

## **Assessing adult learners in project-based learning contexts**

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### **Abstract**

Jones International University (JIU) offers online programs from the associate's to the doctorate. Its student body includes many working professionals with an average age of 36. Recognizing that learning in adulthood is social and embedded in the learner's life context (Knowles, Holton, & Swanson, 1998), JIU created program and course design models to give learners meaningful experiences and feedback via project-based courses and assessment with multiple sources of input. Students pursue projects with a sponsor in the field and document their professional expertise. The projects and regular assessments yield multiple points of formative and summative assessment to guide the adult learner's progress.

**Keywords:** Assessment; student learning outcomes; project-based learning; workplace competencies.

## INTRODUCTION

Recently, for-profit higher education has come under fire with critics citing low student completion rates, high student debt, growing student loan default rates, and unethical practices. Considerable attention has fallen on gainful employment and student preparation for the workforce. At the same time, relatively little notice has been taken of the positive gains afforded adult education through innovative academic practices put in place in the online environment and targeted to meeting employers' needs. The purpose of this paper is to examine one for-profit institution's initiative to maintain quality and relevance in its academic programs and to facilitate adult learners' success in their employment.

Jones International University (JIU), founded in 1993 and accredited by the Higher Learning Commission of the North Central Association in 1999, offers online programs from the associate's to the doctorate. Programs are designed and implemented with a particular student in mind, the working adult.

JIU enrolls a diverse student body, of which approximately 74% are age 30 or older and 65% are women. The average age of JIU's student body is 36. In terms of ethnicity, over 50% of JIU's students are ethnic minorities. Among current students, 13% are military or dependents, 75 % are employed full time, and 55% are first-generation college. In a recent student survey, 48% of respondents indicated that they earned more than \$40,000 annually and 33% said that they had experienced career advancement after enrollment. In a companion survey of alumni, 63% of graduates reported earning more than \$40,000 per year, 26% attained a better position after graduation, and 48% experienced employment promotions after enrollment or graduation.

The nature of its student body and its mode of delivery required that JIU address early three issues: the learning requirements of adult students and their employers; the optimal instructional design to fit students' needs; and the type of assessment to support learning and, if possible, continuous institutional improvement. For grounding in these areas, JIU turned to the literature on adult learning, project-based learning, and assessment of student learning outcomes as well as the Principles of Effectiveness published by the Council for Adult and Experiential Learning (2000).

## LITERATURE REVIEW

### Adult Learning

Mindful of Verner's (1964) warning that adult learners view education as subordinate to their "primary productive role in society" (p. 32), JIU developed its instructional model accordingly. Because learning in adulthood is social and embedded in the learner's life context (Knowles, Holton, & Swanson, 1998), JIU needed a framework that allowed for interaction not only within the academic context but beyond it, in the real world.

Given adult learners' involvement with their employment, JIU sought research on what employers found desirable in graduates' preparation for the workplace. Employers' concerns about graduates' skills and lack of readiness emerged in the mid-1980s (AAC, 1985) and reemerged in the Spelling's Commission report, *A Test of Leadership* (U.S. Department of Education, 2006) and other studies. For example, studies conducted by Peter D. Hart Research Associates, Inc. for the Association of American Colleges and Universities (AACU) found that employers perceived graduates to be lacking in work ethic, commitment to the job, communication skills, and ability to work with others (2006a). A subsequent Hart study showed employers had clear preferences for documentation of student learning: real-world assessments showing how students applied learning, narrative faculty evaluations of student internships and community-based work, and student essays and portfolios (Hart, 2008).

Drawing upon this research, JIU identified fundamental precepts for program and course design. To become a life-long learner, a person needed to develop the aptitude to take personal responsibility for learning, from setting learning goals to selecting suitable content, choosing modes of engagement, and evaluating personal progress (Brookfield, 1995). To cultivate the learner's ability to work with and learn from others, one needed communities of practice for exchanging ideas, testing assumptions, and supporting growth (Greeno, Eckert, Stucky, Sachs, & Wenger, 1999). Finally, taking into account learners' life experiences and employers' preferences, faculty concluded that experiential learning was

essential to the JIU mission because it connected current learners in a meaningful way to their experiences of the past while laying the foundations for their future careers.

### **Project-Based Learning**

The literature on project-based learning, a derivative of problem-based learning, is expansive and focused more often on K-12 than postsecondary learning. Although the literature reveals many definitions and varieties of project-based learning (PBL), Thomas simplified the discussion by explaining that PBL “organizes learning around projects” (2000, p. 1). PBL reposes on several concepts: a challenging question that calls for research and problem solving; an orientation that allows a student to work cooperatively with others as well as independently; a project scope that entails work over an extended period; a cycle of regular feedback and communication designed to prompt further inquiry and critical thinking; and a final product that is presented publicly (International Society for Technology in Education, 1997). In this context, the faculty serves as facilitator, providing structure and guidance but not direction. Most commentary on PBL emphasizes the need for intensive training for faculty who want to adopt this approach.

At JIU, PBL was adopted as a key element of the Course Design Model. This model provides guidance on almost every aspect of building a course, from the look and feel of the user interface to the amount of time required of learners as they progress through a course. The university’s centralized approach to curriculum development, combined with the commitment of the faculty and instructional designers developing the courses, led to a consistently-applied PBL approach across curricula. This approach offered the benefit of aiding the implementation of an integrated assessment system below.

### **Assessment of Student Learning Outcomes**

Scholarship on assessment of student learning has flourished over the past 25 years, offering educators important guidance in creating assessment tools to support and improve learning. The U.S. Department of Education’s Study Group on the Conditions of Excellence in American Higher Education set the direction in its report, *Involvement in Learning: Realizing the Potential of American Higher*

Education (1984). This group advised educators to use student learning outcomes as the measure of instructional quality and effectiveness and to use formal assessments to measure student progress, to provide feedback, and to adjust instruction to improve outcomes. Shortly thereafter, another study, *Integrity in the College Curriculum: A Report to the Academic Community* (Association of American Colleges, 1985), took up similar themes and chastised the academy for its failure to use “rigorous examining procedures” (p. 3) for students, faculty, curricula, and programs.

The early literature on assessment offered detailed guidance on how to implement learning outcomes measurement in general education and the disciplines. More recently, however, scholars have taken a broader view in showing how assessment could be turned to institutional improvement at many levels (AACU, 2002; Miller and Leskes, 2005; U.S. Department of Education, 2006; and Shavelson, 2007). The range of institutional uses could include evaluations of courses and curricula, faculty performance, academic and student support services, as well as overall institutional success in meeting mission and goals. The student is at the center of the assessment effort, but the data are broadly applied, as indicators of quality and effectiveness at multiple levels across the university. It is in this context that the JIU approach to assessment is best understood and appreciated.

### **THE JIU ASSESSMENT MODEL**

JIU drew upon research in adult learning, project-based learning, and assessment to design an assessment system with multiple functions. It was intended to offer (a) personalized assessment to the student on his or her progress by course module, by course, across courses, and by program; (b) continuous course and program evaluation data to the faculty and administration; and, (c) critical evaluative information on student learning, faculty performance, and institutional effectiveness to JIU. Taking advantage of multiple data sources and new input from an 8-week course cycle, JIU committed to continuous improvement for all programs and for the institution.

Faculty, administrators, instructional designers, and external advisory committees that included employers set programmatic learning objectives. Advisory boards composed of practitioners and experts

in the field contributed an overall perspective and pinpointed the needs of their respective professions. To these were added the published standards of the various professions such as those set by professional associations, accreditors, and/or state licensing agencies. For example, education standards adopted by the National Council for Accreditation of Teacher Education (NCATE) and the Colorado Department of Education guided curriculum development and learning outcomes in education. Thus, the assessment model reflected the real-world needs of learners, the professions, prospective employers, and the institution. JIU saw that learning outcomes data could be useful in a variety of areas, including accountability reporting and continuous program improvement. Ultimately, the university conceived a program design that promotes learners' self-direction, engagement, and motivation, while affording them the opportunity to build a repertoire of increasingly advanced professional experiences and artifacts. Table 1 provides the learning outcomes for an example program, the MBA in Project Management.

Table 1. Text Here

After program objectives were established, a similar applied orientation guided curriculum design. Committees of subject-area specialists, instructional designers, and administrators developed curricula and aligned course outcomes to program and institutional objectives. Courses organized according to a project-based design offered the student a choice in object of inquiry within a structured framework and allowed the application and integration of content in the learner's world experience. It was deemed essential to give learners steady, meaningful feedback via an assessment matrix with academic and workplace competencies; so, courses were organized in eight modules with formative assessment provided for each module. A summative assessment of student performance against learning objectives is recorded at the conclusion of the course. Table 2 presents the course learning outcomes for a specific example course, MBA 571: The Project Management Framework.

Table 2. Text Here

JIU recognized there were important learning outcomes beyond subject mastery that professionals need for success in their employment. Specifically, corporate employers continued to express concern

about college graduates' workplace skills (Hart, 2006a, 2006b, 2008, 2010; Gilroy, 2007), so the university developed a set of workplace competencies for all degrees. These competencies each carry a succinct definition of desired behavioral outcomes. For example, of the 11 workplace competencies required in all courses, *Language Conventions* is defined as follows: *Consistently employs conventional English spelling, grammar, punctuation, syntax, and paragraph construction*. The program assessment matrix incorporates workplace competencies so feedback is provided in all course outcomes reports. Table 3 presents the relevant Workplace Competencies for the same course noted above, MBA 571: The Project Management Framework.

Table 3. Text Here

Bringing together institutional, program, and course learning objectives, faculty designed a comprehensive assessment matrix to evaluate student learning and institutional effectiveness, ultimately leading to program and institutional improvement. The JIU Assessment Model resembles a framework outlined by Miller and Leskes (2005) and includes five levels of assessment: individual student learning within courses and across courses, course effectiveness, program effectiveness, and institutional effectiveness. All of this is built upon three basic components: course learning objectives that define learning outcomes to be achieved; program learning objectives that define program expectations; and 19 workplace competencies that identify skills and abilities required for successful involvement in the 21<sup>st</sup> century workplace.

Assessment tools designed to support the system and provide regular feedback to students and the institution are numerous. Those of immediate interest are three: an in-course assessment tool (scoring rubric) that students and faculty use throughout the program; a comprehensive Student Success Data Report (See Figures 1 and 2 below); and a project sponsor appraisal tool, that is used by the external professional sponsor on a student's capstone course (Table 4 below). To measure student learning outcomes, a four-tiered scale was adopted:

- Basic: The student demonstrates an understanding, but is not yet able to apply the learning outcome in the field.
- Developing: The student demonstrates increasing understanding and begins to apply the learning outcome in the field with assistance.
- Proficient: The student demonstrates a solid understanding and is able to apply the learning outcome in the field without assistance.
- Advanced: The student demonstrates exemplary performance and skillful application of the learning outcome in the field.

Faculty members are trained in the use of the rating scale, and it is applied consistently to all assessment activities. Because feedback is integral to student growth (Brookfield, 2006), a professor provides formative comments on all course learning objectives for each module. At the end of the course, the same tool is used for the instructor's final summative appraisal. This comprehensive narrative enumerates the student's strengths and provides pointers about how to improve any shortcomings. It is entered in the JIU data repository and made available to the student, a valuable addition to a portfolio as it offers a richer picture of individual capabilities and potential than any transcript.

For the student, the cumulative assessment data are transformed into a series of Web-based Success Reports. The first of these, the Student Success Data Report, gives an integrated and progressive analysis of a student's performance (Figure 1) on all course objectives and the workplace competencies in a single course.

Figure 1. Text Here

A cumulative report (Figure 2) shows the student's progress from course to course on program objectives and workplace competencies and in comparison to peers.

Figure 2. Text Here

## **THE PROFESSIONAL SYNTHESIZING PROJECT**



Degree-seeking students complete several project-based courses, progressively solving realistic problems in the field of study and augmenting their skills, abilities, and portfolio artifacts. Students may pursue sponsored projects, working with leaders or organizations in their academic fields to address a real-world issue under the guidance of a practicing professional. Although the sponsored project serves the profession while offering the student an authentic learning experience, the need for the work is the single-most important criterion for choosing a particular project. The sponsored project is required for completion of professional programs and is designated as the professional synthesizing project (PSP).

The professional synthesizing project (PSP), an 8-week, course-embedded applied research project, is a self-directed learning activity for which the student prepares a proposal. Proposal and project guidelines are carefully constructed: the student is expected to engage a leader in the field of study, address a relevant question, and engage stakeholders in identifying problems and solutions. Further, the student must ensure that the project comprises a comprehensive and focused problem description, a step-by-step action plan and timeline, a clear delineation of measures, tasks, resources and benchmarks, and a well-written final report.

The instructor reviews the proposal and authorizes the student to convey it to the prospective sponsor who is selected by the student in consultation with the instructor. Sponsors are leaders in their fields who are willing to help the student bridge the gap between the academic world and the real world of practice. Sponsors must be willing to guide the student in the project and to ensure that it has practical application. Before a sponsorship agreement is finalized, the sponsor must also review the course learning outcomes. Sponsors are normally expected to interact with the student for approximately 3 hours over the 2 months of the course, but they may contribute more time if desired.

The PSP offers students the opportunity to demonstrate their acquired theory and content knowledge to the solution of a practical professional problem and to show that they have learned and can apply the knowledge, skills, and outlook necessary to succeed in their fields. The PSP offers multiple points of formative assessment that yield the primary evidence of student learning. Toward the end of the

project, the student produces a report or other suitable artifact and makes a formal presentation to the sponsor. The sponsor reviews the completed professional project, evaluates it, and submits a formal evaluation to the instructor. The sponsor's evaluation survey seeks information about how well the project addressed the organization's needs and how student-sponsor interactions occurred. Thereafter, it asks the sponsor for input about the student's conduct of the project (Table 4).

Table 4. Text Here

The student's project planning and initial interaction with the sponsor are guided by a series of checklists, guidelines, and sample letters developed by JIU. The PSP requires the student to work closely with a chosen sponsor in tandem with the course instructor. Here, the student has the opportunity to connect with leaders in the field and to open avenues for future career development, while making a contribution to the profession and learning the protocols for professional interactions. At the end of the PSP, students evaluate their own learning as well.

After a student has completed the project and the sponsor's final evaluation has been submitted, the instructor compiles the course project assessment. For this final evaluation, a special rubric is used that includes a custom set of criteria applicable to the specific project. The evaluation comprises three sections: (a) qualitative assessment, (b) course learning outcomes, and (c) workplace competencies. For successful completion of the course, the student must be scored "proficient" on all course learning outcomes as well as on *originality, clarity and concision, language conventions, and format*.

Professional Synthesizing Projects vary widely across the spectrum of university programs, but all show a commitment to serving the respective professions. Recent projects have included the following: (a) reducing recidivism due to drug usage in a corrections setting, (b) improving the effectiveness of a tutoring program for at-risk students, (c) proposing strategies for conflict resolution between two employee groups in an industrial setting, (d) assessing and proposing remedies for workplace stress in a telecommunications company, and (e) enhancing student retention in online programs at a community

college. Student feedback suggests that this is an affirming experience that offers meaningful engagement with a profession.

### CONCLUSION

All JIU degrees are designed to meet the needs of adult learners, and all are build on the premise that setting and assessing student learning outcomes is a reliable means of defining program quality. Practitioners and experts in each discipline participate in creating program objectives that align with published professional standards. These objectives are the foundation upon which JIU faculty build relevant learning outcomes and select workplace competencies for individual courses.

Within this framework, faculty and students foster learner engagement, self direction, and growth. Evaluation and feedback are constants in the JIU learning community, marking a student's progress toward his or her learning goals. Faculty provide summative assessments weekly using the standard scoring rubric and narrative analyses, which create an occasion for student-faculty interaction around how to improve learning or present one's work more effectively. At the end of a program the professional synthesizing project affords the learner the opportunity to work in the field to add input from practitioners to the input they have received from colleagues and faculty. Through progressive, continuous assessment, JIU learners steadily increase their mastery of content and workplace skills.

End of course, end of program, and employer surveys affirm that the JIU method has achieved its desired outcome—individual empowerment. In a recent survey, students indicated they were quite satisfied with JIU, its faculty, and courses, with an overall satisfaction average of 95.3%. In that same survey, 95.6% of active students responded that they would recommend their course to others; 92.4% responded that they would recommend their professor to others; and 98% reported that they would recommend JIU to others. Similarly, in a 2009 survey of employers of JIU graduates, 100% of respondents agreed or strongly agreed with the statement “Overall, I feel the JIU graduate is an effective educational leader.”

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Table 1: MBA in Project Management - Program Learning Outcomes

## 1. KNOWLEDGE

- K1 - Identify and evaluate ongoing and developing issues and trends related to leading and managing organizations in global business environments.
- K2 - Identify and evaluate microeconomic strategies (cost, production structure, etc.) appropriate for companies operating in a variety of markets, including global and e-commerce markets.
- K3 – Understand and assess ethical reasoning concepts, theories, and issues as they apply to the conduct of business in global and e-commerce environments.
- K4 – Understand and assess the application of the managerial accounting concepts that are germane to the conduct of business in global and e-commerce environments.
- K5 - Evaluate marketing issues, concepts, and trends that are crucial to the conduct of business in global and ecommerce environments.

## 2. SKILLS

- S1 - Incorporate financial reporting and accounting information in managerial decision-making.
- S2 - Prioritize and create personal strategies for dealing with potential ethical dilemmas.
- S3 - Emulate empathy and appreciate the ethical perspectives of others.
- S4 - Delineate leadership/management concepts for effective management of organizations that operate across international borders.
- S5 - Understand and apply rules, conventions, and practices for measuring and reporting economic events in financial terms.
- S6 - Apply budgeting, cash management, credit administration, investment analysis, borrowing funds and financial forecasting to effective business decision making.
- S7 - Strategically analyze marketing challenges and opportunities and make sound marketing strategy decisions.
- S8 - Select information systems which are appropriate for organizations and projects.
- S9 - Explain the methods required for management of large, complex information systems projects.
- S10 - Apply selected principles of business communication to a variety of management challenges.

## 3. PROJECT MANAGEMENT PROFICIENCIES

- P1 - Examine the context of projects and differentiate between projects and operations.
- P2 - Master project life cycles.
- P3 - Plan for resources, costs, budgets, risk assessments and staffing requirements.
- P4 -Develop timelines, conduct evaluations and measure overall strategic impacts for projects.

Table 2: MBA 571: The Project Management Framework - Course Learning Outcomes

Upon successful completion of this course, each student will:

- Identify the unique characteristics of projects vs. operations.
- Describe the project life cycle.
- Develop a plan that guarantees all of the various elements of a project are properly coordinated.
- Plan for the necessary resources, accurately estimate cost, allocate the budget to specific work items, and control changes in the project budget.
- Evaluate the quality of the product or service in order to ensure that it meets the previously established needs of the organization.

Table 3: MBA 571: The Project Management Framework - Workplace Competencies

- Completeness — Addresses each step/component/element required by project assignments with no obvious omissions.
- Timeliness — Completes project within specified timeframe.
- Originality — Project conforms to the JIU Code of Conduct regarding plagiarism, i.e., the work is not plagiarized and does not violate copyrights held by other entities.
- Feedback Incorporated — Appropriately incorporates formative feedback from the professor and peers, or explains why feedback was not incorporated.
- Critical Thinking — Contains substantive original analysis and interpretation. Uses inductive and/or deductive reasoning to reach conclusions and construct big-picture meaning. Investigates and critically evaluates evidence, defines interrelationships, and presents informed conclusions. Explains procedures, assumptions, and reasoning.
- Synthesis — Applies and/or synthesizes course content, required readings, independent research, and original thought into project as appropriate.
- Credibility — Soundly supports opinions, assertions, and conclusions with relevant (cited) factual information. Objectively dispels misinterpretations, misunderstandings, and erroneous conclusions. Anticipates and is able to withstand reasonable intellectual challenges.
- Treatment — Approach, voice, vocabulary, terminology, level of detail, and formality of the project are engaging, effective, and appropriate for the defined audience.
- Clarity and Concision — Project composition is structured logically, focused, well organized, and flows well. Conveys ideas clearly and concisely.
- Language Conventions — Project consistently employs conventional English spelling, grammar, punctuation, syntax, and paragraph construction.
- Professional Application — Project solves a real-world problem that is worth solving. Project is of value in the specified professional context, is constrained by real-world limitations, and meets the requirements of the selected professional context.

Figure 1

## Personalized Assessment Matrix

- Three levels of learning outcomes are assessed:
  - Course learning objectives
    - *Develop a repertoire of intervention strategies to deal with challenging or violent students*
  - Degree or Program learning objectives
    - *Select information systems which are appropriate for organizations and projects*
  - Workplace competencies
    - *Application of Technology— Demonstrates application of technology to the project that is realistic and appropriate for the selected professional context.*

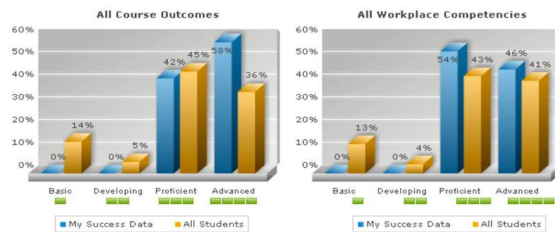


Personalized Assessment Matrix

Figure 2

## Student Summary Feedback

Student view of how she or he is doing across all course outcomes and Workplace Competencies



Student Summary Feedback