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Assessing An Economics Programme: Hansen Proficiencies, ePortfolio, and Undergraduate Research



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Abstract

Numerous sources calling for more accountability in higher education are putting increased pressure on many economics departments to develop assessment plans. This paper discusses a set of principles for programmatic assessment gleaned from the assessment literature, while highlighting one US economic department's journey to develop an assessment of student learning outcomes based on Hansen's proficiencies. We explain the curriculum reforms that culminate with independent undergraduate research as suggested by the highest level of Hansen's proficiencies. We describe ePortfolios which showcase student abilities and integrate evidence of student learning across the curriculum. For departments without direct guidance from accreditation boards or other agencies, we put forth a process of forming programmatic assessment in economics.

Introduction

Changes in assessment practices are driven by three forces: greater demands for accountability from institutions of higher education, new developments in learning theory, and the rapid pace of technological change. The economics profession in the United States has no required content or assessment standards. By contrast, other countries such as the United Kingdom¹ have a much more developed set of content standards and assessment processes. Our department, located in the Midwest of the United States, has developed and implemented a new assessment process based on a set of principles for programmatic assessment which uses both the Hansen proficiencies and ePortfolios. Our purpose is to provide insights that

can assist faculties of economics departments to improve their assessment experience, gain value from the assessment and prepare for the demands of increasing accountability. While our insights are likely to be most helpful to institutions in the United States, economists in other countries may find ideas of value which can be adapted to their own environment.

One force leading to changing assessment practices is the greater demands for accountability. This comes from parents who demand proof of value for the increasing costs of education. It comes from philanthropists who require documentation that their gifts are producing the desired results. It also comes from governing boards and state legislatures who are imposing reporting requirements for student outcomes, from regional accreditation agencies that now include student learning outcomes in their accreditation requirements, and from the federal government as it tries to shape accountability. In the latter case the United States Secretary of Education has recently stated: 'We are in the infancy in American higher education of being able to describe to our publics – whether they're state legislatures, Congress, parents, philanthropists – what we're doing, and to what effect... And we all have a responsibility to start to answer that question. And we've barely begun.'²

A second force leading to changing assessment practices is the new learning theories. These focus attention on the classroom use of more student-centered practices, more active learning exercises, and a more 'authentic' assessment of student experiences.³ Bransford (2000:8) tells us '[t]he new science of learning does not deny that facts are important for thinking and problem solving... However, the research ... shows clearly that "usable knowledge" is not the same as a mere list of disconnected facts.' Early articles focus primarily on the implementation of techniques while more recent articles create an extensive literature on classroom assessment and measurement of student learning outcomes, for example, in economics see Walstad (2001) and Hansen (2005). This literature focuses on student learning outcomes in a single class. However, there is little in the economics literature on programmatic assessment, that is, how these ideas can be used to gauge the effectiveness of the curricula or program.

A third force is the rapid pace of advancing technology that permits students to acquire far more information than ever before. The Internet makes distant libraries of articles and data as well as endless postings of ideas on virtually every topic available to anyone with a computer. Students must learn to survive and thrive in this digital world. Information confined in years past to one course now is available in every course and programmes must educate their students to integrate their learning across their curriculum. Assessment must address how students meet these challenges as well.

In the United States, outside of the professions, efforts at programme assessment currently focus on general education assessment and institutional accountability. There is growing pressure for departments or programmes to demonstrate their effectiveness. Department and programme reviews, which focus on inputs to the learning process or which must be completed during a single academic year, inhibit the critical self-reflection and programme improvement intended; they will no longer suffice.⁴ Economics departments that are proactive and develop effective discipline-specific assessment strategies are more likely to thrive under these growing demands for accountability because they will be able to answer the hard questions posed by evaluators. Our approach seeks to help those who may discover a need to be proactive and raise their own assessment practices.⁵

Guidelines For Effective Programme Assessment^{vi}

'The overriding purpose of [programme] assessment is to understand how educational programmes are working and to determine whether they are contributing to student growth and development... At its most useful, [programme] 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).'

Our journey began in early 2000 when faculty undertook a thorough review of the undergraduate economics programme. The department had lost a substantial portion of its faculty to retirement and administrative reassignments, drastically altering the mix of field specialties. Moreover, the curriculum had not been significantly modified for ten years. So the undergraduate curriculum committee worked diligently over the summer to articulate the issues. In the fall of 2000 two respected economists from other institutions were asked to help the department evaluate its strengths, weaknesses, opportunities, and threats. In a year-long discussion the committee considered the report from the outside consultants and surveyed the relevant literature on how the programme should be revised and how it could be determined if the changes worked. We developed a programme assessment process grounded in the American Association of Higher Education principles for an effective programme assessment (Astin, 1992) and implemented it using student ePortfolios.

Challenging questions addressed in effective programme assessment include: Does the programme have clear, explicitly stated goals and are they measurable? Do these goals focus on measuring what is important and has the temptation to measure just what is easy been resisted? Do these goals capture at least some of the complexity of the educational experience? Does the curriculum make sense?

Is it integrated, coordinated and complete? Do students, as a result of their experiences in the curriculum, have the knowledge, skills and values that graduates should possess? The overriding focus of these questions is on the effectiveness of the curriculum to foster student learning.

Our journey to develop programme assessment for an undergraduate economics major is organised using a five-step process based on Palomba and Banta (1999) and demonstrated by the section headings below.⁷ Walvoord (2004) and Hatfield (2001) discuss other models of programme or departmental assessment. According to Hatfield (2001: 23) 'While university wide efforts might be useful . . . , student learning must be assessed at the department or programme level.'

Step 1. Agree on goals and objectives for learning

Our approach to programme assessment requires the identification and articulation of student growth and development. In the United States, these desired outcomes are often called student learning outcomes (or SLO). Programme assessment evaluates how well the programme and/or curriculum facilitate student achievement of programme goals defined in terms of these SLO. The specific programme goals and SLO chosen need to reflect the core educational values, focus on what stakeholders really care about, and recognise the unique situation of the department.⁸ Mission statements and other institutional documents suggest that what programme stakeholders value, what they 'really care about,' differs from one campus to another.

The institutional setting and the faculty's role in furthering the college and institutional missions must also be considered when developing programme assessment processes. Even if not covered directly, the SLO and programme goals may need to reflect requirements of discipline-specific agencies as well as the institution's regional accrediting agency. For example, economics departments located within US business schools may need to be knowledgeable of the accreditation requirements of the Association to Advance Collegiate Schools of Business.⁹

The articulation of programmatic goals in economics is especially challenging since there is no discipline-specific licensing or accreditation organisation to forge a consensus on appropriate student learning outcomes for the discipline. A variety of possible programme goals are offered in the professional economics literature. For example, some have suggested that the goal should be to prepare students to achieve mastery of the National Voluntary Content Standards for high school courses (Siegfried and Meszaros, 1997), so that they can apply them later in their own personal and professional lives (e.g. Hansen, Salemi and Siegfried, 2002).

In contrast, Becker (2006) argues there are no standards in the discipline of economics and that the goal should be to prepare students to explore the controversies of the day and to evaluate critically how the science of economics can bring resolution to the controversies. Hansen 'focuses on what graduating majors should be able to do with the knowledge and skills they acquire in the major, that is, their ability to demonstrate their learning in practical ways' (Hansen 2001: 231). He offers a list of 'proficiencies' for the undergraduate economics major. (Hansen, 1986, 2001)

Internationally, subject 'benchmark standards' in economics were developed in the United Kingdom in 2000 and revised in 2002 (Quality Assurance Agency, 2007a) as part of a national effort to insure quality assurance in higher education. These standards have some similarities to the Hansen proficiencies although they do not appear to include undergraduate research or the 'creation of new knowledge' as a major component. An effort to coordinate these efforts within the broader European context and elsewhere is currently underway with the Bologna process. (Quality Assurance Agency, 2007b).

Our department is located in the College of Arts and Sciences of a large (over 24,000 students), state supported, metropolitan, research university. The university offers doctorates in 18 programmes, though the department offers one master's level degree and two undergraduate programmes. The university's accreditation is from the Higher Learning Commission of the North Central Association of Colleges and Schools; the department is not subject to discipline accreditation, though the College of Business is accredited by Association to Advance Collegiate Schools of Business.

Most of our faculty entered the process to define student learning outcomes convinced that they knew the characteristics of a successful student. Nevertheless we found the process of identifying and articulating a list of student learning outcomes very difficult and time-consuming. Our faculty had to openly and candidly evaluate competing visions of our discipline. We struggled to articulate specific, measurable standards for what students should be able to do upon completion of the programme. The faculty debated the criteria by which we would know if the programme was accomplishing the desired outcomes. Our task was made more difficult because most faculty members' training did not include education theory. To benefit from the experience of other disciplines, we had to discover and learn recent advancements in that field.

By the end of a year of wide-ranging and contentious discussion, our faculty accepted the challenge to 'revise [our] curricula so that majors attain the Hansen proficiencies' (Salemi and Siegfried 1999: 358) and adopted them (Hansen, 1986;

Hansen, 2001), shown in Table 1, as the foundation of our cognitive learning outcomes. These six proficiencies form the basis of the assessment plan for our undergraduate major. We were able to reach this consensus in part because the Hansen proficiencies provide the framework by which we can measure what students should know and be able to do. Yet they do not dictate content or specific delivery technologies, since competency in each of the Hansen proficiencies can be demonstrated in multiple ways. Individual faculty members are afforded considerable flexibility to craft assignments that are consistent with the departmental and instructor's goals and objectives. Though each proficiency is addressed in several courses, no individual faculty member is expected to address

Table 1: Hansen proficiencies

Proficiency number	Short title	Explanation
1	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.
2	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. Summarise a in two-minute monologue or a 500-work written statement what is known about current condition of the economy and its outlook. Summarise the principal ideas of an eminent economist. Elaborate a recent controversy in the economics literature. State the dimensions of a current economic policy issue.
3	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).

Table 1: Hansen proficiencies (continued)

Proficiency number	Short title	Explanation
4	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.
5	Graduates can apply existing economic knowledge	Prepare an organised, 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
6	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.

Source: Hansen (2001).

all proficiencies within a single course. We believe this provides the flexibility required to maintain academic freedom.

The Hansen proficiencies are consistent with Bloom's (1956) taxonomy of six levels within the cognitive domain, from simple recall or recognition through evaluation. As each student proceeds through the curriculum she is exposed to each of the first five proficiencies multiple times. With each repeated exposure a student practises the skills in a different context, often integrating learning from different courses, fostering deeper learning of the proficiency. Deep learning is also fostered as the student encounters tasks that require higher level cognitive skills. Individual student success is measured by how well each proficiency is mastered.

For us at least, getting through the first step of the programmatic assessment was a very lengthy and time consuming process. Discussions began in earnest in 2000. The curriculum changes required, which are detailed later, were passed in the spring of 2001, gained university approval in the spring of 2002 and were implemented for students entering the programme at the beginning of fall 2002.¹⁰ In the future, departments beginning the development of their assessment plans may find the results of the national survey of economics department chairs (Myers *et al.*, 2008) useful in expediting the process of identifying learning outcomes appropriate for their majors. That survey suggests departments, with and without formal assessment plans, widely accept the proficiencies though they may not recognise them as Hansen's.

A small but dedicated core faculty played a crucial role in the process. They took up the challenge to identify programmatic goals with the support of the department chair. Some faculty members outside the core were skeptical of the need to develop an assessment plan while others were not engaged in the deliberations. Still others were not strongly supportive of adopting the Hansen proficiencies as learning outcomes. For the most part we overcame these obstacles with a plan that is flexible and respects the academic freedom of all faculty members.

Step 2. Design and implement a thoughtful approach to assessment planning that involves all stakeholders

The programme assessment literature suggests that thoughtful planning can yield information to guide future curricular development and reduce frustration. Numerous issues are addressed in the design of processes to identify the criteria for success, measure progress toward the intended outcomes, and develop the means of assessment. We focus on only three: 1) determining the extent to which the process is embedded in the curriculum or separate from it, 2) selection of the appropriate mix of traditional and 'authentic' metrics, and 3) measuring both outcomes and the experience that leads to those outcomes,

An external assessment process requires students to demonstrate the desired learning outcomes outside of the regular curriculum or course work. This reduces the tendency to confuse programme assessment and faculty performance. However, there are serious challenges to provide appropriate student incentives and the cost of the process in both time (student and faculty) and resources may impede adoption.

High stakes 'exit' or 'proficiency' tests can play a role in the assessment process. For example, they may be used effectively to measure student attainment and even students' learning gains if administered at multiple points in students' career.

However, by themselves they cannot provide the diversity of information required by an effective programme assessment process. Such exams do not show student growth and development as the student progresses through the curriculum. They are not very valuable in identifying 'problem areas' within programme curriculum. Students may consistently miss questions related to a specific SLO, but the test results are insufficient to identify exactly where in the curriculum gaps exist.

The merit of embedding the assessment process in the curriculum is its cost effectiveness. Faculty regularly assess student learning in individual courses and a substantial literature within the profession has emerged in recent years on how instructors can do this better (Watts, 2005). Aggregation of this information at the programmatic level represents a common and low-cost way to gather key data on the effectiveness of the overall curriculum (Myers *et al.*, 2008). This approach also provides students with an incentive to do their best and ensures results accurately reflect student learning. However, with this design it may be difficult to separate the assessment of the programme from the evaluation of faculty members teaching performance and this may increase resistance to adoption.

Since our goal is to identify how the curriculum fosters or impedes student growth and development we chose to collect measures at several stages of each student's career. We embedded the assessment in the curriculum, allowing students to demonstrate proficiencies by selecting from a variety of assignments available throughout their academic career. The flexibility of this approach also reduced faculty resistance.

In our department there was and is some tension between the traditional approach to assessment and 'authentic' assessment. The traditional approach tends to focus on 'what a student knows' or the transfer of knowledge. It tends to be focused on the end result or answer and is less concerned with the process. In contrast, 'authentic' assessment¹¹ tends to focus on 'what a student does'. It tends to be more experiential. Learning takes place during the process of solving problems; thus the process is primary, the solution found is secondary (Frank, 2002).

Our challenge was to find a compromise between these approaches and to design an assessment process that incorporates a mix of measurements that is consistent with the programme (departmental) goals. For faculty members who embraced an 'authentic' approach to programme assessment, the Hansen proficiencies are demonstrated by the work students perform on tasks that might be encountered in the workplace. Faculty members who embrace the more traditional approach have the flexibility to identify assignments that are appropriate for their courses to assess student proficiency.

In deference to space limitations we illustrate this flexibility with examples from one proficiency. Proficiency #2 states that each '*Graduate demonstrate a command of existing economic knowledge.*' Faculty members, who considered this SLO as appropriate for their course, developed numerous specific SLO and ways to measure student proficiency. In a Principles of Macroeconomics class, for example, one member defines the SLO as: '*the student demonstrates command of how macroeconomic activity is measured*' and assigns a short essay that requires the student to define one measure of macroeconomic activity (other the real GDP) and demonstrate its appropriate use in a current article from the popular press. In a Principles of Microeconomics class another faculty member defines the SLO as: '*the student demonstrates command of benefit/cost analysis.*' In this class students write a short essay explaining how benefit/cost analysis can explain an economic phenomenon that puzzles them.

To ensure that students would have multiple opportunities to demonstrate each proficiency, each faculty member was provided with a description of the proficiencies and asked to identify those that were consistent with each of their courses. Their responses revealed that for all but the highest level proficiency ('create new knowledge') students were afforded several opportunities within our curricula to demonstrate competency in each proficiency.

The sixth Hansen proficiency ('create new knowledge') builds upon the first five proficiencies and addresses the highest level of Bloom's (1956) cognitive domain. It requires knowledge integration of the entire curriculum. Again, we find compelling the arguments of Salemi and Siegfried (1999: 358) that 'departments should require a capstone experience of economic majors' so students may be confident that 'they can do economics after graduation, when the stakes are likely to be higher'.

Our faculty decided that an ePortfolio system is best suited to capture information and data on the specific learning outcomes desired, the experiences that lead to those outcomes, student performance over time, and the relationship between courses. We feel it also promotes an ongoing rather than episodic process.¹² The details of the ePortfolio are described in the next section.

To implement our decisions to adopt the Hansen's proficiencies, including the expectation that *graduates be able to create new knowledge*, and the portfolio to collect assessment evidence we now require undergraduate econometrics, a guided senior independent research requirement and the completion of an ePortfolio. To support these requirements two new courses were created: one to develop computer skills for economic analysis course and a senior research seminar.

We recommend students complete the computer skills course early in the major. In this course students learn the proficiencies they are expected to master, learn the software and tools they need, and learn and create their ePortfolio. Initially, the portfolio includes the student's resume, career and educational objectives, and pages to report and record their attained courses and samples of their economic work. A proficiency page is added to illustrate their command or mastery of each proficiency using best examples of their work.

Students learn how to add examples of their work and how to write a reflection on each one. They also learn how to search and find relevant literature; collect, manipulate and present data; and effectively use the software needed for their courses and research. We effectively signal each student early on in their major that they will be required to do a research study and must acquire the tools that will allow them to do quantitative work in each of their classes.

The guided senior independent research requirement is challenging to most students. '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 (Siegfried, 2001: 169).'¹³ While students can complete this requirement as an independent project, the senior research seminar was created to provide the scaffolding and support many students require to be successful. In this course students learn additional analysis techniques that may be specific to their project, how to critique others' work, benefit from peer learning, and are mentored by a faculty member.

Step 3. Design and implement data collection approaches

Portfolios have a long history in assessment and their design allows for data collection, better student assessment and better programme assessment. The newer 'ePortfolio' has emerged as a most convenient tool for assessment. Reviews of that effectiveness include Batson (2002), Ittelson (2001), NLII (2004), Barrett (2004), and Cambridge (2001).

From a student assessment perspective, McKeachie (2002: 92–94) tells us that portfolios 'demonstrate the progress that has been made ... the student's best work, or better yet, the student's descriptions of how the work helped his or her development'. He often finds evidence of learning he would have otherwise missed, but warns that '(u)nless you provide instruction on how to construct a portfolio and describe the criteria you will use in evaluating it, assessing reliably will be difficult'. 'Assessing the economics major is a more difficult challenge than assessing student performance in a particular economics course... . Assessment using student

portfolios offers a solution for evaluating whether a student has the attributes or proficiencies of an economic major ... (and) (t)hose students with deficiencies would be given time to prepare new items or revise previous work' (Walstad, 2001: 287). Thus, a balance is created between the assessment of students in the course and assessment of the major.¹⁴

In general there are two broad approaches to setting up an ePortfolio system. One approach uses a standardised template or platform available commercially.¹⁵ This option has the advantage of requiring fewer programming skills on the part of students and faculty. A standardised template may also facilitate creation of an overall picture of student performance using comparisons of uniform student portfolios. The cost to acquire these systems varies considerably as does the amount of university support required to maintain the system, which is often beyond the means for most departments.

The second approach, which we have adopted, allows students to construct their own portfolio, within broad parameters. The advantages of this approach are that it permits students to acquire basic web creation skills and to tailor their portfolio to their career interests and personal needs. A problem common to both portfolio approaches is providing effective incentives for students to update their portfolios and post new artifacts as they proceed through the curriculum in a timely manner. This is exacerbated when students forget the process required to post new artifacts and as a result tend not to update their portfolio in a timely fashion.

Students are encouraged to add their work to each proficiency and update their portfolio each term using artifacts from their courses. Logically, this should show deeper learning each time a new course example is added to each proficiency. By the time of graduation the student should have plenty of examples of meeting each proficiency and will showcase the best example to meet their graduation requirements.

Other issues encountered included securing access to the portfolios, storing on departmental or university servers or other media, backing-up portfolios for each cohort and designing effective data recovery procedures. By policy we restrict access of student portfolios to departmental faculty via use of an intranet. Students may voluntarily make the content totally or selectively available on the World Wide Web on their student provided website, which has met with student acceptance.

Step 4. Close the loop by examining, sharing and acting on assessment findings

To be successful, the assessment efforts must lead to a better understanding of the programme and recognition of how the programme can be improved. This requires

the data collected to be examined, analysed and used to develop programme improvements.

Assessment will most likely lead to improvement when it is part of a larger set of conditions that promote change. Indicators of such conditions might include supportive leadership (chair and dean), active faculty development programmes, centres for teaching and learning, or a history of changing policies to increase the emphasis on student learning in promotion and tenure decisions. Successful programme assessment also requires 'incentives that will lead departments and individual faculty members to undertake serious reform' (Salemi and Siegfried, 1999: 359).

The ePortfolio of graduating students, together with the results of exit and alumni surveys administered by the department, forms the primary source of data for our assessment plan. Artifacts and the grade received on the artifact are collected from student courses for all but the highest proficiency (create new knowledge). Based on the grade, the department's undergraduate advisor evaluates each artifact on a unsatisfactory – satisfactory – exemplary basis. The sixth proficiency (senior project) is evaluated separately by two faculty members using a standardised rubric agreed to by department faculty. Reflective statements for each artifact are separately evaluated by the undergraduate advisor using a standardised rubric. A requirement for graduation from the programme is a complete portfolio. This requires that 100 per cent of all portfolios have at least satisfactory documents in each of the six proficiency areas.

Our review process focuses how the results change over time. In particular, we ask such questions as: 1) Does the assessment provide evidence of maintained or improved programme quality? 2) Have past initiatives worked as intended? And 3) where do further improvements need to be made? The goal is to demonstrate programme improvement through rising quality of portfolios over time. Internally this is measured by the proportion of all portfolios of a given cohort earning the highest rating in each of the six proficiencies. In addition, evaluations of oral and poster presentations by students to faculty, students, administrators, and members of the broader community makes the work public and provides opportunities to demonstrate improvement.

External validation of programmes are challenging in the absence of professional licensure requirements within the discipline, but can be accomplished in several other ways. First, we encourage students with exceptional senior research to submit their papers for presentation at professional meetings, competitions and for publication in appropriate journals.¹⁶ We have begun to accumulate a growing body of work by programme undergraduates that has been recognised in one or more of these venues. Second, our alumni survey provides external data on

programme quality. Survey responses provide data on the relevance and usefulness of our curriculum in the professional and personal lives of programme alumni. Third, several department faculty members have an interest in the scholarship of teaching. Programme accomplishments can be documented by papers presented at professional meetings and by the articles appearing in peer-reviewed journals. Fourth, an additional opportunity for the external recognition of programme quality will come through centrally-mandated periodic (five year) programme reviews that require external reviewers to evaluate departmental programmes.

If the programme assessment is to lead to continuous quality improvement, it is imperative the results be shared with all appropriate stakeholders. In our communications plan the assessment results are disseminated to all stakeholders. Assessment results are reported to the administration through annual reports to the college dean, detailed periodic reviews, regional accreditation processes and other regular administrative communications. Some of these are also shared with the entire college, other administrative units, the entire institution, or made public. Members on the departmental undergraduate curriculum committee analyse the data and report their findings and recommendations to the departmental faculty. As a critical stakeholder, the department faculty considers these results and recommendations to determine whether to modify the programme to address areas of concern or programme strengths. Students and alumni have access to our analyses and recommendations through the departmental website, on which we post summary results of the alumni survey, summaries of the student portfolios, departmental annual reports and other documents. Making the results and recommendations public creates additional incentives to improve the weakness revealed.

The outcomes of the senior research projects to date have exceeded the expectations of most faculty members. The presentation of findings from the senior projects in a poster session organised by the department and open to the broader university community has raised the stature of the department within the university, especially since undergraduate research has become an institutional priority. In increasing numbers, seniors are also presenting their work at external venues and are successfully competing in undergraduate paper competitions.¹⁷

Step 5. Regularly reexamine the assessment process

Assessment works best when it is ongoing, not episodic (Astin, 1992). 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. Designing a regular review process helps to ensure the plan continues to evolve and improve.

Our process requires regular review of the portfolios, administration of the exit surveys each term, evaluation of the senior projects as they occur and periodic

dissemination and analysis of the alumni surveys. The undergraduate committee has actively engaged the faculty in discussions of how to improve the process. Some observations from those reports are summarised below.

Our alumni indicate that each of the six proficiencies in the current curriculum has been important in their careers and personal lives, providing strong validation of our selection of the Hansen proficiencies as the learning outcomes for our programme. Graduating seniors indicate they have been very satisfied with the preparation provided by the curriculum to achieve competency in the six proficiencies.

The analyses of our data have identified gaps in the programme, course sequences that are more successful, needed curriculum revisions, and an agenda for further investigation. For example, alumni who graduated before the programme revisions suggest that more emphasis needs to be placed on quantitative skills and proficiency in the use of statistical packages and other computer software. Also, the value of the portfolio and benefits of maintaining it has been challenging for some students. Just as faculty often fail to see the benefits of assessment and view it as an additional task imposed on them, students often fail to see the value of a portfolio and view it as another hurdle to graduation. We continue to search for an effective way to change these perceptions. Strategies that may hold promise include the testimonials of alumni who have effectively used the portfolio contents to impress potential employers and finding ways to lower the cost of maintaining their portfolio.

The key achievement of our programme and the principle evidence of our success is student production of first rate undergraduate research. Siegfried (2001) recognises that honours students can produce such research. Our experience demonstrates that with sufficient resources, appropriate support and effort nearly all undergraduates can produce competent research. For students of all abilities better outcomes are obtained when the senior research project is organised in a formal small course setting rather than as 'independent study'. The course setting better provides the needed scaffolding and structure (deadlines, etc.) and offers more opportunities for peer-to-peer learning.

Concluding remarks

Departments are under pressure to embrace assessment as a way to improve the education/learning experience for both students and faculty. Some departments face standards or accreditation requirements that may or may not be sufficient for their needs. Other departments that are informed on the issues raised in this paper, who have grappled with implementation and can demonstrate student success, will be in the best position to thwart attempts by others to impose less meaningful or generic assessment practices. Departments that choose to base their

programmatic assessment on the Hansen proficiencies or something similar should gain much from the insights we offer. The real winners of a serious approach and implementation of programmatic assessment are our students and those that later benefit from their analytical talents.

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Notes

- 1 See for example the Quality Assurance Agency website at www.qaa.ac.uk.
- 2 This quote is from Basken (2007). Recent evidence of these pressures at the national level include the 2006 report to Secretary of Education Margaret Spellings 'A Test of Leadership: Charting the Future of U.S. Higher Education' and The Voluntary System of Accountability, a joint product of National Association of State University and Land Grant Colleges (NASULGC) and the American Association of State Colleges and Universities (AACSCU). See <http://voluntarysystem.org/>.
- 3 For an index of articles in the instruction section of the Journal of Economic Education see Watts (2005).
- 4 For further discussion on how economics departments have been reviewed over that past two decades in both public and private universities see (Kasper, 2005).
- 5 Our assessment website provides specific examples at <http://gozips.uakron.edu/%7Emyers/E226/>.
- 6 The term 'programme 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 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).
- 7 This is one of several practical assessment guides based on Astin's (1996) nine principles of effective assessment practices and Chickering and Gamson's (1987, 1999) Seven Principles of Good Practice in Undergraduate Education Also see Banta et al. (1996), Jones et al. (2002) and Walvoord (2004).
- 8 It is useful to borrow a mnemonic from the project management literature. SMART goals are Specific, Measureable, Attainable, Relevant and Timely (Doran, 1981).
- 9 AACSB requirements may be accessed at www.aacsb.edu. 'Degree programmes may be excluded from the review if they are not business programmes regardless of where the institution places them in the administrative structure. Examples ... include ... economics...' (AACSB, 2007: 5).

- 10 Not all department faculty members endorsed these curricular changes and the assessment with equal enthusiasm, even after this lengthy process.
- 11 For a discussion of authentic assessment see Wiggins (1990) and Wiggins (1998). A useful website to learn about authentic assessment is Mueller (2006).
- 12 This is essential if the goals reflect an understanding of learning as multidimensional, integrated and revealed in performance over time (AAHE principle 2),
- 13 McGoldrick and Greenlaw (2008) report survey results about the extent of undergraduate research being conducted in economics.
- 14 Banta (1996) provides numerous case studies which demonstrate the diversity of assessment practices. Erwin (1991: ch. 6) discusses the collection and maintenance of information.
- 15 See the AAHE's electronic portfolio clearinghouse (AAHE and University of Denver Center for Teaching and Learning (no date)).
- 16 For up-to-date information on opportunities for undergraduate research see the website maintained by the American Economic Association at <http://www.vanderbilt.edu/AEA/students/Opportunities.htm>.
- 17 The most noteworthy of these to date, is one of our students, Jeff Wilson, who won the 2006 undergraduate research competition sponsored by the International Atlantic Society and has been published in the *Atlantic Economic Journal*.

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