Quality Approaches in Higher Education

New Perspectives on Customer Focus
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As institutions of higher learning become major business enterprises, there is concern as to how this business focus affects their mission of educating tomorrow’s workforce.

Balancing Customer Needs and Standards in Higher Education

Cathy Hall, William Swart, and Steve Duncan

Abstract

As major business enterprises, today’s colleges and universities may want to consider strengthening their customer-oriented approaches in interactions with students. Institutions of higher learning are grappling with difficult fiscal realities, a new emphasis on students as consumers, faculty challenges in balancing rigor and student course ratings, as well complex human performance processes. Student expectations, faculty pressures, and competitive markets all contribute to an environment where it’s now commonplace to negotiate critical standards in higher learning.

This article examines various influences on institutions of higher learning as they move toward a customer-oriented focus. It also stresses the importance of balancing the needs of various customer groups while continuing to serve as purveyors of educated human resources in a global economy.

Introduction

Colleges and universities are facing major changes as they navigate the 21st century and make decisions that will not only impact higher education but will also contribute to our country’s future competitiveness in the global marketplace. This article identifies and evaluates outcomes from efforts to modify quality standards in higher education. While change is unavoidable and higher learning faces difficult choices, we can choose to make proactive decisions and become agents of change.

The financial obligations of running an institution today are a major concern. While not a new concept, there is a trend for public institutions to redefine their identity as service organizations and businesses. Due to increased financial demands, there has also been a dramatic rise in the cost of attending post-secondary schools. The Delta Project, which focuses on postsecondary costs, productivity, and accountability, points out that while students are paying more of the total costs associated with higher education, less of the tuition-generated revenue is actually going into the classroom. In the 1990s, student tuition paid for approximately 24% of the operating
costs at public colleges and universities, in 1998 that percentage rose to 37%, and in 2005 it was nearly 50%.4

Today, institutions rely on increasingly large numbers of students to help balance expenditures. As institutions face growing financial constraints due to recent economic events, there is even greater concern that institutions will defer to the value of the monetary benefits of increased enrollments, especially in the face of fewer state resources. Given the importance of enrollment monies, it is not surprising that universities have become very savvy in marketing their institutions to the student customer.5,6,7

If the focus is directed at attracting larger numbers of potential students even when it is necessary to modify admission standards, there is an associated risk of also negotiating academic standards to create easier courses and modify academic requirements.1 The reputation of the institution becomes the most costly casualty of all when academic standards that underlie scholarly integrity are compromised.1,8

**Post-Secondary Students as Consumers**

While there are heightened efforts in attracting and retaining student customers, today institutions are also dealing with students who may view the world differently than their predecessors. Some students enter college without ever having the opportunity to face adversity on their own, and as a result they fail to develop skills in facing challenges that will serve them in life.9 Students from the millennial generation frequently see themselves as unique, and they often have very specific expectancies that their needs/wants will be met.10 There is sometimes an expectancy that if they are not doing well in the coursework there should be a modification in the standards of performance to help them to maintain high grade averages. In this regard the “student consumer” wants to dictate the grade desired and the educational provider is to find some way to allow that grade to be achieved—even if it means altering the program of study.11

If you overlay this ego-oriented viewpoint onto the world map, the perspective changes. The United States is failing to keep pace with other countries in producing graduates, and we will not be able to compete successfully in a global economy unless these gaps are addressed.4,8 This trend is especially apparent in fields such as engineering.12,13,14,15,16

Business and industry cite lack of self-discipline and poor communication skills as two major weaknesses for U.S. college graduates entering the workforce.8 When faculty are willing to negotiate academic standards with students, they play a role in promoting these weaknesses.17 Areas of negotiation with faculty include, but are not limited to:

- The expectation to arrive to class on time.
- Academic integrity.
- The time necessary to do tasks well.
- Competency standards for oral and written communication.
- The expectation that assignments are completed in a timely manner.
- Grade inflation.
- Tolerance for work that is not up to quality standards.8

**Post-Secondary Faculty—the Challenges**

Higher education faculty members are also facing challenges, one of which is the balance of class rigor and student course ratings. Universities typically take into account student ratings of professors in promotion and tenure decisions, merit raises, and other professional considerations.18,19,20 While there is wide variation in how influential student ratings are in impacting faculty’s careers, there is no doubt that they do carry weight.19,20 Faculty who challenge students to engage in critical thinking and move beyond rote memory may meet with resistance from students, and, if the faculty member is reluctant to negotiate work standards, he/she risks punishment with lower student ratings.8 When institutions use student evaluations to help make decisions regarding hiring, assigning courses, scheduling, and offering academic support to faculty, it is little wonder that professors may feel compelled to negotiate course standards in exchange for higher student ratings, especially if they are not tenured.

Another faculty-related issue is the role of faculty in ensuring positive student learning outcomes. Twenty years ago the federal government charged higher education accrediting agencies with ensuring that institutions developed and implemented student-learning outcome assessments.21,22,23 The results were less than satisfactory with Houston25 noting 20 years later that there is
“limited evidence of positive effects on the quality of core processes of teaching and learning.” He further explains that achievements in quality assurance are minimal, primarily due to limited involvement by faculty. While developing ways of assessing positive learning outcomes is not an easy task, there have been attempts by various faculty members to modify classes from the typical lecture format to engage students in more active learning with positive results. The assurance of quality student outcomes in higher education should be a priority, but to date, institutions are lagging well behind in addressing this issue.1,8,23

**Quality Human Performance—the Requirements**

A key component of quality in teaching and learning involves quality human performance by the learner. Substantial financial outlays by companies and the government for training are made in attempts to address problems in the quality of human performance. These efforts have met with minimal success, and major gaps in the standards to which humans have been trained and their resulting performance remain. Swart and Duncan note that the expected performance in a work setting is generally dictated by a set of valid and appropriate expectations and is attained through proper education and training. When performance consistently adheres to the appropriate expectations, then quality human performance is achieved. If there is a discrepancy in performance and appropriate expectations, then it must be investigated, causes identified, and appropriate corrective action taken.

To achieve quality human performance, we posit that three components must be present:

- A clearly defined set of tasks to perform.
- An individual that has the capacity/ability to perform the required task.
- A clear set of standards that define successful performance.

Training and education provide the skills, knowledge, abilities, and attitudes to perform the tasks to standard.

In Figure 1 all three variables are conceptually displayed inside a circle of quality human performance. The link that ties these three components together is training and education. If a person can learn the job and the job tasks are performed to a quality standard, then it is posited that quality human performance will ensue. In contrast, Figure 2 displays what happens when the standards are negotiated. Negotiating standards creates wasted performance capacity, which is depicted as the variance from quality human performance.

The components are in constant motion: the work to perform (either academic or workplace tasks), the rules of behavior (what it takes to be successful), and the performer. The key to this process is the underlying self-regulation factor. Quality human performance can be seen as a complex process of balances where several factors have to work together to ensure success with one of the main factors as self-regulation.

When the model of quality human performance was applied to college students, Duncan et al. found students were fully cognizant of the behaviors necessary for academic success, but they often chose not to engage in these behaviors. They fully recognized the discrepancy in their behaviors (what they should do versus what they are doing), but they also did not choose to engage in self-correction. Instead they expressed the expectancy that the standards of performance would, and should, be negotiated in their favor. This very act of renegotiating the standards of quality human performance suggests that business and industry will not necessarily find future employees who possess the skills expected based on their college academic experience.
Business and Industry and Higher Education—Focus on Graduates

Customers in business and industry may soon force higher education institutions to take a long and hard look at the “product” they are producing. The Society for Human Resource Management conducted interviews with various human resource personnel and senior executives and reported astounding results. The primary finding showed that the United States is not doing enough, fast enough to prepare for the economic future. Students entering the workforce were described as woefully ill-prepared. In discussing what steps were necessary to continue to remain competitive in the global economy, Morton noted the need for a strong link between academia and industry.

Tired of hiring individuals who did not perform to standard, Boeing announced in the fall of 2008 that it would compile data from past hires to determine which universities were producing a better product and focus their recruitment on those institutions. If institutions of higher learning are not producing students capable of assuming job responsibilities in industry and business, then these industries and businesses will not continue to hire their graduates. Boeing may be the first to formally adopt this position, but they will certainly not be the last. Higher education institutions are beginning to learn that businesses are less likely to accept these modifications in standards, which lead to a graduate who does not meet standards.

According to Bok the learning goals of a student’s major involve demonstrating “a substantial body of knowledge about a particular field, learning special techniques to search for information and analyze it in illuminating ways, and ultimately using these methods to address problems of substantial complexity.” Certainly these are also relevant to performing a job well when a student has been hired for his/her expertise in a specific area. More interesting, however, is the overlap between business and higher education in citing general knowledge and skills that should be present regardless of a student’s major. Some of the skills and knowledge considered important by both business and higher education include:

- Critical thinking
- Oral communication
- Written communication
- Reading comprehension

![Figure 2: Degraded Human Performance](image-url)
- Cultural diversity
- Ethics/social responsibility
- Mathematics
- Adaptability\textsuperscript{4,50}

Business should be able to expect students with a college degree to show reasonable proficiency in these areas. On the other hand, those entering colleges and universities should expect opportunities to develop competencies and be held to standards of performance in these areas. Finally, faculty should take steps to ensure these areas are addressed in their courses and are part of the quality assessments for their institutions.

**Summary**

If colleges and universities focus on satisfying students as their primary customers, they may negatively affect another customer group—employers—because the two customer groups have significantly different ways of defining and measuring expectations. There are no easy solutions to addressing the negotiation of standards that undermine quality human performance. All customers of higher education deserve the best we can offer, as higher education, business/industry, and the economic success of the United States are intricately connected and are dependent upon one another. As noted in the Delta Project,\textsuperscript{3} the United States is quickly losing ground in the global race for talent. Institutions of higher education, faculty, students, and businesses can serve as contributing architects in ensuring education establishes quality standards. They are all consumers, and they all have a vested interest in maintaining standards.

**References**


With social media becoming an everyday communication method for individuals and organizations, it’s logical to incorporate its use into instructional approaches.

Using Social Media to Enhance Students’ Learning Experiences

James A. Griesemer

**Abstract**

Current business students are digital technology natives with great sophistication in the uses and potential of social media. This is good because businesses and other organizations are expecting today’s graduates to be highly proficient in these technologies. Social media tools radically alter the way people view and use communication. The task of knowledge construction is thus being shared among the instructor, students, and other individuals who share an interest for the subject.

This article focuses on continuing efforts using social media to enhance undergraduate business students’ learning experiences. My college makes an online course management system (CMS) and training available to instructors, but leaves its use to the instructor for traditional courses. I use the CMS’s features such as bulletin boards, wikis, and online meetings and also incorporate other tools like blogs, podcasts, really simple syndication (RSS), and Twitter. Although incorporating social media into a course requires considerable time and effort, the results to date have exceeded expectations.

**Introduction**

Social media tools are rapidly changing the communications landscape. Their emergence has impacted significantly how students learn and the way instructors teach. In today, higher education settings, instructors, students, and others collaborate on the tasks of knowledge construction.

The influence of social media on learning and teaching environments is growing more each year. Social media applications can reinforce class material and positively influence discussions,
collaborative work, and authoring. Educators and researchers are constantly experimenting with social media technologies hoping to stimulate critical thinking skills, collaboration, and knowledge construction.

Social media technologies offer the capability to both receive and create content with the hope that a collective intelligence emerges. The goal is to improve students’ learning experiences to prepare them to enter a workforce that is not geographically constrained and expects them to have highly developed online collaboration skills. The pursuit of such benefits drives academics to incorporate new technological approaches in their teaching methodology.3

The new technologies that are changing the way instructors teach and students learn include the following:

- **Weblogs.** Weblogs or blogs, as they are known, are easily created and updateable websites that allow authors to publish to the Internet instantly, thus allowing instructors and students to communicate easily.
- **Wikis.** A wiki is a collaborative web space where anyone can add or edit content that has already been published.
- **Really simple syndication (RSS).** RSS allows users to subscribe to news feeds originating either from blogs or more traditional web spaces like newspapers and magazines. The content comes to the reader instead of the reader having to retrieve the content.
- **Social bookmarking.** Bookmarking sites allow users to save and archive entire web pages. This enables users to produce a searchable, personalized Internet.
- **Online photograph galleries (OPG).** OPGs allow the posting of photographs that support sharing of ideas and experiences.
- **Audio/video casting (AVC).** AVC makes it easy to produce digital voice and video files and publish and distribute them over the Internet. It also supports basic, live-streaming television online.
- **Twitter.** Twitter is a powerful tool for connecting with others and sharing content easily.
- **Social networking sites (SNS).** In addition to supporting wide area communication in both audio and video formats, SNSs help teach the network literacy that is required to navigate these new connections.4

**Approach**

Incorporating social media into a business course can allow a diverse group of interested individuals to engage in creating and developing content and to gather online to share knowledge, information, and opinions.5 In my business 3010: Production Systems Management traditional semester course, this group included the students in the course, adjunct faculty who teach other sections of the course, myself, as well as members of local sections of professional societies like the American Society for Quality (ASQ) and APICS, the Association for Operations Management. I am an active member of both professional societies.

It was necessary to switch from the traditional lecture and questions/answers approach to better use the various social media tools to meet students’ needs and expectations. These needs include increased access to the instructor and fellow students as well as course-related project data and information. For example, I redesigned his production systems management course to incorporate blogs for use by students to support closer collaboration on team projects. The teams were also encouraged to use and monitor RSSs containing course topic information and utilize social bookmarking. Individual wikis were created as homework help lines where I posted some answers and hints for completing homework assignments. Wikis were also used for polling students about changes in assignments and presentations’ dates, and for class meeting make-up dates. Twitter was used along with e-mail for one-to-one communication. Students were also required to give a brief lecture using audio/video casting.

**Student Experience**

A survey conducted in the first class meeting found only 3 of eighteen (~17%) students had used either wikis or a social networking site in a college course previously, and none had used Twitter. By the end of the course all students had used wikis, social networking sites, RSS, social bookmarking, and Twitter as part of the course. In addition, each project team incorporated the use of online photograph galleries and audio/video casting techniques in their course research presentations.

When surveyed at the last class meeting, student feedback included the following findings:

- Although most students had used social media such as Facebook and Twitter in their personal
lives, they needed instruction on how to use them safely in an educational setting. A social media usage agreement (see the sidebar, “Social Media Usage Agreement—Terms and Conditions”) was quickly established to address basic safety practices.

- While some students quickly embraced the use of social media in the course, others initially questioned its value and the need to learn it in addition to the required course content.
- Over time, the majority of the students developed an appreciation for its use.
- Some students expected the use of social media to correct some of the traditional problems associated with group projects, namely, uneven participation. They learned they could use blogs and Twitter to keep all team members more fully engaged in the projects.
- Students felt the use of social media heightened their project presentations. In particular, they cited RSS and social bookmarking as helping them collect current information easily on their topics. Audio/video casting also allowed them to distribute their presentations via the Internet to interested members of the local sections of professional societies.
- Students felt the inclusion of the professionals as blogs and wikis members added real-world knowledge to their learning and the course in general.
- Students said that using and somewhat mastering a variety of social media approaches helped them better prepare for a career in business management.
- Students liked the inclusion of social media in the course and recommended using it in all higher-level business courses.

The overall favorable acceptance of using social media in this initial course has motivated me to incorporate it in an upcoming business capstone course that will be taught over a span of six weeks.

**Faculty Experience**

This early use of social media approaches in a traditional college course changed the classroom behavior of both the instructor and students. I noticed that my role evolved from primarily a presenter of knowledge to more of a facilitator and mentor. This role change was also accompanied by changes in the pedagogy followed in the course as

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**Social Media Usage Agreement—Terms and Conditions**

- Students are expected to act safely by keeping personal information out of their posts.
- Students agree not to use their family name, password, school name and location, or any other information that could enable someone to locate and contact them.
- Students are to use social media as an academic resource only and therefore behave as in the classroom.
- Students should not respond to comments that make them uncomfortable. Instead, they should report these comments to the instructor immediately.

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I had to learn how to set up and effectively use several social media approaches. Equally important, students grew from being passive to active learners.

Lessons learned from these early attempts include the following:

- Instructors must design time and opportunities for the use of social media activities into their course syllabi. Though this may initially be viewed as taking time away from important course topics, these opportunities are alternative ways to cover these topics and even a means for introducing additional topics.
- Both instructors and students need to realize their roles in the course and behavior in the classroom will change significantly. The complexity and number of student questions rose significantly, resulting in a much more dynamic learning environment.
- Both instructors and students must be open to learning and using new social media classroom approaches that extend and enhance instructor-student interactions.
- Instructors must realize that not all students will embrace every element of all social media approaches. Some students will initially feel more comfortable using just one or two approaches and will need time to expand their skill set.
- Incorporating social media approaches allows guest lecturers to participate remotely if necessary. Also, it allows instructors to incorporate
many free weblogs, thus exposing students to new and different professional opinions.

- Student presentations distributed via the Internet can be viewed by a much wider audience on an on-demand basis.
- Incorporating social media approaches in the course contributed to extending student learning to outside the classroom, as it was especially easy for students to form study groups.
- Many ideas for group projects come from students having contact with members of local sections of professional societies like ASQ and APICS. This helps keep the group projects relevant to current issues and often provides welcoming venues for student presentations.
- Students have different academic strengths and skill sets, and working together allows students opportunities to develop them to their project’s advantage.
- Smaller in size and/or scope group projects are best, as social media allows students to receive timely feedback from a number of sources. Students need to experience the beginning, middle, and end of a project.
- Class size needs to be limited to a reasonable number. If no graduate assistants are available, this experience suggests no more than 20 students in the course.
- Instructors must be prepared to allocate more time to supporting courses with social media components.

These findings support the argument that utilizing social media in business courses is critical because every person with access to the Internet has the ability to contribute ideas and experiences to the larger body of business knowledge. Social learning is becoming an indispensable tool in the educating today’s students.

Conclusion

The use of social media approaches enhanced the learning experiences of undergraduate business students. Their use caused both the instructor and students to realize their roles in the course and behavior in the classroom had to change significantly. Although some may feel that incorporating social media approaches takes time away from important course topics, they should see these as alternative ways to cover topics and even as a means for introducing additional topics.

References


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When an Australian university adopted an integrated data management approach, it enabled system-wide improvement efforts to meet the needs of multiple stakeholder groups.

An Integrated Approach to Quality Enhancement in a Multi-Campus University

Chenicheri Sid Nair, Patricie Mertova, and Nicolene Murdoch

Abstract

This article focuses on a multi-campus, research intensive Australian tertiary institution and examines one aspect of how the institution approaches quality management. In particular, it explores the recently introduced integrated evaluation data management system that consolidates and stores data from multiple internal and external sources to enable improvement and benchmarking. It also highlights some of the systems in place to communicate improvement to students and external agencies.

Introduction

Quality management in higher education has gained attention particularly during the last two decades. Among higher education institutions worldwide, there have been various responses to this trend, ranging from implementing direct quality measurement instruments to self-audit and review processes. Increasingly, the rationale for quality management has been driven by funding mechanisms; accreditation requirements; the desire to keep pace with international practice; national audits; and other trends, such as massive growth in higher education, internationalization, and influences of information technology.1,2,3

Quality has become topical in Australian higher education since the inception of the Australian Universities Quality Agency (AUQA) in 2000.4,5 AUQA’s primary aims are promoting, auditing, and reporting on quality assurance in higher education. With the
increasing push to accountability, universities are now required to demonstrate clear procedures and processes to ensure quality for their primary stakeholder—namely students—beyond the learning and teaching environment.

In line with external developments and accountability pressures, higher education has recently placed greater emphasis on meeting the expectations and needs of a widening range of stakeholders. One way in which universities have approached determining students’ needs was by collecting student perceptions via surveys. Such data has a number of purposes, such as collecting diagnostic feedback for lecturers, gathering data for curriculum improvements, providing information to current and potential students, and measuring quality in teaching and learning. The first two purposes are recognized universally as the basis for many evaluations, and the other two purposes are relatively new to many universities.

With increased focus on student needs and expectations, evaluation data has become a crucial part of institutional research and planning for strategic decision making in a growing number of universities, including in Australia. Familiarity with student satisfaction levels is critical for sound university management, as dissatisfied students can have a powerful impact on reputation, income, and the realization of institutional missions.

The requirement for collecting data to inform a range of stakeholders often leads to a variety of data sources and inconsistency in implementation. This also may lead to having too much data without a clear strategy for utilizing it effectively. This inherent tension between the collection and use of data is the center of debate in quality circles, and, in particular, the enhancement activities based on feedback.

This article addresses the following topics:

- The process of integrating student evaluation data to measure improvement throughout the institution. It explores how an integrated evaluation system

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Table 1: Institutional Surveys at the University

<table>
<thead>
<tr>
<th>Instrument</th>
<th>What is it?</th>
<th>Person/group that initiates the survey</th>
<th>Frequency</th>
</tr>
</thead>
<tbody>
<tr>
<td>Monash Questionnaire Series on Teaching</td>
<td>Eleven different questionnaires focused on a different type of teaching.</td>
<td>Voluntary involvement—teacher initiated.</td>
<td>Each time a lecturer teaches a unit</td>
</tr>
<tr>
<td>(MonQueST)</td>
<td></td>
<td>Students enrolled in the class.</td>
<td></td>
</tr>
<tr>
<td>Unit (Subject) Evaluation</td>
<td>Evaluation of units (subjects) to obtain student views on unit quality.</td>
<td>Initiated by the faculty in collaboration with CHEQ.</td>
<td>Each time a unit is taught</td>
</tr>
<tr>
<td>Employer Survey</td>
<td>Employer feedback on the extent to which graduates demonstrate desired attributes.</td>
<td>Initiated by the Quality Development Committee.</td>
<td></td>
</tr>
<tr>
<td>Monash Experience Questionnaire (MEQ)</td>
<td>Survey to assess the overall student experience.</td>
<td>Initiated by the vice-chancellor’s group (quality).</td>
<td>Students currently enrolled in the various programs</td>
</tr>
<tr>
<td>Monash Support Experience Questionnaire (MSEQ)</td>
<td>Survey assesses the overall student experience with administration and support services</td>
<td>Initiated by the vice-chancellor’s group (quality).</td>
<td>Once every two years</td>
</tr>
</tbody>
</table>
has provided the opportunity for all campuses and faculties to respond to survey results, and also enabled benchmarking of respective campuses and faculties against each other to improve the student experience.

Some of the systems put in place to communicate improvement to students and external agencies. This article highlights how one university brought together the systematic approach to student evaluations, dealing with issues of extensive data collection and utilizing the information to enhance teaching and learning.

**Approach to Quality at Monash University**

Monash University is a large, research-intensive, international institution with six Australian and two international campuses (Malaysia and South Africa) and partnered programs overseas. The university has 57,000 students from more than 130 countries. Programs offered at offshore locations are subject to regulations and quality assurance processes within the Australian higher education context, and also to the country-specific requirements of overseas higher education systems.

With quality emphasized not only in Australia, but also in other regions where the university operates, the institution realized the need and usefulness of evaluation measures related to the quality of units (subjects), courses (programs), and student experience in general. As a result, a set of core evaluations and surveys was developed. A central quality unit, the Centre for Higher Education Quality (CHEQ), would manage this process, as shown in Table 1. These tools are essential for applying the institutionally-adopted quality cycle—plan, act, evaluate, and improve—in the areas of teaching, research, support services, and at the institutional level.

Monash’s self-review exercise found that although information was available from a variety of sources, there was little systematic monitoring and opportunity for integrating and comparing this data. As a consequence, a phased approach to improving the use of data and its monitoring across the university was developed. Subsequently, the necessity to understand and cater to the needs of a wide range of stakeholders, and thus the requirement for a robust evaluation system was highlighted in a number of strategic documents. A team of senior managers headed by the pro-vice chancellor (quality) began bringing data together in a systematic manner with an integrated system of centralized data gathering and storing. The result was a survey management system (SMS) that integrates data collected online and from paper-based surveys and stores it in a centrally-located database.
With introduction of the SMS system, data from the standard core surveys and the student management system is stored centrally. The integrated database facilitates the production of consolidated reports for unit and course leaders, heads of departments, deans, and management. It also more effectively assists them in making evidence-based judgments by enabling course and unit profiling as well as benchmarking. The purpose of such a profile is to identify areas that may require further investigation and improvement and areas of best practice. Figure 1 provides a schematic of Monash’s approach to utilizing evaluations and surveys effectively.

**Benchmarking**

Data obtained from surveys and evaluations consolidated in a single system provide the opportunity to respond to the results and benchmark student experiences. Although benchmarking was initially internal, it was later expanded to include at least three other institutions. For example, the university exchanged student experience data from the Monash Experience Questionnaire (MEQ) with other institutions to learn more about good practices in teaching and learning. Figure 2 illustrates how the SMS facilitates integration of evaluation data. This figure indicates the gradual improvement in students’ satisfaction over a four-year period. These results were used not only for monitoring change but also for internal and external benchmarking.

**Discussion**

Due to growing pressures on accountability, some universities have focused recently on a more systematic approach for responding to and acting on student and other stakeholder feedback. Monash gradually developed an integrated data collection, analysis, and storage system, which enabled greater transparency and clarity of evaluation results. This system also provided more effective benchmarking within the institution and with other tertiary institutions.

There are a number of benefits to employing a systematic approach to data collection and integration. For example, student survey data is tied to performance funding requirements. In Australia, the Learning and Teaching Performance Fund (LTPF) utilizes data from student feedback as one component in funding institutions. In 2006-08 LTPF allocated approximately AUS$250 million to tertiary institutions over a three-year period. Monash obtained AUS$19 million as a result of improvements demonstrated through actions taken based on stakeholder feedback. A key factor in this success was the data collected in a systematic manner by the SMS.

Another reason for systematic data collection is Monash’s obligations to quality agencies of host nations where it offers courses. In Malaysia, the National Higher Education Action Plan (NHEAP) requires universities to survey students on classroom teaching. Similarly, in South Africa the Higher Education Quality Committee (HEQC) includes student surveys, impact studies, and benchmarking in their institutional audit criteria.

Another purpose of collecting student feedback is to improve learning experience and inform decisions regarding courses and units. In recent times this has been outweighed by assurance and accountability purposes.
**Actions Taken**

By developing the SMS, Monash established an approach to "closing the loop." This was a critical step in the learning curve because prior to this system, survey results were not typically communicated back to the participants. Previous research findings argue that if students receive little or no feedback on actions taken as a result of their feedback, they may show a lack of interest in evaluations. This could eventually result in declining evaluation response rates. The SMS has allowed almost real-time data available to students on the Internet, thus demonstrating that their opinions are valued and important to the continuous improvement process.

An example of how student feedback changed university practices centers on the university-wide policy addressing timeliness and usefulness of assessment feedback. The policy recognized that students noted that they were not receiving feedback in time to incorporate improvements in subsequent assessments. This resulted in a policy that no further assessment could be submitted until feedback was received from the previously assessed piece of work.

One other critical action as a result of the SMS was the development of a reporting mechanism where changes are communicated back to various committees across the university. These committees have student representation, ensuring wide communication of changes across the student body, further strengthening the closure of the feedback loop.

**Lessons Learned**

Although the SMS has resulted in a number of benefits, there are factors to consider for the effective implementation of such a system. These include:

- Buy-in of senior management for such a system and the effectiveness in delivering the university's strategic plans.
- Appropriate resourcing to achieve the goals of such a system.
- Commitment of senior management to implement quality as a result of the data across the institution.
- Organization-wide acceptance and coordinated use of data for decision making. Staff generally indicated that they were not trained to implement changes as a result of student feedback and need training on interpreting data as well as guidance for pedagogical changes that will improve the student experience.
- Student and other stakeholder engagement was a crucial component in effectively utilizing the SMS system and subsequent quality enhancement processes. This applies not only to this institution but also to other tertiary institutions. Therefore, a mechanism that would form a transparent link among evaluation, quality, and engagement needs to be built into the SMS system.

**Concluding Remarks**

An effective quality management system that enables enhancement relies not only on the efficacy of the institution's evaluation system but also the commitment of leadership. Monash University demonstrated this by developing an integrated SMS, which enables quality improvement and makes data available to stakeholders and management in real time to aid decision making. The institution's leaders played an integral part in providing necessary funds for implementing the system and demonstrating an ongoing commitment to engage with the data.

This experience has clear implications to other teaching and learning organizations regarding the effective collection and use of data to achieve an improvement in the student experience. It shows how systematic data collection changed university practices in assessment, reporting processes, and the use of data for benchmarking.

**References**


Chenicheri Sid Nair

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Nicolene Murdoch

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Interactive television is put to the test to evaluate its impact on student grades.

In-Class Versus Interactive Television Instruction

A Study to Determine Comparability

David Plum and Christine Robinson

Abstract

The economic factors and convenience advantages of interactive television (ITV) classes are well known. The question remains, however, as to the effectiveness of ITV instruction versus traditional in-class, face-to-face instruction. This study provides a statistical comparison of the relative effectiveness of three approaches: traditional face-to-face instruction, face-to-face instruction combined with originating an ITV class, and remote ITV-recipient classes. Final grade performance was analyzed using several different models and tests, with care taken to screen out controllable variables to the extent possible. Results failed to detect a significant positive or negative impact on grades due to ITV instruction.

Purpose of the Study

After five semesters of teaching both traditional and interactive television (ITV) classes for a Minnesota university, the principal author of this article wondered whether the three different teaching modes—traditional face-to-face instruction (traditional class), face-to-face instruction combined with originating an ITV class (ITV-originator class), and remote classes receiving the ITV transmissions (ITV-recipient class)—resulted in different overall student grades. Statistical results for the final grades of 23 different sections of six upper-class business courses were compiled and reviewed (see Figure 1). This initial analysis showed that for five of six paired ITV classrooms, the ITV-recipient class earned higher grades than the ITV-originator class. Students t-tested on the
paired results showed two courses were significantly different at the 95% level of confidence (see Table 1, Analysis 3). This was encouraging enough to bring in a statistician to look at the results in more detail.

Three questions were posed of the available data:

- **Analysis one:** Is there a difference in final grades between the traditional classes held at the main campus and its satellite? This was done first since a systematic difference here would need to be removed from the data prior to looking at the ITV effect.
- **Analysis two:** Is there a difference in final grades between traditional classes and ITV-originator classes? In other words, if the instructor is the same, does the use of extra technology in the classroom have an impact on grades?
- **Analysis three:** Is there a difference in final grades between ITV-originator and ITV-recipient classes?

Anecdotal feedback from both instructors and students imply a preference for in-class, face-to-face instruction. Sedlac suggests that both television and computer network models serve students well in a flexible environment at the University of Wisconsin-Stout.¹

The perception exists that interactive ITV instruction has an impersonal flavor which is a barrier to the student-instructor relationship and thus affects the learning outcome. An additional negative of ITV classes may be the occasional television technical problems, the inability to conduct proctored exams, and the difficulty of in-class assignments at the remote location. Sharp and Cox note that from time to time there are technological problems, but these problems are not major for most students. Off-campus students take the course by television, and noted “They received the same instruction as campus students for a lower cost (as compared to main campus tuition), and at a convenient location.”²

Angiello contrasts the pedagogical argument, “The more traditional are convinced that face-to-face instruction is not only superior to online instruction but the only acceptable way to teach and learn. They view online classes as no better than the old-fashioned correspondence courses, despite the inclusion of web-based resources and media technology. They think the upsurge in degrees from online institutions tarnishes the credibility of all of education. Others think that the virtual classroom should supplement and possibly replace face-to-face education. Among them are certainly some seduced by technology without regard to its effectiveness.”³

Additionally, Bellotti encourages the use of television as a pedagogical tool, stating “TV may play a significant role in the current life-long learning challenges, provided that meaningful applications are implemented.”⁴

Regardless of the perception, the question remains as to the degree of effectiveness of the contrasting instructional approaches. Reisslein notes that the overall student satisfaction index was approximately the same with either form of distance education video delivery.⁵

**Study Protocol**

The sites of the study are the main campus of Winona State University in southeastern MN and its associated sister school in Rochester, MN, which is 40 miles from the main campus. The study population is confined to upper-class students in the college of business. The university has approximately 9,000 students, with 1,300 college of business students split between the two campuses.

Throughout the study, the ITV-originator class instruction was simultaneously transmitted to the paired ITV-recipient class. In addition, there was simultaneous dual computer-screen viewing and document viewing for students in the two locations. Built-in controls for the study for each course included the same instructor, text, exams, and real-time instruction.

The data on student performance is summarized as their final cumulative grades for the semester, which includes four to five exams,
in-class participation, and comparable homework. All exams were taken electronically using the testing system of Desire to Learn (D2L), a provider of enterprise e-learning solutions. This organization develops online learning management systems used at more than 450 institutions around the world. Computers were utilized for exams and have the ability to provide a “lock-down browser” allowing only the exams in progress to be active, thus avoiding any ability to look up answers in the computer’s database or Internet. Even with this safeguard, however, there is a potential for cheating, since there is no proctor in the remote location in spite of remote television overview.

Although not initially planned for quantification in this study, there is thought to be a tendency for

Table 1: Summary of Class Results and Analysis Comparisons

<table>
<thead>
<tr>
<th>Course</th>
<th>Semester</th>
<th>Number of Students</th>
<th>Location</th>
<th>Minimum Final Grade</th>
<th>Average Final Grade</th>
<th>Maximum Final Grade</th>
<th>Standard Deviation</th>
<th>Instruction Type</th>
<th>Student’s t Critical value for 2-tailed test α = 0.05 (unadjusted)</th>
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<tr>
<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>315</td>
<td>2009 F</td>
<td>30</td>
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<td>84.10</td>
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<td></td>
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<tr>
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<td>2009 F</td>
<td>22</td>
<td>Rochester</td>
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<tr>
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<td>2.08</td>
<td>Traditional</td>
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<tr>
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<td>Winona</td>
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<tr>
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<td>6.72</td>
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<tr>
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<td>74.9</td>
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<td>435</td>
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<td>20</td>
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<td>67.2</td>
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<td>Rochester</td>
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<td>97.8</td>
<td>4.79</td>
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<td></td>
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</tbody>
</table>

* Significant at the 95% level of confidence only
** Significant at the 95% and 99% levels of confidence
Rochester students to be of a more nontraditional profile. No special enrollment considerations were made to allow for the comparison of student/location influences that could affect the outcome, e.g., extra-curricular activity, SAT rankings, campus activities, employment experience, or living conditions (dorm, home, off-campus, etc.). A general location-to-location comparison (Analysis 1) was incorporated into the study when the courses available for analysis showed that such a comparison could logically be performed.

**Supplemental Protocol**

A single instructor taught three courses at both Winona and Rochester, using only the traditional instructional approach. Paired sections of general management (MGMT 315), organizational dynamics (MGMT 325), and strategic planning (MGMT 495) served as a way of comparing the student populations at the two campuses (Table 1, Analysis 1).

Courses in operations management (MGMT 334) were taught at Winona in both the traditional and ITV-originator instructional modes. Two groups of three sections each were compared to see if adding the technology to the classroom made a difference in grades (Table 1, Analysis 2).

Paired sections in general management (MGMT 315), operations management (MGMT 334), managing for quality (MGMT 435), and project management (MGMT 464) were used to contrast the ITV-recipient versus the ITV-originator classes (Table 1, Analysis 3).

The traditional courses used to compare the two campuses are non-conducive for ITV due to the concentration required for in-class presentations and writing requirements. MGMT 495 and MGMT 325 are comparable to laboratory courses, which present a new set of statistical hurdles. However, Boone discusses how to overcome the potential ITV problems in the sciences, especially laboratory activity, “…a two-way audio and two-way visual signal was broadcast between a studio and three urban elementary schools. This allowed teachers enrolled in the class at any of the three remote sites to see and hear class instructors. Furthermore, participants at each school site could fully communicate with the instructors and teachers at other school sites. The success of the class suggests that distance education can be an effective mechanism for providing educational opportunities to individuals in major urban areas. The class also demonstrates that laboratory-based courses can indeed be delivered via distance education technology.”

**Discussion**

With current economic pressures on educational funding and the justifiable desire for continuous improvement in the quality of education, it is necessary to utilize optimum combinations of teaching techniques, supporting the popularity of the ITV approach for remote location students. When asked about testing, students accepted whatever method was given them, whether it was a paper test or a computer test. Sharp and Cox provide an insight into the students' acceptance of televised off-campus learning. One feature appreciated by students in computer exams (D2L) at Winona State University was the immediate feedback of their score and how specific questions were graded.

Another reason for ITV popularity is the benefits enjoyed by students — lower travel cost, lower tuition, and time savings — all due to the college’s dual use of faculty and minimized facilities to service the remote locations.

Regardless of this study’s results, questions remain with three areas in need of improvement for the quality of ITV instruction versus face-to-face classroom experience. Williams discussed key communication principles critical to effective communications, such as listening skills and body language, as well as verbal feedback — all difficult to fulfill in distance television. These three factors are, unfortunately, diminished in ITV instructions. To circumvent some of the negatives, Lin and Crewsell have proposed the use of interspersed questions and eye contact to enhance the ITV learning experience. Results yielded four conclusions:

- Presenter eye contact and questions are perceived as useful teaming aids in televised lecture presentations.
- Student satisfaction with and interest in televised courses is relatively low.
- Positive perception of eye contact and inserted questions correlate with higher levels of student interest.
- Neither eye contact nor inserted questions directly impact short-term learning.
Wallin critiques distance education further, saying, "The most frequently cited criticism of distance learning is its passivity and the lack of opportunity for student-teacher interaction." Wallin also noted that a point-to-point microwave system which allows two-way audio and video interactivity in the Eastern Iowa's Community College district has developed a model which involves the students actively in the learning process.\textsuperscript{9}

Although not a direct comparison of ITV versus face-to-face education, a 2010 study released by the U.S. Department of Education noted, "Students who took all or part of their classes online performed better than those taking the same course through traditional face-to-face instruction.\textsuperscript{8}

### Statistical Methodology and Results

The initial statistical analysis was performed as a series of t-tests comparing the final grades for six pairs of classes. Of these six comparisons, two were statistically significant (using a two-tailed test with an \( \alpha \) of 0.05; see Table 1, Analysis 3). When alpha is adjusted to account for the fact that six comparisons were made, however, this

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### Table 2: ANOVA Results

#### Analysis 1

<table>
<thead>
<tr>
<th>Source</th>
<th>Degrees of Freedom</th>
<th>Sums of Squares</th>
<th>Mean Square</th>
<th>F</th>
<th>( F_{(critical, \alpha=0.05)} )</th>
<th>Significant?</th>
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<tr>
<td>Error</td>
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<td>17.7839</td>
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<td></td>
</tr>
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#### Analysis 2a

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<th>Source</th>
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<th>F</th>
<th>( F_{(critical, \alpha=0.05)} )</th>
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#### Analysis 2b

<table>
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<th>Sums of Squares</th>
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<th>F</th>
<th>( F_{(critical, \alpha=0.05)} )</th>
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#### Analysis 3

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dropped down to one statistically significant comparison. This led to the question of whether performing an analysis of variance (ANOVA) on the data would yield different and more obvious conclusions.

Since the original set of comparisons confounded the impact of location with the impact of using ITV, the first challenge was to determine whether location did, indeed, have an effect that had to be factored into the analysis. Three courses had been taught using traditional methods at each of the two locations. By using the courses as blocks, the location-to-location impact on grades could be assessed for traditional classes (see Tables 1 and 2, Analysis 1). Results failed to show a significant difference, allowing us to treat classes from the two campuses as if they were pulling students from the same population.

The second analysis looked at the two different modes of face-to-face instruction—traditional and ITV-originating classes—to see whether the act of originating an ITV class impacted grades (see Tables 1 and 2, Analysis 2a). Six sections of operations management taught by the same instructor at Winona were available for analysis. A one-way ANOVA looking at the final grades in these sections revealed a statistically significant difference (alpha of 0.05). The results from the most recent semester (summer of 2010) were significantly lower than the other sections. This could have been due to a slight change in content, classroom focus, or student attention during the summer—all factors which could not be controlled over time. A secondary analysis (see Tables 1 and 2, Analysis 2b) was performed looking at only results from the five sections of this course taught during the spring semester of 2009. This secondary analysis failed to find a difference that could be attributed to the different modes of instruction, reinforcing the conclusion that sections of the same course taught by the same instructor during the same semester generate similar grades, no matter where they are located or what their form of instruction.

Finally, five pairs of ITV classes were analyzed (see Tables 1 and 2, Analysis 3), blocked by course pair to determine whether there was a significant difference between Winona ITV-originating sections and Rochester ITV-recipient sections. This analysis failed to detect a statistically significant effect. The single pair of ITV classes with Rochester as an originating location was not used for this analysis.

**Summary**

There is no evidence to support a conclusion that ITV instruction for upper-class business students has any impact on grades. Conclusions from this study are limited by a variety of factors that limit extension of the results to other situations:

- Students were not randomly assigned to campus, courses, and sections. This limits the ability to generalize results to other courses at other schools.
- The population from which students were drawn was limited. Only a relatively small number of high-level courses were included in the study. Only two campuses were involved in the study.
- Only one instructor was involved in the study. There is no way of knowing whether results from classes taught by other instructors would be similar.

These limitations point the way to future study approaches.

**Recommendations and Future Studies**

Although there is an indication that equality exists between traditional, ITV-originating, and ITV-recipient class results, there still is a perception of inequality among many involved in the discussion, who advocate for ITV classes to move closer to the Socratic method of personal involvement. Another future study that addressed the questions below might clarify the differences in these approaches and lead to a greater consensus:

- Are results from this study generalizable to other schools, instructors, and courses of study?
- Why do students and instructors prefer the face-to-face interactions as noted from anecdotal discussions?
- Is there an inherent value, other than comprehension and learning, in the face-to-face relationship?
- Does the academic and social profile of the in-class and the ITV student body require an analysis to confirm the authenticity of the data? Thus, do issues such as age, SAT scores, GPA, employment and experience, and living conditions matter?
- Are certain courses inappropriate for ITV instruction? Laboratory courses and courses requiring oral presentations are of particular concern.
References

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Christine Robinson is a consultant, specializing in statistical analysis, quality systems design and documentation, survey design and analysis, and training material development. She earned a master’s degree from Marian University, has more than 25 years in the field of quality and improvement, and is an ASQ certified Quality Engineer, Quality Auditor, and Manager of Quality/Organizational Excellence. Contact Robinson at cqechris@att.net.

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The American Society for Quality’s Education Division has launched a new bi-annual, online, peer-reviewed journal called *Quality Approaches in Higher Education*. The editorial review team actively encourages authors to submit papers for upcoming issues.

The purpose of this publication is to engage the higher education community and the ASQ Education Division membership in a discussion on topics related to improving quality in higher education and identifying best practices in higher education and to expand the literature specific to quality in higher education topics. *Quality Approaches in Higher Education* welcomes faculty from two- and four-year institutions, including engineering colleges, business schools, and schools of education, to consider submitting articles for review.

The following types of articles fit the purview of *Quality Approaches in Higher Education*:

- Case studies on how to improve quality in a college or university.
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- Case studies or conceptual articles providing institutional perspective on process development and maintenance methodology at colleges or universities.
- Case studies or conceptual articles addressing issues such as the role of faculty and administrators in quality systems.
- Case studies, research studies, or conceptual articles focusing on accreditation issues.
- Case studies demonstrating best practices using the *Baldrige Education Criteria for Performance Excellence*, including experience and recommendations for successful implementation.
- Case studies, research studies, or conceptual articles on scholarship of teaching, enhancing student learning, learning outcomes assessment, student retention, best practices for using technology in the college classroom, etc.

In particular, we are looking for articles on the following topics: using assessments for continuous improvement and accreditation, showing how use of the Baldrige framework can increase student success, increasing engagement and quality of learning through lecture capture and other technologies, dealing with rising costs without jeopardizing learning, sponsoring programs for helping graduates gain employment, and merging research with practice (action inquiry).

Articles generally should contain between 2,500 and 3,000 words and can include up to four charts, tables, diagrams, illustrations, or photos of high resolution. For details, please check the “Author Guidelines” at [http://www.asq.org/edu/2009/09/best-practices/author-guidelines.pdf](http://www.asq.org/edu/2009/09/best-practices/author-guidelines.pdf).

Please send your submissions to Fernando Padró at qahe@asqedu.org.
Quality Approaches in Higher Education is peer reviewed and published online by the Education Division of the American Society for Quality (ASQ). The purpose of this publication is to engage the higher education community and the ASQ Education Division membership in a discussion of topics related to improving quality and identifying best practices in higher education and to expand the literature specific to quality in higher education topics. We will consider articles that have not been published previously and currently are not under consideration for publication elsewhere.

**General Information**

Articles in Quality Approaches in Higher Education generally should contain between 2,500 and 3,000 words and can include up to four charts, tables, diagrams, or other illustrations. Photos also are welcome, but they must be high resolution and in the format described later in the “Submission Format” section.

The following types of articles fit the purview of Quality Approaches in Higher Education:

- Case studies on how to improve quality in a college or university.
- Conceptual articles discussing theories, models, and/or best practices related to quality in colleges and universities.
- Research articles reporting on survey findings such as a national survey on students’ attitudes toward confidence, success in college, social networking, student engagement, access and affordability, etc.
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**Manuscript Review Process**

We log all article submissions into a database and delete all references to you. These “blinded” versions then go to the editorial review team for comments and recommendations. The review process takes approximately two months during which time the reviewers advise the editor regarding the manuscript’s
suitability for the audience and/or make suggestions for improving the manuscript. Reviewers consider the following attributes:

1. Contribution to knowledge: Does the article present innovative or original ideas, concepts, or results that make a significant contribution to knowledge in the field of quality in higher education?

2. Significance to practitioners: Do the reported results have practical significance? Are they presented clearly in a fashion that will be understood and meaningful to the readers?

3. Conceptual rigor: Is the conceptual basis of the article (literature review, logical reasoning, hypothesis development, etc.) adequate?

4. Methodological rigor: Is the research methodology (research design, analytical or statistical methods, survey methodology, etc.) appropriate and applied correctly?

5. Conclusions and recommendations: Are the conclusions and recommendations for further research insightful, logical, and consistent with the research results?

6. Readability and clarity: Is the article well organized and presented in a clear and readable fashion?

7. Figures and tables: Are the figures and/or tables used appropriately to enhance the ability of the article to summarize information and to communicate methods, results, and conclusions?

8. Organization and style: Is the content of the article logically organized? Are technical materials (survey scales, extensive calculations, etc.) placed appropriately? Is the title representative of the article’s content?

9. Attributions: Are the sources cited properly? Are attributions indicated properly in the reference list?

You should use these attributes as a checklist when reviewing your manuscript prior to submission; this will improve its likelihood of acceptance.

There are three possible outcomes of the review process:

• Accept with standard editorial revisions. In this case, the content of the article is accepted without requiring any changes by you. As always, however, we reserve the right to edit the article for style.

• Accept with author revisions. An article in this category is suitable for publication but first requires changes by you, such as editing it to fit our length requirements. We provide specific feedback from our reviewers to guide the revision process. We also assign a tentative publication date, assuming you will submit the revised article by the deadline.

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Please note that after articles are edited for publication, we return them to you to approve the technical content. A response may be required within 48 hours or the article may be held over for a subsequent issue.

Articles that appear to be advertising or don’t fit the general topics addressed by Quality Approaches in Higher Education will be rejected without receiving peer reviews.

Helpful Hints

1. Articles should emphasize application and implications.
   • Use the early paragraphs to summarize the significance of the research.
   • Make the opening interesting; use the opening and/or background to answer the “so what?” question.
   • Spell out the practical implications for those involved in higher education.
2. Detailed technical description of the research methods is important, but not necessarily of interest to everyone.

3. Throughout the article, keep sentence structure and word choice clear and direct. For example, references should not distract from readability. As much as possible, limit references to one or two per key idea, using only the most recent or most widely accepted reference.

4. Avoid acronyms and jargon that are industry- or organization-specific. Try not to use variable names and other abbreviations that are specific to the research. Restrict the use of acronyms to those that most readers recognize. When acronyms are used, spell them out the first time they are used and indicate the acronym in parentheses.

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References

One of the most common errors we’ve observed with submitted articles is improper referencing. Two problems occur most frequently: information included without proper attribution in the references and formatting that does not meet our style requirements. The information in this section is intended to ensure your references adhere to our standards.

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Examples

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Author Guidelines: *Quality Approaches in Higher Education*

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**Summary**

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