

Assessing A Proficiency Based Economics Major

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Increased pressure from institutional accrediting agencies and discipline-specific accrediting bodies has required economic departments to develop program assessment plans. Episodic program reviews that focus on departmental inputs are no longer acceptable in an environment that stresses student outcomes and continuous improvement processes. While there is a growing body of discipline specific literature on assessment of students and individual courses, there is little discipline specific guidance in the literature on how to construct and implement an effective assessment process for an entire program.

This paper presents guidelines for the development and implementation of an economic program assessment plan based on good practices from the general program assessment literature and the best standards of the economic discipline. Included is one department's attempt to implement an assessment plan based on good practices for a new undergraduate curriculum. The curriculum embraces Hansen's student outcome proficiencies and embeds formative and summative assessment in the curriculum through the use of student portfolios and a capstone experience for all majors. The data generated within the curriculum is augmented with exit and alumni surveys. The approach is unique in the extent to which it marries the assessment strategy in the classroom to the assessment of the overall program within a context of a curriculum based on the Hansen proficiencies (Hansen 1986b, 149-152; Hansen 2001a, 231-242).

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Table of Contents

Assessing a Proficiency Based Economics Major.....	0
Steven C. Myers, Michael A. Nelson and Richard W. Stratton	0
Assessing a Proficiency Based Economics Major.....	2
Assessing a Proficiency Based Economics Major.....	2
Introduction	2
Guidelines For Effective Program Assessment	3
Step 1. Agree On Goals and Objectives For Learning.....	5
Steps 2 And 3. Design And Implement A Thoughtful Approach To Assessment Planning And Involve Individuals From On And Off Campus	5
Step 4. Select or Design and Implement Data Collection Approaches	6
Step 5. Examine, Share, and Act On Assessment Findings “Close The Loop” (I.E. Use Results To Improve Program)	6
Step 6. Regularly Reexamine The Assessment Process.....	7
Program Assessment In Economics.....	8
Implementation Of Program Assessment.....	10
Step 1. Specify Intended Educational Outcomes.....	10
Steps 2 and 3. Identify Means Of Assessment, Criteria For Success and Obtain Assessment Results.....	11
Student Portfolios.....	11
Senior Capstone Experience.....	12
Exit Surveys of Program Graduates.....	13
Survey of Program Alumni	13
Step 4. “Close The Loop” (i.e.. Use Results To Improve Program).....	16
Step 5. Report Assessment Results	17
Concluding Remarks	17

Table of Tables

Table 1: AAHE Nine Assessment Principles	4
Table 2: Six Step Process for Assessment of an Economics Major.....	4
Table 3: Hansen Proficiencies	19
Table 4: Survey Sampling Statistics.....	20
Table 5: Alumni Responses to Importance and Satisfaction with Hansen Proficiencies	21

Table of Figures

Figure 1: Importance And Satisfaction With The Hansen Proficiencies, Undergraduate And Graduates.....	22
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Assessing A Proficiency Based Economics Major

Introduction

In recent years institutions of higher education have faced increased demand by the public for accountability for what students learn in their academic programs. Public universities and colleges, in particular, have been called upon by cash-strapped state legislatures to demonstrate that the tax dollars they have invested in post-secondary education have been invested in a cost-effective manner. In addition, institutional accrediting agencies, such as the regional associations of Colleges and Schools (e.g., NCA, SACS, WASC), and discipline-specific accrediting bodies such as the AACSB and the ABET, require institutions to provide evidence of student outcomes assessment as part of the re-accreditation process.

Often the demand for accountability leads to the imposition on the department of a generic, one-size-fits-all assessment process geared to generating periodic reports. It is not unusual for the deadlines for these mandates to be very short. Such procedures seldom foster the critical self-reflection and program improvement intended. Thus they tend to be ineffectual. This paper focuses on program assessment based on student outcomes of the undergraduate economics major initiated by and tailored to the characteristics of the department.

“The developments in assessment theory and practice during the last decade have been accompanied by inconsistency in the application of terms. Confusion abounds and this has been compounded by the importation of business terms, in particular those related to quality and its management in industry ((Heywood 2000, 13)).” Part of the confusion stems from the use of similar terms and processes to measure both student learning and the performance of programs or curricula. A few trends that also contribute to the confusion include the transition from teacher to student centered education, from a focus on inputs (teacher qualifications) to outputs (student learning outcomes), from traditional testing to authentic assessment, and from passive to active learning.¹

There is an extensive literature on classroom assessment of student outcomes, including several recent papers within the economics discipline (e.g., (Walstad 2001, 281-294); (Hansen 2005)). However, to our knowledge relatively little has been written on assessment of the entire undergraduate economics curriculum. As (Walstad 2001, 287) notes, this latter is a much more challenging endeavor and goes beyond simply certifying whether or not a student has successfully passed a prescribed set of core and elective courses. Instead, the challenge is to identify program outcomes that can be measured and evaluated over time with the results used to inform continuous program improvement.

Our goals in this paper are threefold. First, we draw from the general literature on assessment of academic programs to provide guidelines of what constitutes effective practice when it comes to program assessment. Second, we discuss

some of the issues that arise in the implementation of an assessment plan within the context of an undergraduate economics curriculum. Finally, we describe an assessment plan developed from these good practices by the Department of Economics at The University of Akron to assess its new undergraduate curriculum based on Hansen's student outcome proficiencies. (Hansen 1986a, 149-152; Hansen 2001b, 231-242) and discuss some preliminary findings from the data gathered from that assessment plan.

Guidelines For Effective Program Assessment

"The overriding purpose of assessment is to understand how educational programs are working and to determine whether they are contributing to student growth and development (Palomba and Banta 1999, 5)." Program assessment focuses on the experiences of groups or cohorts of students. The intent of assessment is to gather information on the experiences of students to gain insight on the effectiveness of the curriculum. Does the curriculum make sense? Is it integrated, coordinated, and complete? As a result of their experiences in the curriculum, do students have the knowledge, skills, and values that graduates should possess? The term "program assessment" is used in this paper to refer to a process or procedure designed to allow faculty to monitor and guide the continuous improvement of an economics curriculum to meet desired goals.

The Assessment Forum, established by American Association of Higher Education (AAHE), developed a set of nine assessment principles (Astin 1996) of effective assessment practices based on the experiences of leading practitioners. To our knowledge this represents the first attempt to articulate the general characteristics of effective assessment practice in a single document. These principles, which are strongly influenced by Chickering and Gamson's *Seven Principles of Good Practice in Undergraduate Education* (Chickering and Gamson 1999, 75-81; Chickering, A.W. and Gamson, Z. March 1987, 3-7), are stated in Table 1.

(Banta 1996, 387) discusses these principles in detail, providing explanations, context, and examples of how they are put in practice. They also suggest a tenth principle: "Assessment is most effective when undertaken in an environment that is receptive, supportive, and enabling."

These principles describe characteristics, which in the experience of leading practitioners, are usually found in successful assessment processes; they provide the foundation of many practical guides to program assessment (see (Banta 1996, 387), (Palomba and Banta 1999, 405), and (Walvoord 2004, 145)).²

Table 1: AAHE Nine Assessment Principles

<i>1. The assessment of student learning begins with educational values.</i>
<i>2. Assessment is most effective when it reflects an understanding of learning as multidimensional, integrated, and revealed in performance over time.</i>
<i>3. Assessment works best when the programs it seeks to improve have clear, explicitly stated purposes.</i>
<i>4. Assessment requires attention to outcomes but also and equally to the experiences that lead to those outcomes.</i>
<i>5. Assessment works best when it is ongoing not episodic.</i>
<i>6. Assessment fosters wider improvement when representatives from across the educational community are involved.</i>
<i>7. Assessment makes a difference when it begins with issues of use and illuminates questions that people really care about.</i>
<i>8. Assessment is most likely to lead to improvement when it is part of a larger set of conditions that promote change.</i>
<i>9. Through assessment, educators meet responsibilities to students and to the public.</i>

“At its most useful, [program] assessment provides information about students as a group – information that can be aggregated across sections of a single course and is meaningful across courses (Palomba and Banta 1999, 5).” Since there seems to be more activity in our profession on assessing student learning at the course level, we suggest building on that foundation to construct program assessment based on student outcomes. It should be possible and desirable to aggregate the information gained from the course that students actually complete to assess the effectiveness of the overall curriculum.

(Palomba and Banta 1999, 6-15) provide a six step process (Table 2) which guides the development of our assessment process for an economics program, which conforms to the good assessment practices put forth by AAHE.³

Table 2: Six Step Process for Assessment of an Economics Major

<i>Step 1. Agree on Goals and Objectives for Learning (Specify intended educational outcomes)</i>
<i>Step 2. Design and Implement a Thoughtful Approach to Assessment Planning (Identify means of assessment and criteria for success.)</i>
<i>Step 3. Involve Individuals from On and Off Campus</i>
<i>Step 4. Select or Design and Implement Data Collection Approaches (Obtain assessment results)</i>
<i>Step 5. Examine, Share, and Act on Assessment Findings (“Close the Loop”, i.e. use results to improve program; Report Assessment Results)</i>
<i>Step 6. Regularly Reexamine the Assessment Process</i>

We discuss each of these steps in turn and relate each to the AAHE assessment principles.

Step 1. Agree On Goals And Objectives For Learning

The first step is to identify and clearly articulate the intended educational outcomes. The outcomes and goals chosen for the assessment plan should reflect the unique situation of the department. Questions which should be kept at the forefront in the discussions on goal selection are: Do these goals reflect the core educational values of the stakeholders? Have we avoided the temptation to measure what is easy at the expense of measuring what is important? (principles 1, 6) Do these goals focus on what stakeholders really care about? (principle 7) Do these goals capture at least some of the complexity of the educational experience? (principles 2, 4) Does the program have clear, explicitly stated goals? Are these goals measurable? (principle 3)

The educational values, as stated in mission statements and other institutional documents, and what people “really care about” differs from one campus to another. Thus in developing program assessment processes, each department must consider its institutional setting. The faculty will want to consider the role it has in furthering the college and institutional missions. For example, economics departments located within Schools of Business will need to be knowledgeable of the accreditation requirements of the Association to Advance Collegiate Schools of Business (AACSB).

While each program must set its own goals, (Salemi and Siegfried 1999, 358) recommend “departments revise their curricula so that majors attain the Hansen proficiencies.” As noted below, we chose to accept this as part of our goals.

Steps 2 And 3. Design And Implement A Thoughtful Approach To Assessment Planning And Involve Individuals From On And Off Campus

Thoughtful planning can often reduce frustration later in the process. Steps 2 and 3 involve the creation of a working process, within the constraints imposed external to the department, to identify the means of assessment and criteria for success. All too often assessment processes are not inclusive. At times they may be imposed onto the department and provide little faculty involvement. At other times, faculty may develop processes independently of other stakeholders. Our prescription suggests a marriage of the traditional role of the faculty as guardians of professional standards with the authentic roles of employers and other stakeholders in order to achieve the agreed upon outcomes of the major. Such broad participation in the design and implementation stage promotes both quality assurance and accountability. It is integral to the entire process.

In this step we must identify how to measure progress toward the intended outcomes and goals. The method of determining success must be directly crafted to the intended outcomes and goals. Principles 4, 5, and 6 provide guidance in this regard. The design should attend to both the outcomes and the experiences that lead to those outcomes (processes). It should be ongoing not episodic and it should involve representatives from across the educational community. Further, if the goals reflect an understanding of learning as multidimensional, integrated, and revealed in performance over time (principle 2), then the design must be able to capture information on multiple dimensions, on the relationship between courses, and on student performance over time.

This suggests that while high stakes “exit” or “proficiency” tests, such as TUCE, GRE and comprehensive exam scores, may play a role in the assessment process, they should not be the sole mechanism. Additional designs that can provide a more comprehensive picture include senior seminars, senior projects, and student portfolios.

Step 4. Select Or Design And Implement Data Collection Approaches

While some may rightfully consider the data collection as part of the assessment plan (Step 2), it can be a large enough project to consider separately.

First the data must be collected. How this is best done clearly depends on the intended outcomes, goals, and assessment design. However the process must at the very least consider the legal, technical, and practical issues involved. Legal issues may include student privacy rights and the use of human subjects in research. Technical issues may include the collection process, storage, sorting, collation and the use of computers. Practical problems might arise from faculty cooperation, the wide variety of course sequences available to students to meet program requirements, switching of programs by students, and small student cohorts.⁴

Step 5. Examine, Share, And Act On Assessment Findings “Close The Loop” (I.E., Use Results To Improve Program)

No assessment plan can be successful unless the efforts lead to a better understanding of the program and recognition of how the program can be improved. This requires the data collected to be examined, analyzed, and used to develop program improvements (modifications).

Once the data are collected, they must be examined and analyzed. While this analysis should at the very least compare the results to some “idealized” measurable goal identified in the earlier steps; the appropriate techniques may be as varied as the intended outcomes. The point to keep in mind is that the analysis must be carefully performed and appropriate for the intended outcome. (Banta 1996, 387) reports on numerous case studies of assessment in the major.

While none of the cases report assessment in economics and many of the cases describe assessments focused on specific issues, they illustrate the variety of methods available for examining the data.

For continuous quality improvement to be achieved the results of the analysis must lead to action. The analyses may identify weak links or holes in the program. They might identify course sequences that are more successful, how the curriculum should be revised, and suggest issues for further investigation.

In any event, the department must consider the results of the analysis and construct recommendations to modify in the program to address areas of concern or build on areas of strength.

Results of program assessment (including any recommendations for change) must at the very least be reported to the members of the department, ideally they should be shared with all stakeholders. If the program assessment is to lead to improvement it is imperative that members of the department know the results and incentives exist to make improvements.

Assessment is most likely to lead to improvement when it is part of a larger set of conditions that promote change (Principle 8). Indicators of such conditions might include supportive leadership (chair and dean), active faculty development programs, centers for teaching and learning, or a history of changing policies to increase the emphasis on student learning in promotion and tenure decisions. The lack of incentives as an impediment to successful program assessment is noted in (Salemi and Siegfried 1999, 359) call for "...incentives that will lead departments and individual faculty members to undertake serious reform....".

Results of assessment strategies are often reported to other administrative units or made public, either to the entire unit, institution, or community. Accreditation agencies such as the AACSB, often require reports of program assessment. Making the results and recommendations public creates additional incentives to improve the weakness revealed. In this way educators meet their responsibilities to students and to the public (Principle 9).

Step 6. Regularly Reexamine The Assessment Process

Assessment works best when it is ongoing not episodic (Principle 5). Even the best designed plans can be improved and become less effective if not regularly reviewed. In addition, situations change and the assessment process must adapt to the change. Designing a regular review process into the assessment plan up front, helps to ensure the plan does not stagnate, but continues to evolve and improve.

Program Assessment In Economics

Perhaps in response to calls for an ambitious agenda in economic education (Salemi and Siegfried 1999, 355-361), there have been economic studies on assessment of students in individual courses (for example, (Hansen 2005), (Walstad 2001, 281-294)). However, we find no comprehensive studies on program assessment in economics and none that provide a guideline for beginning that process. This might be because the recommendations provide departments who undertake such reform no guidelines on how to measure the programmatic effectiveness of such reforms, relying on the obvious outcome that if students learn at higher levels the program will benefit. What lacks is a comprehensiveness to measure the effectiveness of the major, to close the loop, to learn by doing and to improve the overall production of economists.

Some departments have adopted student outcome objectives based on a proficiency or competency. A quick look at a few may be instructive. At Illinois State, (Carlson, Cohn, and Ramsey 2002, 180-191) shows how the Hansen proficiencies can be incorporated into the curriculum and integrated throughout all course levels in a systematic way. Students as they progress through the courses of their major can be expected to refine and build on their proficiencies. While they address student outcome assessment, they make no mention of program assessment.

California State University Bakersfield lists competencies which are expected to be met by a major (Department of Economics). These competencies are communicating effectively, utilizing computers, acquiring information, using mathematics to draw out and convey information, critically evaluating knowledge, understanding economic concepts and theories, understanding economic environments, applying economics to decisions, personal effectiveness habits and potential for lifelong growth, independence, and competencies relating to the minor or concentration. Some of their competencies are akin to the Hansen proficiencies, but most seem to be competencies for individual classes rather than for a program addressed in all classes.

Iowa State has learning outcome goals that cover critical thinking, economic reasoning, decision and problem solving, communications, ethics, environmental awareness, and international multi-cultural awareness (Department of Economics 2004). These are part of an overall assessment strategy, but again do not seem as comprehensive as the Hansen Proficiencies. For example, while data analysis is mentioned under communications, it is just one way in which the competency can be achieved and is not given the prominence as in Hansen.

Recently, (Grant 2005, 60-75) discusses how an economics program in small liberal arts Linville College arrived at using Hansen Proficiencies as their standards of outcome assessment after having a less ambitious plan rejected by the accrediting body and a more ambitious plan, while accepted for regional accreditation, was a burden to the faculty. The approach of using Hansen

proficiencies gave them a “more comprehensive, better focused assessment plan (page 60).” Still they do not fully implement nor address program level assessment, but we agree that Hansen Proficiencies do focus the teaching mission of the department across faculty and provide a means to address student outcomes assessment.

For assessment, Cal State Bakersfield requires each student to submit a portfolio of work that is then evaluated within the Senior Seminar. An important component of their portfolio is a reflective essay on the entirety of the portfolio. The University of Alaska Fairbanks also uses a portfolio of three writings in upper division courses evaluated by a committee upon graduation. As discussed elsewhere, the electronic portfolio is a critical part of our overall assessment of the program.

Capstone courses are utilized in many schools to assess the student's culmination of learning ((Carlson, Cohn, and Ramsey 2002, 180-191), (Kimmarie 2005, 1-20),(Renna 2005)). Resources for doing the capstone exercise appear out of these individual experiences, e.g., (Greenlaw 2005, 289). In an important paper Siegfried describes how Vanderbilt redesigned and rejuvenated their honors program in economics. He cites an earlier paper (Siegfried, et al. 1991) that argues for undergraduates to “do economics” by undertaking a substantial independent research project. “Such a project should require students to formulate a question, structure an analytical approach to the question, collect and assemble evidence bearing on the question, conduct analysis, interpret the results, and communicate the findings to others in both oral and written form (p.169) .” This capstone experience is critical for the individual student to achieve the last of Hansen's proficiencies. Siegfried discusses the particulars of the implementation and his impression of some of the challenges, but includes little of systematic assessment or a real feedback loop. While he reports that the number of honors students has increased he provides no evidence that these students are better education or more successful.

Siegfried makes the following statement: “An honors program emphasizes quality over quantity, and it is time that more economics departments thought carefully about this tradeoff. It is not obvious that quantity should always prevail (Siegfried 2001, 177).” But, should Hansen's Proficiencies be thought of as for only the best students? We believe that in this information age, all students should gain such a valuable experience, and not limit it to honors students. We believe it is preferable to provide such an experience to all economics students.

None of these schools or the papers that describe their assessment strategies addresses assessment of student outcomes in a programmatic way. Our paper is unique in its focus on developing a systematic assessment of the major. The fact that we have adopted outcomes similar to Vanderbilt's honors program, accepted the challenge of CEE to adopt the Hansen proficiencies and focus not just on the implementation of new curriculum based on those proficiencies, but

on the assessment of the overall program makes our experience one that can provide a guide for general program assessment.

Implementation Of Program Assessment

In this section we discuss how the Department of Economics at The University of Akron implemented the six-step process described above to assess its undergraduate economics major. We make no claim that our approach is the only way to accomplish undergraduate program assessment in economics, but it does represent a model that other departments might consider as a starting point in fashioning their own assessment plan whether for continuous quality improvement or to react to institutional requests internally and from external accrediting boards.

The Department recently made significant curricular changes to its undergraduate major, including a requirement that students show evidence of competency in each of the six “Hansen proficiencies” (Hansen 1986a, 149-152; Hansen 2001b, 231-242). This evidence is collected and organized through an electronic portfolio that each student must complete prior to graduation. We have addressed the use of student generated portfolios, a required computer analytic class and a capstone senior project in previous papers, each designed to assess the individual student (Myers 2004). Here the portfolios, the capstone experiences, senior exit surveys, and a survey of alumni help to capture our understanding of learning as multidimensional, integrated, and revealed in performance over time.

The impetus for our plan did not directly come from external pressure by either central administration or an accrediting agency. Instead, the process evolved out of a review of the curriculum for the undergraduate major, something that had not been done for many years. The Department offers two degree options at the undergraduate level, a Bachelor of Arts (BA) degree and a Bachelor of Science degree in Labor Economics (BSLE). The latter degree option was developed in the 1950’s when Akron was headquarters to two international union headquarters in need of expertise in labor relations.

Our review required department faculty to identify (or reaffirm) the expected learning outcomes for the major and to revise the curriculum in an appropriate manner that was consistent with achieving these learning outcomes. The plan that emerged from that process and our experience to date is discussed below.

Step 1. Specify Intended Educational Outcomes

Based on our survey of the relevant literature (e.g., (Siegfried 1991, 197-224), (Salemi and Siegfried 1999, 355-361),(Carlson, Cohn, and Ramsey 2002, 180-191)) and the outside consultants, departmental faculty adopted the “Hansen proficiencies” (Hansen 1986a, 149-152; Hansen 2001b, 231-242) as the set of

learning outcomes that would form the basis for the assessment plan for both the BA and BSLE degree options. These proficiencies are summarized in Table 3. As part of the process in the development of the plan department faculty were surveyed to see if they currently provided opportunities for students to demonstrate competency in one or more of the six proficiency areas in the courses they teach. Such opportunities might take many forms, including homework assignments, exams, and other writing assignments. From this we learned where in the curriculum students should encounter each of the six proficiencies. In particular, it appeared that for all but the highest level proficiency (“create new knowledge”) students were afforded several opportunities while taking core and elective economics courses to demonstrate competency in each of the proficiency areas identified by Hansen. These items are referred to as “artifacts” below. The sixth proficiency, create new knowledge, is accomplished through the creation of a new senior or capstone project requirement.

Steps 2 And 3. Identify Means Of Assessment, Criteria For Success And Obtain Assessment Results

Four sources of data are used to assess how well the program meets the proficiency-based educational outcomes discussed above:

Student Portfolios

As part of new graduation requirements students must collect artifacts from their coursework and post them to an individualized electronic portfolio that they create early in the major. As they then proceed through the major they modify or replace artifacts in their portfolio with newer items that reflect how they have developed or improved over time. With the exception of the senior project, each item in the portfolio is evaluated on a three point scale based on the grade that was earned by the student in the class where the artifact was produced (i.e., original grade of “B” or better is awarded 3 points or is classified as “exemplary,” a “C” is awarded 2 points or “satisfactory,” and less than “C” is assigned one point and is deemed unsatisfactory). The senior capstone experience is assessed on a four-point scale using a procedure described below

Beyond this, for each proficiency area students are expected to write a “reflective statement” that indicates how the artifact demonstrates the proficiency and why it was included in the portfolio. They are also expected to discuss what they learned from the exercise and how their work might be improved. This exercise is completed by the student independent of the course from which the artifact was drawn. Reflective statement for all six proficiencies is evaluated by the undergraduate program advisor using an exemplary – satisfactory – unsatisfactory scale.

The near-term outcome goal for the program is to have 100 percent of all graduating seniors to have assembled one or more artifacts and reflective

statements that are judged to be at least satisfactory or higher for each of the six proficiency areas. A longer-term goal is to assess progress through the improvement in the quality of portfolios over time. This can be measured by the proportion of all portfolios of a given cohort earning the highest rating in each of the six competency areas.

The first set of portfolios is scheduled to be completed at the end of the spring 2006 term.

Senior Capstone Experience

The sixth Hansen proficiency (“create new knowledge”) builds upon the first five proficiencies and addresses the highest levels of cognitive domain ((Bloom 1956, 207)). It is accomplished through a senior capstone project which can be completed in one of two ways. For the BA option it is accomplished via an individualized project selected in consultation with a faculty advisor with expertise on the topic selected for analysis. In contrast, BSLE students enroll in a formal research workshop course and select a topic consistent with the labor market or social policy focus of this degree option.

For either degree option the research paper that evolves from this process is also evaluated by a second faculty reader. Both readers assess the project holistically using a departmental rubric that includes the following six factors: thesis statement and hypothesis construction, methodology, economic knowledge, argumentation, form and structure, and oral presentation.⁵ Based on these criteria the project is assigned an overall grade based on the standard A – B – C scale with “no credit” given for projects that earn less than C overall.

At a minimum the departmental goal is to have 100 percent of all senior projects to be judged at least satisfactory. To date, this goal has been accomplished as seven students have completed the senior project earning the following overall evaluations: A/A- (2 students), B+/B/B- (3 students), C+/C (2 students).

Another way to measure the success of the program is through the outside evaluation of the capstone projects. All projects are presented publicly at a poster session sponsored by the department ((Renna 2005)). Selected projects have also been presented at other venues such as regional conferences or undergraduate paper competitions. One of the seven projects to date was the winner of an internal university-wide poster research fair and is to be presented at the Midwest Economics Association annual conference.

With this record as a baseline, senior accomplishments on capstone projects will be tracked over time. The goal is to see sustained improvement in the quality of these projects, both in terms of the grades assigned by faculty readers and through the recognition these projects receive from outside evaluators.

Exit Surveys Of Program Graduates

Sound program assessment goes beyond the cognitive domain that has been emphasized elsewhere in the paper. An assessment of the affective domain is important as well. Towards that end the department has conducted an exit survey of its graduates for the past several years. Graduating seniors are asked to identify which courses and sequences have been most helpful to them and which courses/sequences have caused them the most problems. They are also asked to assess their satisfaction with the quality of advising, how well they believe the program has prepared them for the job market, and how strongly they would recommend the major to someone else. With the formal movement of the curriculum to a proficiency-based program, questions have subsequently been added to the survey asking students to assess how satisfied they are that the program provided them with the skills to demonstrate competency in each of the six areas summarized in Table 3.

The revised exit survey that incorporates the proficiency questions will be administered at the end of the spring 2006 term to the first set of students graduating under the new program requirements. Results will serve as the baseline against which to measure how graduating seniors view the success of the program in achieving its goals in the cognitive and affective areas.

Survey Of Program Alumni

The alumni represent another important stakeholder in departmental programs. They can provide important feedback in terms of how well the program has met their needs, both in their professional and personal life. Alumni also are an important source of information on what skills are in demand in the workplace and how this skill set evolves over time. This source of information is especially rich as many program alumni have achieved great success in their careers. Many are quite willing to share their experiences and observations as to how their success was achieved and what graduating seniors should know as they prepare themselves for the challenges they will face in the ever-changing work environment.

We elected to use an electronic survey to solicit the views of our alumni on the importance of our new proficiency-based curriculum in the present day workplace. The survey was also constructed to elicit baseline information as to how satisfied alumni were that their program addressed these proficiencies (even though the curriculum not yet been changed to give explicit focus on the six proficiencies) (Hansen 2004). Beyond this, the survey was also designed to learn what skills, if any, that our alumni felt were not adequately encompassed by the Hansen proficiencies, skills that should be incorporated in future revisions of the curriculum.

An electronic format for the survey was selected because it could be implemented at low cost: both the administration costs to the department and the time and effort required by the alumni to respond were deemed lower than alternative methods. To date, department and alumni office records revealed that living alumni from both the undergraduate and graduate programs totaled 703. Of these, we only had up-to-date email addresses for approximately 100. The remainder had to be contacted via regular mail where they were asked to complete the on-line survey. As of this writing, 48 (about 7% of all alumni) have completed the survey. The profile of the survey respondents to date, and how they compare with the characteristics of our alumni overall, is summarized in Table 4.

The preliminary response to the alumni survey calls for both optimism and caution. Survey response rates are often plagued by low response rates (Dey 1997, 215-227; Steeh 1981, 40-57). While our initial response of 48 is encouraging, it represents only 7% of our alumni and indicates our plan to vigorously solicit responses is necessary.⁶

Any rigorous analysis of the response bias is limited by the data available. We have only self-reported data on gender, degree, and year degree received. On these characteristics, responses from the undergraduate program are relatively representative of the alumni, except as might be expected, more recent graduates are over represented.

The responses from the graduate program are less representative. In addition to the over representation of more recent graduates, women and graduates who also received their undergraduate education in the department are also over represented. These biases will require caution when interpreting the results.

The survey of alumni is designed to provide a baseline performance against which to measure future gains and elicit input on the new program from a group of major stakeholders.

The performance section of the survey focuses on how well the old curriculum served students in their professional and personal affairs, which parts of that curriculum were most successful and which needed improvement, and to what extent the old curriculum enabled students to gain the proficiencies which are a major component of the new curriculum, even though these proficiencies were not consciously embedded into the old curriculum.

The section eliciting feedback asks alumni to reveal characteristics of their experience (under the old curriculum) that they value, consider the importance of the proficiencies that are at the core of the new curriculum, and suggest other proficiencies they consider important for student success.

What Do Alumni Find Useful And Important?

While responses to several open-ended questions require additional analysis to fully understand, preliminary review suggests alumni value their ability to apply economics in their careers and personal daily lives. Specific important skills often cited include critical, analytical, and statistical analysis; communications skills, especially written; ability to operate current tools of the trade, including computer software; and opportunities to apply their learning to specific tasks often in individual projects and in a realistic setting. These responses will help the department interpret the more objective responses and provide insight on what our alumni believe will improve the program.

What Do Alumni Think Of The Hansen Proficiencies?

As shown in Table 5, responses generally support the specific proficiencies chosen for the new curriculum. Over 50% of respondents rank each proficiency as very important (the highest ranking) and over 60% rank “**access** of existing economic knowledge,” “**interpret and manipulate economic data**,” “**application** of existing economic knowledge,” and “**creation** of new knowledge” very important. These data support the preliminary analysis of the open-ended questions.

Undergraduate alumni responses specific to the proficiencies differed in some respects from those of alumni from the graduate program. Alumni from the undergraduate program report that “**command** of existing economic knowledge,” “**application** of existing economic knowledge” and “**interpretation** of existing economic knowledge” are most important, while graduate alumni report “**access** of existing economic knowledge,” “**interpret and manipulate economic data**,” and “**interpretation** of existing economic knowledge” as most important. These different priorities invite further investigation, but may be the result of where alumni from the different programs tend to find employment.

How Well Have Students Been Served? Results On Performance

In general the respondents view their education experience with satisfaction; over 55% finding their most recent UA economics degree as very useful and another 31% reporting it to be somewhat useful. Approximately 40% of respondents would definitely recommend and another 40% would probably recommend the program to someone considering a similar program. While these data leave plenty of room for improvement, they indicate moderate success for the old curriculum.

The results on the proficiencies imbedded in the new curriculum are interesting. About thirty percent of respondents were very satisfied (the highest rank) that they had gained these skills in their program, even though these proficiencies were not consciously embedded into the old curriculum.

One measure of program success is how well students' expectations are met. If we can interpret the importance scores as our students' desired or expected level of performance and the satisfaction scores as their experienced level of

performance, then the difference between the importance and satisfaction scores can be view as a “performance gap”; the extent to which we (the program) failed to meet student expectations. Using this measure there is substantial room for improvement. For each of the proficiencies, the percentage of very satisfied respondents is at least twenty percentage points less than the percentage of respondents reporting the proficiency as very important. Two of the proficiencies with the largest performance gaps are also ones which are most important: **application** of existing economic knowledge and **creation** of new knowledge.

Differences between respondents from the undergraduate and graduate programs are less pronounced for satisfaction, though some differences in performance are of interest. Alumni from the graduate program are relatively less satisfied with their “**command** of existing economic knowledge,” and their ability to “**apply** existing economic knowledge”. However, they also report these are less important to them.

Respondents from the undergraduate program, relative to respondents from the graduate program, report larger performance gaps for “**command** of existing economic knowledge” and “**interpretation** of existing economic knowledge” and smaller performance gaps for “interpret and manipulate economic **data**” and “**creation** of new knowledge.”

Step 4. “Close The Loop” (i.e., Use Results To Improve Program)

The communications plan for the results of the assessment of the undergraduate program calls for dissemination to all stakeholders, including faculty, students, alumni, and the administration. The department’s undergraduate curriculum committee will take the lead in reviewing the whole body of evidence (capstone projects, portfolios, exit surveys and alumni surveys) on an annual basis. This process will include evaluation of how the results change over time in addition to each year’s individual results. They will focus on such questions as: 1) Does the assessment provide evidence of improved program quality? 2) Have past initiatives worked as intended? and 3) Are areas identified in which departmental goals are not being met or where improvements need to be made? The undergraduate curriculum committee will make recommendations for curricular change that reflect their findings.

We have promised students and alumni to post summary results of the alumni survey and other pertinent documents on the departmental website. This will provide them with both feedback on our progress and opportunities for further input. Assessment results will be reported to the administration through our annual reports and other regular communications.

The assessment data being gathered during the 2005-2006 academic year for the UA economics program will constitute a baseline upon which the success of the recent programmatic changes to its undergraduate degree options can be

gauged. For example, as noted above the feedback from our alumni on our programs historically suggested that more emphasis needed to be placed on quantitative skills and proficiency in the use of statistical packages and other computer software such as the MS Office suite. The curriculum changes recently adopted anticipated this need and adopted curricular changes to reflect these needs. Whether these changes will achieve their intended goals remains for future program assessments to determine.

Step 5. Report Assessment Results

The communications plan is briefly described in step 4, but we expect our results will also find their way into additional reports. Our institutional reporting processes are not uncommon. The department makes an annual report to the college dean. Each academic program undergoes a detailed review on a rotating basis; for us the cycle is about every four years. We also face regional accreditation reviews by the North Central Association's Higher Learning Commission periodically. The department fully expects that our assessment results will play a central role telling the story of our program.

The University of Akron is implementing a new academic plan tied to funding and institutional-wide assessment. While the details of the plan are unclear at this time, the plan will focus on student success and require documented evidence of performance. Our assessment plan should provide much of the documentation of the department's efforts and outcomes required.

Concluding Remarks

Drawing from the general literature on assessment of academic programs we have presented detailed guidelines for constructing an effective assessment process for economic programs. While this framework can be applied to any program, we have focused on implementation for an undergraduate program that marries the assessment strategy in the classroom to the assessment of the overall program within a context of a curriculum based on the Hansen proficiencies. (Hansen 1986a, 149-152; Hansen 2001b, 231-242).

Good practice requires the process include a clear articulation of goals and objectives. Our prescription suggests a marriage of the traditional role of the faculty as guardians of professional standards with the authentic roles of employers, students and other stakeholders in order to achieve the agreed upon outcomes of the major.

Measuring progress toward these goals must reflect the an understanding of learning as multidimensional, integrated, and revealed in performance over time and should reflect both the outcomes and students' experiences by which the outcomes are obtained. Careful planning is required to insure the data generated are available and analyses used to extract meaning from the data are

appropriate. Our implementation addresses these issues by collecting multiple authentic demonstrations of student performance throughout the students' educational career.

Good practice also requires the assessment process have an impact on the program. Therefore, those with the authority and ability to modify the program must not only be informed of the results of the analyses, they must be motivated to act.

It is our hope that this paper will encourage others to embark on meaningful program assessment. Though the journey is fraught with obstacles, it is one that holds the potential to transform students, faculty, the department, and the profession. It is a journey of self-reflection and growth.

Table 3: Hansen Proficiencies

<p>Graduates can access existing economic knowledge Retrieve information on particular topics and issues in economics. Locate published research in economics and related fields. Track down economic data and data sources. Find information about the generation, construction, and meaning of economic data.</p>
<p>Graduate demonstrate a command of existing economic knowledge Explain key economic concepts and describe how these concepts can be used. Write a précis [concise summary] of a published journal article. Summarize in two-minute monologue or a 500-word written statement what is known about current condition of the economy and its outlook. Summarize the principal ideas of an eminent economist. Elaborate a recent controversy in the economics literature. State the dimensions of a current economic policy issue.</p>
<p>Graduates are able to interpret existing economic knowledge Explain and evaluate what economic concepts and principles are used in economic analyses published in daily newspapers and weekly magazines. Describe how these concepts aid in the understanding these analyses. Do the same for nontechnical analyses written by economists for general purpose publications e.g., Challenge, Brookings Review, The Public Interest).</p>
<p>Graduates are able to interpret and manipulate economic data Explain how to understand and interpret numerical data found in published tables such as those in the annual Economic Report of the president. Be able to identify patterns and trends in published data such as the Statistical Abstracts of the US. Construct tables from already available data to illustrate an economic issue. Describe the relationship among three different variables (e.g., unemployment, prices, and GDP). Explain how to perform and interpret a regression analysis that uses economic data.</p>
<p>Graduates can apply existing economic knowledge Prepare an organized, clearly written five-page analysis of a current economic problem. Assess in a four-page paper the costs and benefits of an economic policy issue. Prepare a two-page memorandum that recommends action on an economic policy issue.</p>
<p>Graduates are able to create new knowledge Conduct a senior project that includes: a detailed proposal for research, a polished 20-page paper of the results, and an oral presentation.</p>

Source: (Hansen 2001b, 231-242)

Table 4: Survey Sampling Statistics

Description	All Alumni	Respondents
Masters		
Total Number	263	22
Female (%)	27.8	54.5
Male (%)	72.2	45.5
Labor and Industrial Relations (%)		
Other (%)	93.2	90.9
UA Econ Undergrad (%)		
Not UA Econ Undergrad (%)	81.4	45.5
pre1980		
80-84	11.8	0.0
85-89	15.6	13.6
90-94	16.0	9.1
95-99	12.9	18.2
00-04	12.9	31.8
05-09	1.4	18.2
Bachelor		
Total Number	440	26
Female (%)	20.0	11.5
Male (%)	80.0	88.5
BA (%)*		
BSLE (%)	50.0	50.0
pre1980		
80-84	12.5	15.4
85-89	13.4	11.5
90-94	13.6	3.8
95-99	8.6	11.5
00-04	8.9	34.6
05-09	0.9	3.8
Total		
Total Number	703	48
Female (%)	22.9	31.3
Male (%)	77.1	64.6
<i>Notes: Two graduate students did not report their gender and one undergraduate did not report their degree.</i>		
<i>Excludes one double-major at undergraduate level</i>		
<i>All BS assumed to be BSLE degree</i>		

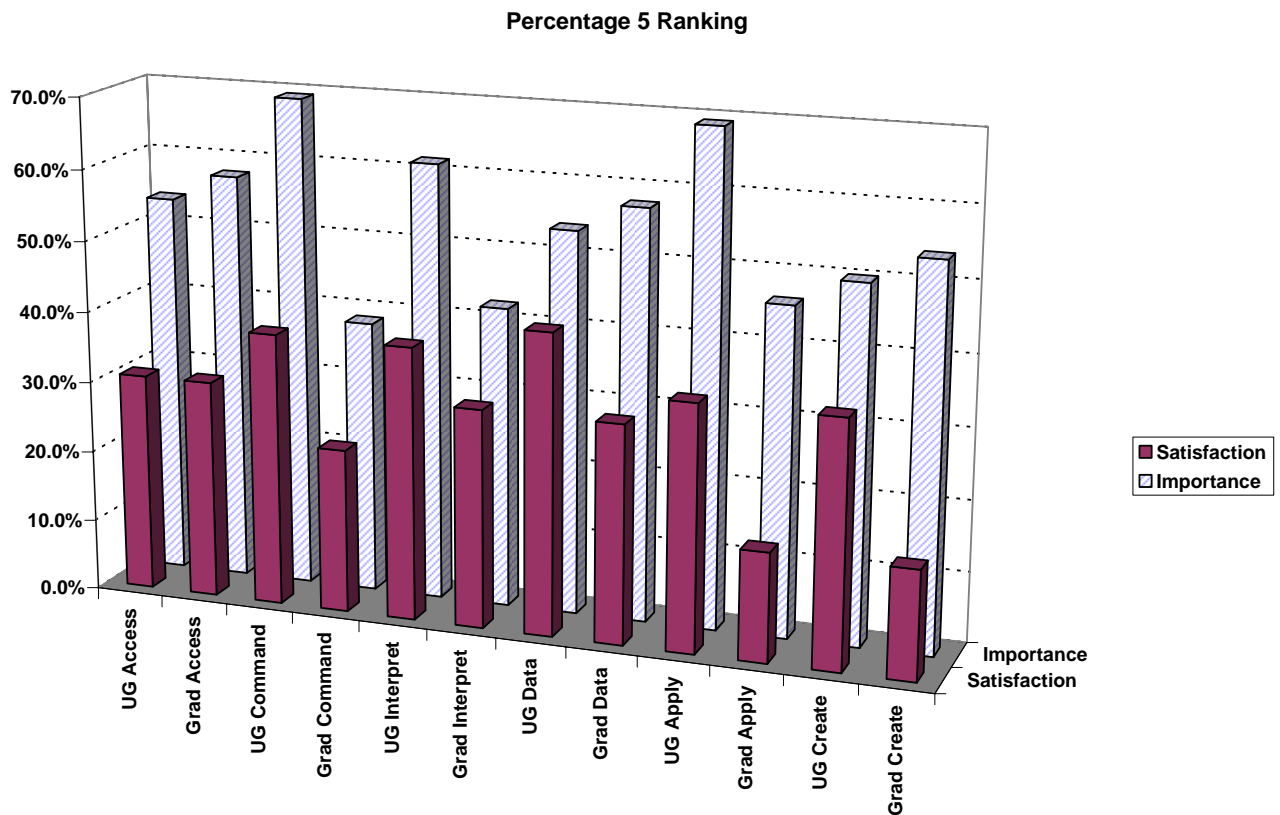
Source: Early returns from the UA Alumni Survey, March 2006, sample size=48.

Table 5: Alumni Responses to Importance and Satisfaction with Hansen Proficiencies

Proficiency	Importance	Satisfaction	Performance Gap
Access			
Total	60.4%	33.3%	27.1%
Undergraduate	53.8%	30.8%	23.1%
Graduate	57.7%	30.8%	26.9%
Command			
Total	58.3%	33.3%	25.0%
Undergraduate	69.2%	38.5%	30.8%
Graduate	38.5%	23.1%	15.4%
Interpret			
Total	56.3%	37.5%	18.8%
Undergraduate	61.5%	38.5%	23.1%
Graduate	42.3%	30.8%	11.5%
Data			
Total	60.4%	39.6%	20.8%
Undergraduate	53.8%	42.3%	11.5%
Graduate	57.7%	30.8%	26.9%
Apply			
Total	62.5%	27.1%	35.4%
Undergraduate	69.2%	34.6%	34.6%
Graduate	46.2%	15.4%	30.8%
Create			
Total	56.3%	27.1%	29.2%
Undergraduate	50.0%	34.6%	15.4%
Graduate	53.8%	15.4%	38.5%
Average			
Average	59.0%	33.0%	26.0%
Standard Deviation			
Standard Deviation	2.5%	5.2%	6.0%

Source: Early returns from the UA Alumni Survey, March 2006, sample size=48.

Figure 1: Importance and Satisfaction with the Hansen Proficiencies, Undergraduate and Graduates



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¹ Readers may not be aware of the importance of authentic assessment. We offer a few quotes to illustrate our point and to illustrate how critical authentic assessment is to a proper assessment of the major. (Wiggins 1990, March 17, 2006) reports that “Assessment is authentic when we directly examine student performance on worthy intellectual tasks. Traditional assessment, by contract, relies on indirect or proxy 'items'--efficient, simplistic substitutes from which we think valid inferences can be made about the student's performance at those valued challenges.” This is to say real world problems are authentic, the traditional end of chapter problems may not be. In a later volume, (Wiggins 1998, xxi-xii) defines educative assessment as embracing authentic tasks, to wit: educative assessment “has at least two essential qualities: it is anchored in *authentic* tasks – namely, tasks that teach students how adults are actually challenged in the field – and it provides students and teachers with feedback and opportunities they can readily use to revise their performance on these or similar tasks.” A supportive website for learning to create authentic tasks and write the rubrics associated with them is found at (Mueller 2006).

² (Jones et al. 2002, 175) describe a list of 12 principles of strong practice for strong competency-based initiatives.

³ There are other models of program or departmental assessment. For example, The University of Wisconsin, Madison on their Outcomes Assessment (Office of the Provost and Vice Chancellor of Academic Affairs 2000) web pages

recommends Susan Hatfield's more detailed, though similar list called "Developing an Assessment Plan in the Major" which is 1. Agree on your mission, 2. Create goals for student outcomes and processes, 3. Identify related activities for each goal, 4. Brainstorm appropriate measures, 5. Evaluate and select measures, 6. Identify appropriate assessment methods, 7. Develop a plan for collecting data, 8. Prioritize goals, 9. Set timeline, milestones, 10. Implement assessment plan, 11. Use data to improve processes, and 12. Communicate results. (Walvoord 2004, 145) discusses the process which focuses on the role of various stakeholders. "While universitywide efforts might be useful ..., student learning must be assessed at the department or program level (Hatfield 2001, 23)."

⁴ (Banta 1996, 387) provides numerous case studies which demonstrate the diversity of assessment practices. (Erwin 1991, 208) chapter 6 discusses the collection and maintenance of information.

⁵ For further details see,

http://gozips.uakron.edu/~myers/E226/curriculum/Senior_Project_Handbook.pdf. Most curriculum documents from the department can be found at <http://gozips.uakron.edu/~myers/E226/>.

⁶ (Porter and Umbach 2004, 1-7) shows that survey response rates from web surveys are higher than from email scan forms.