LTH Evaluation Report: Discussions on Quality

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Report of the Evaluation Team

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April 2015

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Executive Summary

Purpose of the Evaluation: The purpose of this evaluation project was to provide an external examination of LTH's quality management system and quality assurance work by soliciting information and giving voice to the perceptions of LTH stakeholders, including students, teachers, program directors, and other administrators. An initial goal was to identify how quality is defined in LTH.

Background: The Faculty of Engineering, LTH, has been at the forefront of many of the recent Lund University initiatives regarding quality. Many international and national expectations are bringing to focus additional needs to provide systematic evidence of quality in higher education programs. It is expected that these quality measurement efforts will result in continuous improvement.

Methodology: Data were collected systematically and analyzed thematically, using constant comparative methods and content analysis. Focus groups, document analysis, a preliminary reporting session, and individual interviews were used in gathering data. An iterative process resulted with issues surfacing and themes emerging.

Findings: Through review of documents related to the mission and scope of LTH within Lund University and activities related to quality improvement in the faculty and across interactions with LTH stakeholders, several key themes emerged regarding perceptions of LTH's current quality management process and activities. These themes were communication, clarity and transparency, alignment, systematic approach, and adapting to change.

- *Communication*: there is a need for increased communication regarding quality and quality assurance among stakeholder groups. More time and space for conversations among stakeholders is necessary.
- *Clarity and Transparency*: many participants in this evaluation were not always sure about who is ultimately responsible for developing and implementing quality improvements since the quality management system at LTH involves many different groups and many moving parts.
- *Alignment*: the degree to which the components of an education system—such as standards, curricula, assessments, and instruction—work together, can be enhanced in LTH to achieve desired goals. Good alignment was seen as a driver of quality improvement and poor alignment was seen as both a reason for reduced quality and a barrier to quality improvement.
- *Systematic Approach*: aside from the CEQ and annual reports, there are many other initiatives to measure quality that are not used in all units.

- *Adapting to Change*: trained personnel who have clear responsibilities for quality improvement are essential to maintaining quality.

These themes serve as a way to organize and categorize the results of data collected during the research phase and to provide directions for going forward. These themes are strongly inter-related and in some cases overlap with each other. Data collection included praise for existing system elements and suggestions for how quality management processes at LTH could be more effective, including challenges that prevented quality management activities from facilitating quality improvements and from developing effective continuous improvement practices.

Defining Quality: Everyone associated with LTH and the evaluation team agreed that there is high quality in the program at Lund University. Knowing how to develop indicators of quality and use them for continuous improvement was the challenge to be addressed. Many were able to describe current quality indicators but had difficulty defining quality beyond these. Because of the high use of the CEQ and annual reports, these instruments/processes were used to define quality at LTH.

Conclusions: Across all stakeholders, there is a demonstrated concern and interest in providing the highest quality educational programs. Many mechanisms currently exist that contribute toward the emphasis on quality. Efficient implementation of these mechanisms is key.

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Project Background

Since the early 1980s, the quality of higher education has been an important topic of concern for universities and programs around the world, with increasing discussions of assessment and accountability becoming part of national conversations and even some political agendas. From 2010, the national quality assessment audits of higher education in Sweden have been carried out using a model that almost exclusively focuses on measuring educational programs through outcomes and impacts. However, now the system is changing to emphasize, at least on the national level, the documentation of a "good" process for gauging and achieving quality. Higher education institution leaders are being charged to provide evidence that educational program quality is evident. Consequently, an institution must define what is meant by quality and the activities that lead to and enhance it.

Lund University is a large and decentralized institution, and the independence of the faculties has been well established. This decentralization does not stop at the central level in relation to the eight faculties, but also applies to the faculties versus their departments, and generally also to the departments versus the individual teachers. The University's faculties are responsible for the quality of the education they provide at first-, second-, and third-cycle levels. Faculty Boards are responsible for ensuring quality assurance measures are implemented and followed up. Heads of departments also play an important role in creating and maintaining educational quality. In fact, every employee at the University is seen as having responsibility for providing a high quality education. Given the number of people and the different levels involved in developing quality, potential issues may arise related to common definitions of quality; in fact, alignment has been noted previously as an issue in Lund University quality work assessed under one of the previous national quality audit systems. One report (http://www.hsv.se/download/18.d09bd2412506e25d637ffe1496/0930R.pdf), recognizing the overlapping, autonomous structures of the University, pointed out that "Lund University's position as one of the largest Nordic universities is a major challenge in relation to the university's ambitious objectives with quality work."

Two years ago, Lund University's Education Committee decided to launch a project on the quality assurance of education at Lund University. The project was a step towards obtaining a consistent and effective quality system that "... will withstand scrutiny based on the requirements both nationally and internationally." This project builds on previous observations of what has occurred at the national level as well as the activities carried out thus far on the local level. Given the independence of the faculties at the University, it is not surprising that the design of quality systems is different for each faculty within frameworks established by University policies.

The Faculty of Engineering, LTH, has been at the forefront of many of the recent Lund University initiatives regarding quality. For instance, at LTH, a quality management system is in place that includes a series of interconnected processes and activities. Examples include:

1. Course surveys and evaluations that focus on constructive interactions between students, teachers, and program directors;
2. Annual reports by the program committees, as follow-ups relative to the goals spelled out in the Strategic Plan of LTH;
3. Annual reports by the Education Boards at LTH that compound annual analyses of program quality, and are reported to the Dean;
4. Reviews of students' masters level final projects by the National Board;
5. The Dean's annual report to the Faculty of Engineering's Faculty Board; and
6. The Dean's annual quality dialogue with Lund University's management and senior staff.

In addition to these processes and products, educational quality in LTH is enhanced through educational development work carried out by the "Genombrottet." This unit provides consultative teaching support and teacher training. As part of the work of this unit, lecturers can apply to LTH's "Teaching Academy" where they work toward being credentialed as an "Excellent Teaching Practitioner (ETP)."

These specific activities follow the direction set by the LTH Strategic Plan: 2012-2016. That plan "links in with the Lund University strategic plan," and "lays the foundation for the development of our value-adding core activities." Core values outlined in the strategic plan include visibility, openness, clarity, and participation. The plan also promises that "systematic quality assurance in terms of both processes and results" will be conducted.

Despite the fact that these activities formally are in place, there are still questions about LTH's quality management system and how it works in practice. Little documentation exists to show how these elements individually and together support quality enhancement work.

Purpose of the Evaluation

The purpose of this evaluation project was to provide an external look at LTH's quality management system and quality assurance work by soliciting information and giving voice to the perceptions of LTH stakeholders, including students, teachers, program directors, and other administrators. An initial goal was to identify how quality is defined in LTH. Of particular interest was whether or not the existing quality management system provides the data and tools that allow stakeholders to execute meaningful, quality enhancing work. Thus, the evaluation was designed to support continuous improvement at LTH and help with LTH's accountability process.

This evaluation, though conducted from an external viewpoint, was carried out by individuals who have knowledge of LTH and associations with certain members of the faculty. LTH has had, since 2009, a collaboration with the Office of Assessment and

Evaluation at Virginia Tech (VT). The collaboration began when VT and LTH were partners in a project within EU-Atlantis, a program for cooperation in higher education between the EU, USA, and Canada. The project was called E-Evaluate and led to a series of publications on the impact of dual degrees in engineering (see Culver, Warfvinge, Grossmann, & Puri, 2011). Since 2012, VT and LTH have organized a joint annual workshop to discuss evaluation and assessment. In June 2014 this meeting was held in Lund, with the participation of representatives from the Office for Quality and Evaluation at Lund University. Given these past associations, the evaluative team comes with *a priori* knowledge regarding LTH, its teachers, and its programs. The evaluation team recognizes that LTH is a complex organization with many different stakeholders, both within the faculty and the University, but outside as well.

Methodology

This utilization-focused evaluation was designed with the goal that results would be useful and have practical implications (see Goodyear, Jewiss, Usinger, & Barela, 2014). This evaluation involved making judgments about what was meaningful in the data collected and in the evaluation experiences while visiting with LTH students, teachers, administrators, and colleagues (Patton, 2015). Qualitative methods were implemented utilizing basic qualitative principles, assumptions, and practices. Throughout the evaluation, data were collected systematically and analyzed thematically, using constant comparative methods and content analysis. An iterative process resulted with issues surfacing and themes emerging. Interpreting data was done with coding, memo writing, and developing a compelling report.

Quality and rigor of the research process was of high concern. Multiple considerations were made to create credible, vivid, and persuasive results to be considered by the readers of the report. Rossman and Rallis (2012) call for general strategies for ensuring credibility and rigor including triangulation, prolonged engagement, participant validation, a peer debriefer, and a community of practice. Focus groups, document analysis, a preliminary reporting session, and individual interviews were used in gathering data. These multiple sources of information allowed for triangulation among the data points with an iterative process of an ongoing review of the data. Considerable time in the field (i.e., time spent on the Lund University campus) was an important factor in establishing credibility. Additionally, beginning document review before the visit and being on site during data collection provided time for the evaluators to have full consideration of data collection plans as the process unfolded. Having a critical colleague from LTH who served as a peer debriefer continually helped to modify data collection decisions, develop possible analytic categories, and build explanations as the campus visit unfolded. The community of practice, with four researchers, and multiple professionals associated with the program working together also provided critical, intentional, and sustained analysis.

Six focus groups were conducted through a data collection strategy that allowed interviews with multiple informants at the same time. Groups were designed to elicit information that one-on-one interviews would not accomplish (see Lapin, Quartaroli, &

Riemer, 2012). While all of the focus groups were guided with predetermined questions, the vast majority of group discussions were animated and unrestricted in content. The sessions appeared to be comfortable for all involved, with facilitated conversations conducive for a creative exchange of ideas. The questions were the guide, but the leaders created a stage where the discussion and expressions of various opinions and viewpoints surfaced. Careful consideration for each focus group was given to recruiting a wide variety of key informants who were regarded as trustworthy and credible sources of information about LTH. Organization leaders decided whom to invite to the focus groups and issued invitations to these potential participants. Invitations, food or snacks served, and every other part of the interaction with participants were designed to maximize the quality and amount of the information obtained as suggested by Krueger and Casey (2015).

Results are reported with a presentation and discussion of themes. Creswell (2013) describes themes as broad categories of units of information that join together to form a common idea. The data were reduced to a manageable set of concepts organized with a discussion of the supporting information that served as the basis of each theme. As many details as possible are reported while recognizing that reporting results is only a part of the process. Interpretation is the critical stage and a last phase of the research project (Schensul, & LeCompte, 2015), with attention to cultural nuances that intersperse the evaluation context (Goodyear et al., 2015).

Data Collection

Review of related documents, such as the LTH Strategic Plan and materials associated with the Course Experience Questionnaire (CEQ), began in mid-February 2015. Dates of on-campus data collection were 09 March – 13 March, 2015. During that timeframe, focus groups were held that lasted 1½ hours each with a group of students, a group of teachers, two groups of members from program boards, a group of educational board chairs, and a group of student support personnel. In addition, the evaluators met with two representatives from the University evaluation office, with professionals from the Genombrott, and with the deputy dean of LTH. Furthermore, every morning the team met with Christina Åkerman, Quality Coordinator at LTH, who served to help reflect on the previous day's data collected and plan for the current day. Her attention to detail and her ability to reflect on processes at LTH were invaluable to the project.

Limitations

With any research and data collection technique, there are limitations. In this case, a set of limitations is associated with the use of focus groups. When people are under study they may engage in behaviors that are triggered by their awareness that they are under scrutiny (Alvesson & Karreman, 2011). Some participants become more thoughtful, more verbal, or express views more forcefully than they really mean. Some participants may hold back during the conversation and talk to select peers after the

session. Though steps were taken to mitigate these effects by providing a conversational and welcoming moderation for the focus groups, such concerns should be noted.

Other limitations arise from the positionality of the researchers who are familiar with Lund and LTH but not associated with the University or with the Swedish higher education system. The evaluators acknowledge the responsibility they have to become aware of their influence and beliefs and resulting biases (Jones, Vasti, & Arminio, 2014). As researchers from the United States, we bring attitudes toward and practice within higher education that may be different in some ways from those in Sweden. For example, the use of student learning outcomes to guide the valuation of quality in academic programs has been heavily adopted in the United States and central to program accountability efforts in higher education; this practice may affect the research team's valuation of quality assurance practices aimed mostly at the course level.

Findings

Through review of documents related to the mission and scope of LTH within Lund University and activities related to quality improvement in the faculty (e.g., Olsson & Roxå, 2013) and across these interactions with LTH stakeholders, several key themes emerged regarding perceptions of LTH's current quality management process and activities. These themes were communication, clarity and transparency, alignment, systematic approach, and adapting to change; they serve as a way to organize and categorize the results of data collected during the research phase. These themes are strongly inter-related and in some cases overlap with each other. During the course of on-campus conversations, participants offered praise for existing system elements and suggestions for how quality management processes at LTH could be more effective, including challenges believed to hinder quality management activities from facilitating quality improvements and from developing effective continuous improvement practices.

Communication

The first, and perhaps most important, of the themes derived from this evaluation was communication. Across multiple data sources, including all six focus groups, there was a clear demonstration of the need for enhanced communication among the stakeholder groups regarding quality and quality assurance. The Strategic Plan emphasizes communication patterns that make clear "what decisions are made, who makes them and for what groups they are made." In Academic Year Annual Reports, programs are encouraged to complete "comments and actions taken" sections that provide a place for discussions and explanations related to reporting of key performance indicators. These are examples of fully institutionalized methods of communication.

This emphasis on communication was noted in the focus groups as well. For instance, participants mentioned a need for increased communication ("collaboration and communication in all directions" noted one participant) as a way to improve quality at LTH. There was a widespread stated belief that good communication is needed in order to achieve quality, and that quality is not achievable without effective communication.

One participant emphasized the point by saying that "conversation generates quality, not surveys." Furthermore, in each focus group, different examples of communication were noted. Students, in their focus group, for instance, described communication in terms of teachers talking to each other to better align the courses in the programs so that material is not excessively repeated. For example, one student suggested that teachers could ask, "What are you teaching in the 1st year and what am I teaching the 3rd year?"; the student continued, "[we] don't need a high tech system, it's called dialogue." In their focus group, teachers similarly described communication as a way to better align courses in a program; one teacher suggested that it is "good to talk to people upstream, so we have a realistic expectation of what [the students] should know and downstream so we know what [the students] already know." Teachers also mentioned that it would be helpful to have more built-in time for conversation. One teacher in the focus group suggested, that like teachers in primary and secondary school, there could be time set aside for them to specifically work on developing their teaching. This time was discussed in terms of collaborative planning work, not individual work. In other, separate focus groups, program directors, administrators, and educational board members agreed, without any prompting, that more communication among the various groups would be helpful.

In several focus groups, the participants mentioned that the time spent talking in the focus groups with colleagues was valuable and they would like to have more time to meet with each other. In the teacher focus group, for instance, two teachers had not met each other previously but then engaged after the focus group, discussing how to cooperate in future course design. A positive example in communication that was mentioned in several focus groups was the CEQ meeting with students, faculty, and program directors at the end of a course. Many agreed that these conversations, as well as the free text responses on the instrument, were the most beneficial part of the CEQ process.

Clarity and Transparency

Through these conversations on communication, two other closely related themes were evident. Stakeholders talked of concerns about clarity ("do we agree on what quality is?") and transparency ("do we know what each of us is doing to improve quality?").   Interestingly, when first asked to define what was meant by "quality," many participants either had no response or talked about the CEQ (though participants were confused about whether the CEQ was a course evaluation tool or a program evaluation tool).   After prompting and some discussion, quality at LTH by some participants was described in terms of student success (e.g., graduates getting good jobs, being successful engineers and other productive professionals). Quality was also tied to good teaching. For example, participants shared that quality occurs when teachers are engaged and get students "excited about learning." Students wanted clear and explicit goals, as did some of the teachers. Said one student, "this is where we want university to be—clearly state where you want to go and give teachers freedom to reach that goal." Completion of research activities was also noted as an aspect of quality.

Quality was also strongly linked to LTH leaders "doing what they say they will do," delivering on stated promises and fulfilling the stated mission. Multiple participants shared that they are not always sure about who is ultimately responsible for developing and implementing quality improvements since the quality management system at LTH involves many different groups/moving parts. [To an outsider, it is a very complex system.] As part of the discussions related to quality and leadership, participants in multiple focus groups (e.g., students, administrators, program directors) suggested that a better job description for program directors is needed. More specifically, participants were interested in a job description that is more strategic/visionary and discusses the purpose of the role rather than just providing a list of duties. Participants also suggested that more training should be provided to program directors, with one focus group also suggesting that more training should be provided to educational board members.

Transparency was another issue raised by participants across the focus groups, often mentioned in terms of the need for more openness related to LTH quality activities. For example, multiple groups talked about the need for teachers and program directors to be more transparent about what improvements have (and have not) been made. Currently, it appears that at least some people do not know whether changes suggested as part of the CEQ or annual report process have been implemented. In fact, it was often described that it is unclear to many how the annual report relates to quality. Both students and teachers commented that teachers do not always report previous CEQ results and any associated improvements to students at the beginning of each course even though the CEQ process requires them to do so. Students suggested that this practice is highly valued by LTH students since it demonstrates that teachers care about continuous improvement and are open to making improvements. Students also suggested that if more teachers discussed CEQ results in class, it could improve CEQ response rates. Low response rates on the CEQ were mentioned as an issue across most focus groups. The major strategy proposed by participants to increase transparency was to increase the amount and/or quality of communications in LTH.

Feedback Related to the Course Evaluation Questionnaire (CEQ). The CEQ is an important element in the measurement and improvement of quality at LTH. It is also seen as the most widely used instrument since it is given to students at the conclusion of most courses. Given this circumstance, it is not surprising that comments about the strengths and weaknesses of the CEQ were often given as comments when discussing the quality assurance system at LTH. For many, the CEQ is the most tangible component of the LTH quality improvement approach. Many comments about transparency and communication regarding quality came from stakeholders' experiences with the CEQ.

While many participants viewed the CEQ as a rigorous quality process, the perception was that it is not currently implemented consistently. One student commented that the CEQ is great in theory, but not always in practice. Participants shared that while the CEQ process does sometimes result in positive change, other times it does not appear to have a positive impact. Students suggested that the amount of change resulting from the CEQ depended on the degree to which individual teachers are open to/interested in

change and the degree to which program directors are interested in change and/or able to hold teachers accountable. Students also reported their concern that the CEQ process with meetings, etc., is not utilized for master's-level courses. Students saw this omission as a weakness in the current system.

Both students and teachers indicated that students do not always know best when it comes to course evaluations. Students do not always realize what will be helpful to them when they finish their degree and begin working. They may rate a class poorly on the CEQ at the time they were enrolled, but then find the content to be very valuable when they are employed. Concern was brought up that the CEQ is questionable in terms of ethics or academic freedom in cases where teachers get "slaughtered" by negative student comments.

Other concerns were voiced about the validity of student responses on the CEQ. The CEQ is used "for each and every course," and is "a very "time consuming" and "labor intensive process." Consequently, the reactions of students might not be so reflective; rather, they tend to view it as "just something that needs to be completed (again)." It might be better, said one teacher, "to try to talk to students after year one to reflect" and look back on the full year to think about what worked and what did not. Similarly, students described a need for fewer "course evaluations" and more "overall examination of the program quality." Several teachers noted that the process is not flexible enough to be effective. For instance, syllabi are approved by the educational board "way in advance" so changes cannot often be made in a timely manner to address issues "until the next cycle." Sometimes, noted one teacher, it is difficult to identify "useful information on the CEQ for course improvement." Some participants in the teacher and program director focus groups were dissatisfied with the current time line: they wanted to be able to make changes while the course is in process or shortly thereafter. In fact, one program director felt that LTH had only implemented "half the system;" the CEQ system "is well developed post-course, but nothing is done while the course is in-progress." This is a big gap right now, said the participant. One of the students also pointed out that the CEQ can only facilitate improvements "for the *next* group of students."

Feedback Related to Annual Reports. Annual reports are the other mechanism most commonly recognized by stakeholders as part of the quality enhancement process. Consequently, the pros and cons of annual reporting became discussion points related to positive and negative aspects of the current quality process. For most participants, there was the perception that annual reports are simply reports that look at the recent past (i.e., "backward looking") rather than providing information to go forward in the future. The reports don't emphasize looking across years for trends that could better inform future work. Often, the reports do not contribute to improvements because, as one director stated, "some of the reporting, we can not influence it, like general social problems, such as representation of women in certain fields." However, another reported, "We can not influence social problems, but good to keep an eye on them; and in a way, we can influence them—if other universities have more women, it becomes a sign that we need to do something; some of these goals seem unattainable, which is de-motivating."

Program directors reported receiving limited feedback on annual reports and the stated perception of teachers was that completed annual reports were not shared with them. Few people appeared to be involved in changes or even know of changes resulting from this process. One suggestion stated by several program directors and educational board members was to improve the annual report process by shortening the report and reshaping it. As suggested, perhaps reports could focus on one major topic per year that then rotates in a cycle (e.g., every five years we look at X). Major topics could even be tied to the LTH strategic plan, noted one educational board member.

Alignment

Alignment was another theme that emerged from the data collection. Alignment can be broadly defined as the degree to which the components of an education system—such as standards, curricula, assessments, and instruction—work together to achieve desired goals. Graphic diagrams that illustrate the relationship between study programs and courses demonstrate the importance of alignment between course objectives and course placement within a program to best optimize the outcomes of the program. This theme of alignment (i.e., coherence and effective connections) was examined by review of the diagrams and revisited through discussions in the focus groups and with administrators.

Students and teachers both emphasized the importance of having courses aligned across a program so there is less repeated material. Students mentioned wanting to know the context for each course and where it fits into the overall degree like "a roadmap inside your head." Teachers agreed that there was sometimes repetition in course content and felt that more communication among the faculty could improve this. In the program director, administrator, and educational board focus groups, participants also mentioned alignment in terms of courses. One group suggested that the CEQ, if used at the program level, could improve alignment of courses. Another concern related to alignment among some participants was that as LTH works to develop and maintain quality systems they should align with policies and practices of Lund University and ultimately with what the national educational system wants.

Increased communication and collaboration were the primary strategies suggested by participants in order to improve alignment. Students stated that it would be very helpful for teachers who teach different courses and in different years to talk to each other more often so that material is not repeated and any gaps can be filled. Some stakeholder groups, such as students and administrators, also shared that more program-level assessment was needed in order to improve alignment.

Reasons provided by participants for the current lack of alignment at LTH were that "contact within the system is lacking," there is "no flow," and some current goals are unrealistic. For example, some goals may look good on paper, but they are impossible to meet in practice. One participant shared the view that "alignment with different levels is hampering a systematic view of quality" at LTH. Participants pointed to several issues regarding alignment. One issue was a perceived lack of alignment between the course-level and the program-level.   Although the majority of participants across different focus

groups were supportive of the CEQ process, multiple participants expressed a belief that program-level assessment was needed in addition to the course-level assessment they believed was the focus of the CEQ. Students, teachers, and administrators talked about the need for more program-level assessment and how it would be helpful for students and teachers to see more of the big picture, how courses relate to one another, and where they fit into the overall degree program.

Additionally, there was a perceived lack of alignment between desired learning outcomes and what students learn. Two reasons were noted here. First, there are many options and specializations for students in LTH programs so the "core" of each program can be hard to define. Also, master's-level students come from many different countries and can have very different backgrounds. Multiple participants shared that it is difficult for teachers to get students to the same end point since students enter at many different levels. These differences are important to note because currently there are very few direct measures of student learning at LTH at the program level (for many programs, just the master's-level final projects). Some participants expressed an interest in implementing more direct measures of student learning outcomes.

Systematic Approach

Another theme discussed across different focus groups was the need for a more systematic approach to quality management activities at LTH. A lack of a systematic approach to quality management was perceived as an impediment to improvements in future. In each of the focus groups, participants were asked about measures of quality at LTH and in most cases both the CEQ and the annual report were mentioned. Regarding the CEQ, almost everyone agreed that the most useful components of the CEQ were the conversations among students, teachers, and program directors after each course and the free text responses. Of the participants who mentioned the annual report, many agreed that it contained useful information, but suggested that it was not widely read. Another issue on the annual report was the requirement to report indicator numbers over which program directors believed they had little control (e.g., numbers of men and women enrolled). Program leaders did not indicate that they had a role in recruitment or other responsibilities that could have an impact on the numbers like the gender division in the programs. Activities designed to improve the gender balance are conducted but the idea of completing the report seemed to be more about recording numbers than an opportunity to enhance quality improvement.

Beyond the CEQ and the annual report, however, there seemed to be a variety of other quality measures in place in courses and in programs, but no systematic approach to collecting this information across LTH. One participant stated, "we have lots of quality initiatives, 'islands of initiatives,' but if you ask each person, you'll get different answers regarding quality." Many people discussed utilizing additional measures of quality and collecting their own data in addition to the CEQ, annual program reports, and the evaluation of master's-level projects required by the national quality agency. These additional measures (which participants found to be valuable) included alumni surveys, less formal contact with alumni, focus groups with students, in-class paper surveys, and

in-class discussions with students, but they were not implemented across all programs. In fact, most of the others in the focus groups were interested in these activities when they were brought up and wanted to hear more about them. A couple of participants also mentioned benchmarking.

Multiple participants recognized that although the CEQ is one way to measure teaching quality, LTH needs to measure quality in other ways too. Some programs currently have official advisory boards (which they find to be helpful), but others do not. Student involvement in program boards currently varies (sometimes it is very good, but other times it is more limited).   There is sometimes either no follow up or limited follow up on changes suggested by LTH quality activities. If recommended changes are not implemented, there appears to be no negative consequences.

Adapting to Change/Drivers of and Challenges to Quality Improvement

Although not explicitly stated in any of the focus groups, adapting to change was an underlying theme in most aspects of the data collection. In several of the groups, for example, participants mentioned the growing influence of industry in higher education. Some participants in each group defined quality as students obtaining jobs, oftentimes in industry, as a measure of success. Others stated that there was a risk in trying to satisfy the current needs of employers, as they may not have the foresight regarding what students will need in the future. Participants recognized the need for curricula to change over time to meet contemporary demands, but they were not sure how best to determine what changes should be made. Multiple participants also mentioned the state of the economy in Sweden and how budget cuts could negatively impact the quality of education at LTH.

As participants discussed the future of education at LTH, they shared multiple ideas regarding additional drivers of and challenges to quality improvement. One of these issues was the quality and vision of the leadership. For example, there was agreement across focus groups that program directors play a very key role in the quality management process at LTH. Some program directors were more effective than others, and this directly impacted quality improvement. Participants shared that even if program directors perform very poorly, they may not be removed from their position.
Multiple participants commented that currently used mechanisms to measure and enhance quality have issues that limit their use.   Information from the required annual program reports is not shared widely and many at LTH are not aware of changes that result from this report. Similarly, many issues have been raised regarding the use of the CEQ and the course evaluation process. These concerns are noted previously in this report.

Comments in most of the focus groups suggested that the current system sometimes fosters competition rather than collaboration. This perception is especially pertinent in light of other comments related to change and the quality process. Change usually takes place as a result of negotiations. For example, program directors have little formal power and must rely on their negotiation skills to foster positive change. Thus, sharpening these negotiating skills becomes part of the improvement of quality process.

Participants in the focus groups believe that the change process appears to be very person-dependent right now.

Teachers in particular pointed out another potential driver for change. They discussed the current relationship and potential relationships between LTH and industry. It was viewed as a current positive measure to ensure that students become licensed engineers; that is a way LTH is used to being measured. One participant shared, "We evaluate ourselves and the students evaluate us, why not have fresh eyes evaluate what we should be doing?" Faculty stated that they felt that LTH was moving in that direction, and noted "meeting with industrial councils" where there was a discussion of program content or curricula. So far, however, the perception was that industry has not influenced education much yet, but "could be moving there." Others in the focus group, however, were concerned about the risk associated with listening too much to industry. For instance, "They know what they want now, but do they know what they need 10 years from now?" After all, noted one educational board member, there has to be a balance where we have to listen to industry but not listen too much: "industry is hiring them," but it is the taxpayers who are paying for education.

A major challenge to quality improvement was time: both the timing of quality activities and a lack of time for improvements. Across all groups, participants stated a concern that there was a need for more time to make changes when indicated. For instance, there was the perception among students and faculty that there is currently not enough time for course redevelopment and to make changes in between when a course is evaluated and when it is next offered. Future course development was an issue for those in the teacher focus group who were concerned about the cancellation of advanced courses if enrollment is low. If there are fewer than 12 students then the instructor is not paid for that course. Faculty were concerned that students do not always know what they really need to be successful; also, they stated that students should not have so much control over which courses are taught in a program. Participants felt that canceling advanced courses negatively impacted current quality but perhaps future quality as well if the program cannot adapt quickly.

Conclusions/Recommendations

As has been noted by Martensson, Roxå, and Olsson (2011), quality assurance has been generally met with skepticism in higher education institutions, so much so that there is often a divide between quality assurance and quality teaching practices. In this project, however, across all stakeholders, there is a demonstrated concern and interest in providing the highest quality in educational programs. Every person in the groups, including students, believed that they had a responsibility for quality improvement. There are also many mechanisms (e.g., the CEQ and the annual reporting processes) that currently exist that contribute toward the emphasis on quality. Involvement of all constituencies and these existing mechanisms provide a strong basis for moving forward in the improvement of measures and enhancement of quality. The central themes generated from this project provide foci for moving forward.

Discussion of communication issues

There is a perceived need for time and space to communicate about teaching and to discuss growing theoretical and empirical literature on learning. It may be the existing work of the Genombrott can lead to extended opportunities for these discussions, stemming from what has already been accomplished through the Pedagogical Academy. The Academy was established to raise the quality of teaching and, as a result, student learning (Olsson & Roxa, 2013). In addition, the assumption has been that rewarded teachers will contribute to improved teaching in their departments (Ashwin & Trigwell, 2004). The focus has been on teachers in the classroom and so far courses have been the unit of reflection. Perhaps the documented success of these efforts can be extended to reflections on programs, extending faculty thinking beyond their individual courses to how their courses fit in the curriculum and how students learn in their courses as part of a total curriculum. Alumni and industry representatives would be valuable allies in these discussions of program-level quality and design.

Discussion of clarity and transparency

Though most stakeholders agree that there are mechanisms in place to enhance quality, they are less convinced about an appropriate level of transparency regarding quality improvement processes. This perception is due in some measure to a lack of clarity. Though quality is clearly the responsibility of all students, teachers, and administrators, educational quality is not a term that is well defined and agreed upon by the different stakeholder groups. Discussions of quality end up focusing on the CEQ and annual reports because they seem to be the most visible aspects of the quality improvement process. Issues with these measures are also seen as issues with the quality process. For instance, it is unclear for many whether the CEQ has a course improvement focus or a program improvement focus. Changes made as a result of information collected by the CEQ and annual reports are not regularly reported to all stakeholders.

Discussion of alignment issues

One of the most frequently used alignment models is the Webb Model, which provides specific criteria for alignment, including content focus, articulation across levels and ages, equity and fairness, pedagogical implications, and system applicability (Webb, 1999). Content focus concerns the development of student knowledge of the subject matter. Articulation across grades and ages concerns the way a student's knowledge grows and changes over time. Evaluation of the articulation should be based on research about how students learn. Equity and fairness corresponds to issues of diversity in the student population, particularly for LTH as it works to enhance the quality of education provided to international students. Strong alignment between standards and assessments must account for diversity and make high levels of achievement possible for all students. Pedagogical implications include the factors that influence student learning, such as

attitudes toward subject areas and the technology, materials, and tools that are used in classroom instruction. For example, if the standards require a student to know how to use a certain software, the assessment should allow students to demonstrate the use of such technology. System applicability requires standards and assessments to be aligned in realistic, manageable, and credible ways that are useable on a day-to-day basis.

Discussions of a systematic approach

The majority of those in the focus groups indicated that improved quality could only result through a systematic approach to measuring identified outcomes, making changes based on the data collected, and then evaluating those changes. These connections should be formally and obviously drawn to enhance participation of all stakeholders. Lack of clarity and communication serve as barriers to such a systematic approach. Another barrier may be a culture that some perceived as competitive rather than cooperative.

Summary

In summary, there is extreme interest among those in the LTH stakeholder groups were spoke with in regards to quality assurance and quality improvement. However, while many individuals had difficulty articulating what was meant by quality, all stakeholders described being invested in working toward establishing and continuing quality assessment measures. Key themes that help focus future work in the improvement of quality improvement systems include enhanced communication within and among stakeholder groups; increased clarity and transparency related to the purposes of data collection and what changes are made as a result of that data; increasing alignment within programs and with quality processes through more obvious connections among standards, curricula, assessment, and instruction; and providing a systematic approach to quality improvement that is accessible and understandable by all LTH stakeholders.

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