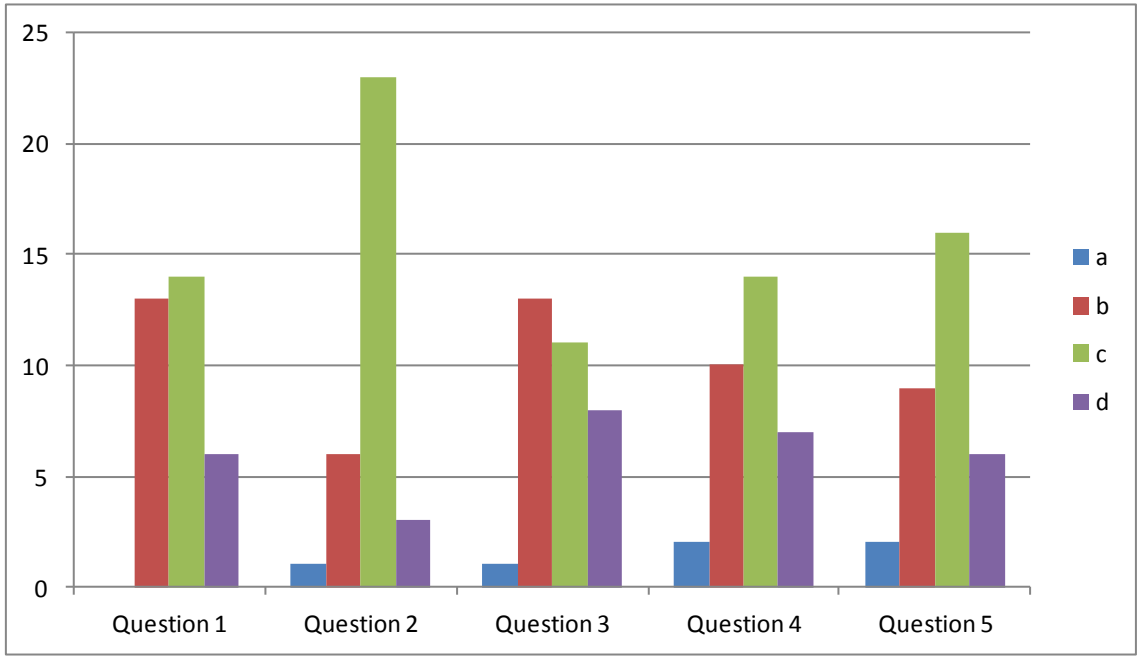


Figure 1: Number of responses to each question in pre-survey

As a Pre-Survey for this Informatics course, student responses were examined and reported as follows:

For Question 1, students are generally in agreement when analyzing information, data (facts and figures) or ideas in class or at work. For Question 2, most students try to apply formulas, procedures, or principles to a new problem, assignment, or situations and use the right formula or concepts accurately if the situation or problem is familiar. In Question 3, students generally agree when attempting to think about a subject, problem, or situation from more than one point of view. In Question 4, students' responses show and increase when attempting to come to a conclusion about a subject under consideration. Question 5 also shows high number of students reporting attempts to try to synthesize multiple ideas to get the big picture.



view

Figure 2: Number of responses to each question in post-survey

As a Post-Survey for this Informatics course, student responses were examined and reported as follows:

For Question 1, student responses show a decrease in agreement when analyzing information, data (facts and figures) or ideas in class or at work. For Question 2, most student responses increase slightly in agreement when try to apply formulas, procedures, or principles to a new problem, assignment, or situations and use the right formula or concepts accurately if the situation or problem is familiar. In Question 3, students responses show a decrease in when attempting to think about a subject, problem, or situation from more than one point of view. In Question 4, students' responses show a significant decrease in response when attempting to come to a conclusion about a subject under consideration. Question 5 show a slight decrease in student responses when reporting attempts to try to synthesize multiple ideas to get the big picture.

Bachelor of Science in Media Arts and Science

Media Arts and Science is one of three undergraduate programs in the School of Informatics. The Media Arts and Science (MAS) program explores the theory and practice of using digital media to communicate, educate, engage, or entertain. Courses in the program are hands-on and project-based, allowing students to become fluent in the use of contemporary tools for content creation, management, deployment, and assessment. The program also fosters the skills and qualities prized by employers in the 21st century workplace – skills for communication, teamwork, and productivity.

Student Learning Outcomes

The Media Arts and Science undergraduate student will acquire competencies in the technical dimensions of informatics. Students will:

1. Design and create digital media products targeted to a specific purpose while meeting professional quality standards.

2. Develop a strategic plan for a multimedia production that leads toward a level of mastery in this field.

3. Recommend strategies, practices, and/or tools that are appropriate and move toward a solution to a problem.

4. Utilize digital tools in the design and development production process to communicate with a range of audiences.

5. Demonstrate effective research in written and oral form that aligns to a variety of issues and audiences in the field.

MAS Program Outcomes mapped to IUPUI PULs	Language Skills	Quantitative Skills	Info Resource Skills	Critical Thinking	Knowledge Integration & Application	Intellectual Depth & Breadth	Society & Culture	Values, Ethics, Aesthetics
MAS students...	1A	1B	1C	2	3	4	5	6
1. Understand digital media and its effective use as a form of communication.	*					*		
2. Appreciate the history, theory, and traditions of digital media. Evaluate media from multiple perspectives using the theories, concepts, and language of digital media.				*			*	*
3. Demonstrate mastery of the concepts, techniques, and tools in one or more digital media specialties.	*	*				*		
4. Analyze a problem, identify and evaluate alternatives, plan an appropriate solution.				*		*		
5. Apply knowledge and skills to develop effective professional quality digital media productions in a timely manner and utilizing best practices and standards.			*		*			
6. Communicate concepts effectively to a range of audiences.	*	*						
7. Work effectively as a member of a team to achieve a common goal. Can lead, follow, or facilitate, as appropriate to the situation.	*						*	
8. Explain the impact of digital media on individuals, organizations, and society.					*		*	*
9. Recognize diverse opinions regarding professional, ethical, legal, and social issues with a global perspective. Operate according to a code of professional ethics.							*	*
10. Appreciate the need for lifelong learning and have a plan for continuing professional development.			*					*

Media Arts and Science N100 – Foundations of New Media

Course Description:

N100 Foundations of New Media (3 cr.) An exploration of the characteristics of digital media, including interactivity, hypermedia, immersion, and storytelling. Includes an introduction to the practice, theory, and history of new media, from the viewpoint of technology, communication, and culture. There are readings, demonstrations, examples, hands-on projects, and written assignments.

Course Objectives:

1. Students will demonstrate their knowledge of new media concepts through multimedia exercises, tests, quizzes and written assignments.
2. Students will explore the history and theory of digital media in order to bring that knowledge to bear on future new media projects.
3. Students will collaborate with other students through a group multimedia project and their participation in an online social network.
4. Students will broaden their understanding of new media as a discipline through lectures, course readings, and guest lectures.

The learning outcomes in this course are (#1, #3, #4, and #5) are in alignment with the IUPUI principles of undergraduate learning:

1. *Core communication skills, including writing skills*: This will be demonstrated through projects that involve creative expression, written assignments and blog entries.
2. *Critical thinking*: This will be engaged through assignments that ask you to apply your understanding of the readings in new contexts, illustration a passage from the readings, and through critical analysis exercises.

Two Course Assignments:

Assignment #1: This assignment is a written paper with a small research component. Using available resources (i.e., Google, Bing, Yahoo, IUPUI Library, etc.) create a report that presents a review of a type of analog technology and digital technology on the same device or architecture then, produce a summary comparison. You must include images of each (analog and digital) device. You must include a reference section that lists your sources.

Assignment #2: This assignment will test your creative 'metal' (your ingenuity and ability to take an idea and develop it). The application you develop (e.g., animation, audio file, graphic, webpage, or video) **must** contain a title from passage you selected. The application must contain author's name(s) and page numbers where you selected your passage. Your challenge will be how to incorporate these requirements into your application and ensure that the passage you select is depicted in a meaningful way.

Exercise:

Although N100 is a 16-week semester long course, the instructor chose to examine student personal perception of the PULs for this course at midpoint in the semester. This data was examined at the end of the semester as a comparison between student PUL perception and their achievement in the PULs for this course.

By mid-term student had completed a written assignment requiring research on a topic related to Media Arts and Science. They also completed an assignment where they were required to illustrate a passage (using multimedia applications) from the readings.

Media Arts and Science (New Media)
N100 – Foundations of New Media
March 7, 2012

Name: (please print) _____

Principles of Undergraduate Learning

Question for Students
To date, how effective is this course in helping you learn each PUL emphasized in the course?
Place a check mark in the box corresponding to your response.

Core communication skills, including writing skills

The ability of students to express and interpret information, perform quantitative analysis, and use information resources and technology - the foundational skills necessary for all IUPUI students to succeed.

Very Effective	Effective	Somewhat Effective	Not Effective

Critical thinking

The ability of students to engage in a process of disciplined thinking that informs beliefs and actions. A student who demonstrates critical thinking applies the process of disciplined thinking by remaining open-minded, reconsidering previous beliefs and actions, and adjusting his or her thinking, beliefs and actions based on new information.

Very Effective	Effective	Somewhat Effective	Not Effective

Results:

26 students participated in this exercise. In the area of Core Communication, 46% (12 out of 26 students) accurately reported (e.g., V = V, E = E, S = S) their PUL alignment. 42% (11 out of 26 students) demonstrated a decrease (e.g., VE to E, VE to S, E to S, E to N, etc.) from their reported PUL alignment. 7% (2 out of 26 students) demonstrated an increase (e.g., S to E, E to VE, etc.) from their reported PUL alignment.

In the area of Critical Thinking, 38% (10 out of 26 students) accurately reported (e.g., V = V, E = E, S = S) their PUL alignment. 31% (8 out of 26 students) demonstrated a decrease (e.g., VE to E, VE to S, E to S, E to N, etc.) from their reported PUL alignment. 31% (8 out of 26 students) demonstrated an increase (e.g., S to E, E to VE, etc.) from their reported PUL alignment.

Summary

These findings indicate that students do not completely understand the principles of undergraduate learning and how they are assessed in this course. Additional efforts and a re-design of the exercise will be developed for the upcoming fall 2012 semester.

Media Arts and Science Capstone

One of the most important aspects of determining successful learning outcomes is the Capstone. The Capstone Event in the School of Informatics is free and open to recruiters, industry professionals, current and prospective students, alumni, faculty, family and friends. This event – held at the close of each semester – celebrates and showcases the work of our graduating Media Arts and Science students. The capstone project represents the culmination of a student's knowledge and abilities in a particular area of specialization. Projects include:

- Interactive media
- Gaming
- Web development
- Digital storytelling
- Video and sound production

IUPUI Undergraduate Student Self Ratings of Effectiveness

* Effect Size between mean for this school and IUPUI mean is equal to or greater than 0.2.

on the Principles of Undergraduate Learning Scales

School	Written, Oral & Visual Skills	Quantitative Skills	Information Resources and Technology Skills	Critical Thinking	Integration and Application of Knowledge	Intellectual Depth, Breadth, and Adapativeness	Understanding Society and Culture	Values and Ethics
School of Informatics	3.40	2.90	3.52 *	3.36	3.12 *	3.21	3.41	3.55 *

School of Informatics Career Services Hiring Report
Evidence of Successful Learning Outcomes

Relying on grades and syllabi aren't enough to effectively report on student learning outcomes. It is difficult to glean what was actually taught in a course or if the grading was fair and consistent. The School of Informatics views learning outcomes not only in the classroom but also as evidence of student career advancement and appointments. Thus, learning outcomes in the School are revealed in career services (e.g., hiring and job appointments). The IUPUI School of Informatics Career Services Hiring Report provides evidence in this area. Table 1 shows student graduation data for the 2011-2012 academic year.

At the M.S. level in the School of Informatics 45 graduates were polled. 69% are actively employed. 9% plan to continue graduate school, 9% are actively seeking employment. 6.67% are relocating outside of Indiana. 6.67% did not provide information for this report. The average starting salary is: $59.393.

The 2011-2012 Hiring Data Report provides evidence of learning outcomes as they relate to gainful employment. The data in Figure 1 shows the total number of students in the undergraduate and graduate programs listed by program. At the B.S. level in the School of Informatics 115 graduates were polled. 10.43% plan to continue with their M.S. degree, 55.65% are actively employed. 11.3% are actively seeking employment, 3.48% are relocating outside of Indiana. 1 student plans to start his/her own business. 4.35% plan to take time-off and 13.91% did not provide information for this report. The average starting salary is: $40,298.

Table 1 Student Graduation Data – 2011-2012

	Graduate Students	Undergraduate Students	Totals
Summer II 2011	133	538	671
Fall 2011	1,303	5,522	6,825
Spring 2012	1,585	5,281	6,866
Summer I 2012	284	585	869
Totals	3,305	11,926	15,231

Figure 2 shows the average salary by major during the 2011-2012 academic year.

2011-2012 (Aug 2011, Dec 2011, May 2011) - Overview										
	Total Students	Employed	Grad School	Seeking Work	Relocating	Starting Business	Taking Time Off	Did Not Report	% Responded	Avg Salary
BS-HIA	22	36.36%	18.18%	18.18%	4.55%	0.00%	9.09%	13.64%	86.36%	$ 41,600
BS-INFO	22	81.82%	9.09%	4.55%	0.00%	0.00%	0.00%	4.55%	95.45%	$ 47,519
BS-MAS	71	53.52%	8.45%	11.27%	4.23%	1.41%	4.23%	16.90%	83.10%	$ 35,655
Undergrads %	115	55.65%	10.43%	11.30%	3.48%	0.87%	4.35%	13.91%	86.09%	$ 40,298
MS-BIO	10	60.00%	10.00%	10.00%	10.00%	0.00%	0.00%	10.00%	90.00%	$ 54,633
MS-HCI	7	57.14%	0.00%	14.29%	14.29%	0.00%	0.00%	14.29%	85.71%	$ 65,000
MS-HI	14	78.57%	7.14%	7.14%	7.14%	0.00%	0.00%	0.00%	100.00%	$ 66,833
MS-MAS	14	71.43%	14.29%	7.14%	0.00%	0.00%	0.00%	7.14%	92.86%	$ 49,000
Graduate %	45	68.89%	8.89%	8.89%	6.67%	0.00%	0.00%	6.67%	93.33%	$ 59,393

Figure 2. 2011-2012 Aug 2011 through May 2011) Employment Overview

Summary and Recommendations for Improvement

The School of Informatics recognizes the need for improvement in all areas of assessment, evaluation, and reporting learning outcomes in all programs. Efforts will be made to address weaknesses and bolster strengths indicated in this report. The following areas have been cited as focus areas for the upcoming academic year.

Online Course/Instructor Tool

In 2010-2011 the School implemented an online course/instructor tool for acquiring and assessing student feedback on a course-by-course basis. An evaluation and assessment of the Online Course/Instructor Tool is recommended for the upcoming 2012- 2013 academic year. The School will conduct a review and assessment for this tool in the upcoming academic year. The results will be reported in the 2013-2014 PRAC Annual Report.

Program Assessment

As mentioned previously, the Programs scheduled for review in the upcoming 2012-2013 academic year are Bioinformatics, Health Information Administration and Human-Computer Interaction. The Informatics and Media Arts and Science program recognize the need for improvement in the area of PUL Assessment and reporting.

IUPUI Undergraduate Student Self Ratings of Effectiveness

The School is aware of these ratings and efforts will be made to increase the mean score for the upcoming academic year.