

EDUCATIONAL VALUE IN DISTANCE AND IN CAMPUS EDUCATION SEEN FROM A STAKEHOLDER PERSPECTIVE – THE CASE OF SWEDEN

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Abstract

The popularity of distance education is on the rise in many countries, but distance education is also subjected to severe criticism. In Sweden, distance education has grown considerably during the last decade and about a fifth of all students are now studying on distance. In Sweden distance courses have been criticized for a lower throughput compared to campus courses and for lower productivity, which could be seen both as inferior quality and ineffective use of funds. In Quality Management what constitutes quality is decided by the customers. It could be discussed who the customers in the educational systems are – students, employers, state and others? Only when we have identified the customers and their needs can we compare how these are satisfied with campus education and distance education and form an opinion of the quality levels. With a broad customer definition we approach the idea of value for stakeholders, which would additionally include at least the management, the lecturers, the local community and the environment. Results indicate that what constitutes quality in education is not well defined. There is no indication of distance education having a lower quality, but rather the contrary, when using common quality definitions. An apparent area of improving the educational system in Sweden is defining and measuring quality better.

Keywords

Action research; Campus; Distance; Quality Management Education; Educational Quality.

Introduction

Distance education is gathering popularity in many countries and Sweden is no exception. According to latest figures 22% of the total number of students is studying on distance. From 1999-2009 the number of distance students grew with 400% in Sweden (HSV Rapport, 2011). However, many distance students only study part time and when translated to full year student equivalents the figure is 14% out of the total. Still, distance studies start to be an option which needs to be considered. For students working full or part time distance studies offer a convenient option. In Sweden, distance education has grown considerably during the last decade and about a fifth of all students are now studying on distance. In Sweden distance courses have been criticized for a lower throughput compared to campus courses and for lower productivity, which could be seen both as inferior quality and ineffective use of funds. (HSV Rapport, 2011; RiR, 2011).

Universities in Sweden are mainly financed by the government and funding will in the future depend more and more on the university quality performance. In Quality Management what constitutes quality is decided by the customers. However, the quality definitions used in the Swedish educational system do not seem to be very clear. Starting from 2011 the university educational quality will be measured based on the quality of theses written.

Generally distance courses have a lower throughput, which means that a university with a high proportion of distance courses will be having a lower average. This affects many of the

ranking tools used. A common interpretation in universities seems to be that more focus and developmental resources should be put into promoting campus education. In for example Gotland University funds from distance courses are transferred to campus courses. This could be in conflict with the increasing demand from mature students needing an update of their knowledge (Ljungblom & Isaksson, 2008). Mature students seldom have the chance to attend campus education due to day time lectures and distant location of university. For the lifelong learning, being one of the objectives for the Swedish government, distance courses play an important role (HSV Rapport, 2011).

Local communities prefer campus students since the traditional campus student is still seen as the most valuable one for the local economy in boosting the population number and increasing consumption. However, students of today come in all ages and with different needs. There is a risk that personal experiences and views held by politicians and decision makers and local interests affect decisions on whether to provide courses on campus or distance. Using educational resources in the best way is in the interest of everybody. An objective way of comparatively studying quality in campus and distance education could be to look at value produced for all stakeholders in the educational supply network.

The overall purpose of this paper is to compare value adding for different stakeholders in the educational network for campus education and for distance education and to suggest suitable indicators. We also want to argue for that the use the customer and quality concepts as defined in Total Quality Management will help in identifying relevant performance indicators and in assessing quality correctly.

What is quality?

There are many definitions for quality. We use one from Bergman and Klefsjö (2010) who define quality as:

“The Quality of a product is its ability to satisfy, or preferably exceed, the needs and expectations of the customers.” (Bergman & Klefsjö, 2010:23).

Quality can also, according to Garvin (Bergman & Klefsjö, 2010:25), be defined in five perspectives, which are the transcendent, the product-based, the manufacturing based, the user-based and the value-based. The user-based is the one closest to the definition above by Bergman and Klefsjö (2010). In the value based perspective quality is defined in relation to cost and price. The product-based view holds that to what extent there is quality is exactly measurable. This view claims some objectivity which cannot be judged by the customer. A product is defined as any combination of goods and services and could thus be an educational product. The customer is defined as:

“The people or organizations that are the reason for our activities”, i.e. “those for whom we want to create value” (Bergman & Klefsjö, 2010:27).

The customer definition of Bergman and Klefsjö (2010) is very broad and is bordering to what other authors define as stakeholders, which are those affecting or being affected by the activities of the organisation. It can be argued that universities have several customers, these being such as the student, the future employer, the state, the parents of and the family of the student etc. Using the Bergman and Klefsjö (2010) definition on customers we could even argue that management, lecturers, the local community, future generations and the environment are customers since the educational processes provide indirect value for them.

Especially in a situation like in Sweden where most of the funding comes from the state it would seem logical to focus on how to maximise value in the educational supply network, while minimising use of resources. However, since the term customer is not always well understood in the university world we use the term stakeholder. For us stakeholders are all those being affected by the educational processes and all those affecting the educational processes.

With scarce resources for providing adequate education and with different funding for different types of courses the value based perspective could be suitable to assess educational performance for different stakeholders in connection with the user based perspective where quality is assessed by the customer. Isaksson and Steimle (2009) propose the value per harm concept in the context of sustainable development with the idea being that in any system the best level is when the ratio stakeholder value per stakeholder harm is maximised. Additional conditions are that none of the stakeholders are subjected to unacceptable harm. This model relates to the value based perspective above and it should be possible to use value per harm for customers in the educational supply network as one criterion for performance.

Methodology

The research is mainly based on a case study of Gotland University. The choice of Gotland University is based on convenience and access to data. Since the actual level of performance is not in focus but instead the relative performance of campus and distance, we believe that a random choice of a university is acceptable. Additionally official reports and the web-site for the Swedish National Agency for Higher Education (HSV) have been studied. University education is studied as a process starting with students that have been accepted to higher education and that ends with students having had some working experience using the education that they have received. We study four different types of educational processes, which are individual courses on campus and distance and graduate programs on campus and distance. This separation is needed because the type of students differs considerably. Students doing programs on campus are mostly young persons, studying for their first exam. Students doing individual courses on distance are mostly mature students with an employment. In these educational processes we identify the main customers and main customer needs in order to propose a set of suitable performance indicators that can be used to compare campus and distance education. Based on course evaluations, we can compare the student perception of campus courses compared to distance courses. We also use two specific studies of distance course students to highlight educational relevance and value. We create indicators that are based on main customer value such as university credits, exams, student course evaluation level, throughput, economic performance etc. We also look at main harm indicators such as cost and time of studies, carbon emissions and resources used. This enables us to propose indicators based on value-based quality and the concept of value per harm.

The development of distance education in Sweden and in Gotland University

In the year of 2010 there were totally 6 831 students (corresponding to 2 458 full time students) registered at Gotland University in courses and programs. The evolution of the number of students is presented in Table I and the distribution based on full time students on campus and distance is presented in Table II.

Table I. Number of registered full time students 2005-2010, adapted from Lahne (2010).

| Year | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 |
|--------|------|------|------|------|------|------|
| Number | 2335 | 2145 | 2213 | 2396 | 2550 | 2458 |

Table II. Number of registered full time students in different types of education, 2010

| Form of education | Campus | Distance | Total |
|-------------------|--------|----------|-------|
| Program | 643 | 136 | 779 |
| Courses | 161 | 1518 | 1679 |
| Total | 804 | 1654 | 2458 |

Results in Table II show that most of the programs are on campus and that most of the individual courses are on distance. Based on a review we did in 2009 on some randomly chosen leadership courses we found that 92% were mature students and that most of them had an education and 82% were working. From our daily work we can note that there seems to be no changes to this. Based on the 2009 Swedish figures more than 60% of those only doing distance studies are above 30 years and only 4% are under 21 years (HSV Rapport, 2011). It seems that most of the campus students are relatively young and that they are doing their first education. This means that from a process performance perspective the input is different in campus and distance education and that comparing results without taking this into consideration might lead to wrong conclusions. In Table III there is a description of the development of registered students on campus and distance in Gotland University.

Table III. Number of registered students on campus and distance in Gotland University calculated as full time students, adapted from Lahne (2010).

| Year | 2001 | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 |
|------------|------|------|------|------|------|------|------|------|------|------|
| Campus | 1023 | 1187 | 1424 | 1359 | 1307 | 1190 | 1084 | 892 | 807 | 804 |
| % Campus | 89.7 | 83.3 | 75.3 | 64.6 | 56.1 | 55.0 | 49.2 | 37.3 | 31.6 | 32.7 |
| Distance | 117 | 238 | 468 | 745 | 1021 | 974 | 1120 | 1502 | 1746 | 1654 |
| % Distance | 10.3 | 16.7 | 24.7 | 35.4 | 43.9 | 45.0 | 50.8 | 62.7 | 68.4 | 67.3 |
| Total | 1140 | 1425 | 1892 | 2104 | 2328 | 2164 | 2204 | 2394 | 2553 | 2458 |

The results in Table III show that the number of campus students has dropped with some 20% over that last ten years and that the number of distance students has increased about 1300%. In the same time the total has increased. The percentage of distance students has gone from 10.3% to 67.3%. This supports the general observation of increasing interest in distance education. The increase is much higher than the average increase in Sweden. The simple explanation is that it has been easier to increase the distance education while it has been difficult to find students for campus. For many topics it has been a way of survival to change from campus to distance. One of the reasons for the increasing difficulty to recruit campus students to Gotland University could be its location on an island in the Baltic Sea. The local uptake when basing it on an average of 45% of every year group starting studies corresponds to about 350 potential students from Gotland. With three year candidate programs as the most common ones there should be about 1000 campus students if Gotland University campus is as attractive as the average in Sweden. The actual number as seen in Table III is a little bit lower. For Gotland University to maintain its 2500 full year students it will continue to rely on distance students. Having distance students makes it possible to find niches for topics like Programming and Quality Management where the interest among mature students is considerable. Starting 2002 there was special support from the "Net University" with extra funding for distance courses by the state. The Gotland University management of the time was actively promoting the idea which helped to quickly increase the part of distance education. The support was later withdrawn. The Net University changed name and direction in 2006 and was terminated in 2008 (Mattsson, 2007). The impression is that Swedish government support to distance education has gone from very supportive to slightly negative.

A reflection of this is that the current Gotland University management is internally redistributing funds from distance to campus education.

Stakeholders and stakeholder needs analysis

Here we identify stakeholders in the educational supply network and then choose the most important ones for further analyses. We also discuss possible indicators to measure user-based quality, product-based quality and value based quality for main stakeholders.

Students are seemingly the most important stakeholders. In Sweden young people will decide on what to study without much influence from parents. The impression is that in comparison with many other countries there is more focus on the general interest of the topic than on the chances of getting a job later. For universities this means that marketing for campus programs quite often focuses on how fun it is being a student in that particular university. Those educations leading to status educations such as Physicians, Lawyers and to some extent Engineers are popular. Here, students are seemingly more guided by the future employment prospects and the status it brings. Information on employability and salary is quite often scarce. Gotland University does not systematically provide any such information. There is no requirement from the state to provide any such information. The state that finances most of the education has during the last years started to focus more on the economic results. The Swedish National Agency for Higher Education (HSV) defines requirements and can be considered an important stakeholder. HSV also carries out inspections and decides on examination rights and is therefore followed much more closely by the university management than employer requirements. University management is the one giving directives to lecturers and the one that controls performance and could therefore be identified as an important stakeholder in the educational process.

Lecturers, parents and the local community also have an interest in the university and especially the municipality on Gotland has been active in discussing the type of education given by Gotland University. However, to simplify our analysis we have chosen students, employers, HSV and university management as the stakeholders to be studied. We believe that we with the stakeholders identified can define what constitutes quality for them and then use this assessment to compare quality of campus and distance education.

Students

For students the value-based quality definition exemplified with the value per harm concept could be defined as employability per student resources used. The main value is to get competence, which is measured with the number of European Credits (ECTS) and an exam. The main harm is time and money spent for acquiring the exam and competence. The employability value of the exam is related to the content and to the brand of the university issuing the exam. In Sweden the university branding does not seem to be that important as a factor for employability where as the content is. What constitutes value probably differs between student categories. For mature distance students with a previous degree the acquired competence is probably more in focus compared to the ECTS earned. It is occasionally claimed that in some topics there are students studying for interest and not bothering to do the exam. This is mentioned as one possible explanation for a lower throughput (HSV Rapport, 2011). Examples of where the competence acquired is the main value can be exemplified with Gotland University courses in Quality Management where students carry out improvement work in their organisations. In some occasions the work done has lead to promotions. An education that directly leads to competence increase and organisational improvement should be of interest for all stakeholders and especially the state. The problem is that competence

acquired is much more difficult to measure than ECTS. This could be an example of what Deming (1994) says about the risk of numerical goals and “Management By Objectives” where the system understanding is lost leading to sub-optimisation. The current focus on throughput and therefore campus could mean reduced opportunities for distance education and therefore less support to an effective form of lifelong learning.

Competence should be provided with good pedagogy making studying pleasant. In spite of that many students start studies for genuine interest in the topic, the tendency is that most students want to minimise their use of time. For campus students the cost of living and time for travel during study time are typical harm parameters. For environment and society the carbon emissions from travelling are an important harm component.

In Sweden it is obligatory to carry out course evaluations and to publish these results for students. Course evaluations only measure the student perceived quality and do not measure if the right things were taught. If something is missing the student would have difficulties knowing it and things missing might only be discovered when starting working life. However, course evaluation results can be used to assess the user-based quality of the course.

It could be discussed who is responsible for that the content of the education is relevant. If course and education are described well it could be seen that the student should be in the position to decide if the education is relevant. On the other hand especially students going for their first education have to rely on universities providing relevant education that leads to jobs. An important quality parameter is to what extent the education is relevant. Collectively this could be measured as those being employed within their area of education. For this there is only scarce information available from Gotland University, which we do not review here.

Quality for students could be measured as:

- course evaluation results –user based quality
- course evaluation results compared to student time used – value based
- percentage that gets jobs after education (programs) – user based quality
- European Credits (ECTS) for time used – value based
- ECTS per all costs included – value based
- ECTS per carbon emissions – value based
- How relevant the education is for the student – user based

For course evaluation results we have compared results from the Gotland University EVASYS system for campus and distance for the academic year 09/10. Results show a slightly higher average of 3.3 for distance compared to 3.0 for campus (Likert-scale of 1-4 with 4 as highest). The difference is small and we still need to confirm if this is statistically significant. The interpretation is that there is no indication of students perceiving that they get a better education on campus.

We compare the results above to the time students have used as based on their feedback in an extended course evaluation. Here, we only have a limited number of course evaluations and results should mainly be seen as example of how follow up could be done. For time used per ECTS we have a few results from some course evaluations which indicate that the distance student uses less time than the campus student to study with the summarised results being 7.1 hours for distance and 9.2 hours for the campus course. The courses are 7.5 ECTS and are given at half time. Both results indicate that students use much less than the 20 hours expected. The result indicates that the distance students get more ECTS/h or 1.1 ECTS/week-

hour compared to 0.8 for campus students. Seen from the product-based quality view the difference could indicate an inferior quality for distance courses compared to campus courses since there should be a correlation between time used and things learnt.

We have not looked at employability and neither have we looked at the ECTS compared to use of resources. We only carry out some reasoning to describe different study situations. It is likely that a course done on distance from a home computer has negligible additional costs. Also the carbon footprint will be much lower due to the fact that no travel is required. Costs for attending a campus course will vary considerably depending on if the university is in the vicinity or if the student has to move and even has to get a second apartment. In Table IV an indicative assessment by the authors for costs in for different student groups and different types of education.

Table IV. Time and costs for different types of education and different types of students

| Education type | Typical student | Costs | Time | Comments |
|-----------------------|---|---|--|--|
| Campus-program | Young – first education | Living expenses at place of study. Normally low cost for transports. | Time for transport from living quarters to campus – 10h/week | Ordinary living expenses – seldom double costs. |
| Campus-program | Mature – has been working – first education | Living costs at place of study in addition to ordinary costs. Alternative cost for lost working time and for transport to home destination. | 10h/week + transport to home location of about 10 h/week | Could be double costs and high alternative costs because of lost income. |
| Campus-course | Mixed | Transport to campus for lectures – varying costs. Assumption is an average of 15 Euro per lecture which results in 150 EURO for 10 lectures | Time for transport varies and could be long – assessed as 2h/lecture with 10 lectures = 20h for 7.5 for 7.5 ECTS | Increased costs for 10 visits per 7.5 ECTS |
| Distance-program | Mixed | No extra costs No extra carbon footprint | No extra time | |
| Distance-course | Mature – competence development | No extra costs No extra carbon footprint | No extra time | |

The qualitative and semi-quantitative estimates in Table IV indicate that campus programs are an attractive choice for young students without a job. Cost increase is negligible and the extra time used for transport being about 400 hours has a low alternative cost. With no university tutoring fees in Sweden and study loans covering livings costs starting on campus for young students is economically feasible. For mature students having a job and needing a new education the campus alternative could be very expensive with double housing. Additional costs of at least 500 Euro per month would be likely. For ten months of studies this adds up to

5000 Euro. Additionally the 800 h of time used for study year for transports would have an alternative cost as would the time for studying. An approximate estimate for the extra costs using 15 Euro/hour as alternative cost (Swedish average salary after taxes) and 40 weeks of 40 hours (including study time and travel time) results in an alternative cost of 24 000 Euros. With weekly visits to home location there would be 80 trips per study year to a varying cost. Using 30 Euro/trip as an estimate this amounts to 2400 Euro. To this should be added the increased carbon footprint because of travel. The distance program student has no extra costs and can minimize the alternative costs. Provided discipline the distance student can continue working and study part time, which means that the alternative costs is much lower, being the value of free time. This means that the actual cost per ECTS could be zero. The total cost for the mature student who needs to move to the place of study and who needs to take leave from work would thus be over 30 000 Euro per year or about 1.9 ECTS/1000 Euro plus a measurable carbon emission cost. The difference between distance and campus becomes extreme. This review goes some way to explain why young students choose campus and mature students chose distance.

How relevant studies are for a student becomes obvious when the acquired competence meets the working situation. We have used two empirical studies that highlight the relevance for distance courses. From a theoretical perspective individual courses, both campus and distance, could be seen to be much more of the Lean Management pull aspect where needs guide the choice of studies. The traditional program course with front loading of knowledge that is to be stored until used is more of the push aspect of Lean (Liker, 2009). The main question to be answered for the two studies was if what was learnt on distance could be applied in the practise of the student.

Gotland University has since 2002 a distance course called Quality Technology and Organisational Development and since 2003 distance courses in leadership. Ljungblom and Isaksson (2008) studied leadership courses with the purpose of looking at effectiveness and if theories and methodologies were put into use by the students. A survey focusing on students on quality technology courses was carried out in 2009 with the same purpose. The results from this study are similar to the ones from the leadership course survey indicating a high level of student satisfaction. However, the real test comes when theory is put into practise. The questions asked were if what was taught also was used and if it is was relevant. A summary from Ljungblom and Isaksson (2008):

- Have you learnt more about yourself? – yes 89.2%
- Have you learnt to co-operate better with others? – yes 68.8%
- Have you become more secure in your working role? – yes 73.4%

To answer the question “to what extent Gotland University’s current leadership teaching is transferred into practical use in organisations” the respondents were asked for how often they think and use the theories taught, see Table V.

Table V: Thinking and using theories taught based on results from the questionnaire (Ljungblom and Isaksson, 2008).

| Course | Thinking about theories (%) | Using theories (%) |
|---------------------------------------|-----------------------------|--------------------|
| Individual and group based leadership | 92.2 | 75.8 |
| Leadership and Organisation | 90.7 | 84.6 |

Results from interviews confirmed the impression that theories were being used. All 12 interviewees thought and used the theories. Several interviewees indicated that the frequency of use depended on the work situation. Similar results were found in the Quality Management courses. On the question of usefulness of theories the result was 7.8 on a 1-10 Likert scale with ten as highest. The range was from six to ten. Several of the students said that they have used the knowledge directly into their ordinary work situation – process and quality improvements, improvements in environment and cost saving. Especially with a topic such as Quality Management including leadership distance education provides a possibility of customisation which is more difficult to carry out in a campus education. The greater flexibility in time of distance education makes it easier for the student to apply the Lean principle of pull – studying what is needed when it is needed.

Employers

Availability of persons with the right competence is important. Collectively this could be measured with how long it takes and what it costs to employ the competence needed. An indicator which is hard to measure is how the educational competence of those employed corresponds with the expectations of employers. One way of finding out this is to have focus groups with representatives from employers. We do not have access to any such information and only note that this would be important.

Competence could be hard to assess. It could be seen to contain both particular functional skills within the field in question and general skills of communication, co-operation and leadership. In the ideal case some type of employer satisfaction index for new recruitments would be used. For individual courses and mature students it is possible to ask them directly to what extent the education has been relevant and if they can use what they have learnt.

Quality for students could be measured as:

- Employer satisfaction per recruited person – user-based quality
- Quality of person recruited compared to cost of recruitment (could include costs for internal training required to complement basic education) – value based quality
- Easiness of recruiting required competence – user-based quality
- Easiness to recruit compared to initial salary required – value-based quality

We have not looked at the proposed indicators for Employer quality due to lack of data.

Swedish State & Swedish National Agency for Higher Education (HSV)

The state has an interest in seeing that the money invested is used in the right way. One part of this is the throughput on courses. Universities receive funds based on the number and type of students. About half of these funds are paid when students start a course and the other half at completion. If throughput is low then it could be interpreted that money is wasted. The HSV also needs to assure that education is based on scientific basis and checks that the necessary structure and academic competence is available. This could be interpreted as a product-based quality view. The assumption is that with higher academic qualifications the education will be better. It is unclear if there is any scientific evidence to back up this assumption. It should be possible to correlate for example student satisfaction with the percentage of professor hours used for education. The state has an interest in seeing that education leads to tax payers but there are no particular requirements on measurements of employability. The employability as described above under employers could be used.

Quality performance could be expressed as:

- ECTS/costs (with lower throughput this figure becomes higher) – value based quality
- ECTS/lecturer hours – value based quality (could also be product based quality seen from the student perspective)
- Professor hours per ECTS –value based quality
- Number of jobs relating to education per ECTS produced (this could be seen as an indicator of the educational relevance) –value based quality

The productivity of Swedish university education has been highlighted in a report from the Swedish National Audit Office (RiR, 2011). In the report the total value produced in both education and research is compared to the total funding. The best ratio produced is used as a benchmark. Universities characterised as benchmarks score 1 and others lower. The average score for all the universities studied in the period 2004-2008 is 0.93. Out of the 31 universities reviewed Gotland University has the lowest score at 0.75 with a range from 0.48 to 0.90. The method of the assessment has been criticized by most universities (Hultsten, 2011). It has been impossible to correlate the productivity figure to the general level of the Gotland University performance, which indicates that the criticism of the indicator not being very good is relevant (Hultsten, 2011). This does not mean that there are no productivity problems, but only that the official measurement is not good. Unfortunately there is no internal measurement assessing the productivity in Gotland University. A low throughput on distance courses has been mentioned as a reason for reduced productivity. However, the question is how the situation looks like when we track down the hours actually used for the different types of courses. This could be done by comparing total ECTS to total costs, which is not done here or as ECTS to the total lecturer time which is presented for three topics.

Distance courses generally have a high percentage that never starts the education, students that deliver 0 ECTS. The national average in Sweden for 0 ECTS students on distance courses is 38% (HSV Rapport, 2011). The simple explanation is that it is very easy and free of cost to apply and accept a place on a course. The somewhat extravagant Swedish student rights prohibit universities to remove non active students unless they say so. Non active students do often not respond and remain therefore on the course becoming 0 ECTS students. Out of those students on distance that have completed 1 ECTS or more 76% finalised 80% of the course points (HSV Rapport, 2011). When the 0 ECTS students are removed the difference in throughput between distance and campus is considerably reduced. Starting a campus course requires physical presence which requires a certain effort and interest. Since the state pays about 50% of the remuneration to universities at the start of the education this means that there is a considerable sum of money coming in for distance courses for which little work has to be done. From a productivity point of view the interesting question is where this money goes. Is it used to subvention distance courses or is it used for some other purposes? The entire logic of distance courses being less productive falls on its face if the money instead is used for other purposes. For a preliminary check we have looked at the situation in Gotland University based on results from 2010. We have compared the ECTS produced in three topics, Program Development, Quality Management and Business Administration with the number of lecturer hours (Lahne, 2010). Business Administration has most of its courses on campus (85%) and the two other topics mainly on distance (95 and 91%). Business administration throughput on campus is 85%, the Quality Management throughput on distance is 41% and Program Development has 60%. The lecturer hours have been calculated based on personnel costs using 1700 hours for a full time lecturer. Hours used for research are not separated and all hours are counted as campus respectively as distance. Value per

harm is measured as ECTS produced per lecturer time. This results in the following indicative figures for ECTS/lecturer hour:

Quality Management 0.50 ECTS/h
Business Administration 0.51 ECTS/h
Program Development 0.56 ECTS/h

There seems to be no significant difference between the productivity of the different topics even if throughput is much lower on Quality Management. The remuneration from the state is much higher for technological ECTS than for social science ECTS with approximate figures being 170 Euro and 80 Euro per year student ECTS. This would indicate that more time should be used for technology students to provide them with the intended product-based value, which does not seem to be the case. While the technology students get less than what could be expected the economic contribution to the university is much higher from Quality Management and Program Development courses. There neither is an indication from the budgetary results above nor from the hour-quotas used for lecturers that distance education would get more hours per graduating student than campus students. On the contrary, for internal accounting remuneration is internally higher for campus students than for distance students in Gotland University in order to encourage the different topics to work more with campus. To the extent these results could be generalised it means that distance education is at least as productive as campus education and that the extra money received for all those signing up but not starting their education is used for other purposes. A detail which might only apply for Gotland University is that costs for class rooms are added as overhead on all courses including distance courses even if classrooms are not used. With costs for classrooms corresponding to some 5-10% of total educational costs the ECTS/lecturer hour should be higher for campus courses for them to have the same productivity. Since only one third of courses are on campus and two thirds of the cost for class rooms is financed by distance courses there is a considerable risk that campus courses in real terms have a negative contribution and would not be feasible without the contribution from distance courses. The conclusion is that there are no indications of distance courses being less productive, but rather the contrary.

Gotland University Management

The university follows closely the requirements from HSV and currently focus is on throughput and on increasing the number of campus students. The reason for this is that the current government is interpreted of being in favour of campus education more than of distance education. There is also pressure from HSV to have an educational profile, which means that the education given should be to some extent unique. In the ideal case it should be something unique on campus like Wind Power Management, Archaeology, Building Conservation or Game Development, which are mentioned as the current profile areas of Gotland University. Employability for many of these profile areas has not been very good, but since there is considerable student interest this is taken as a justification to continue as before.

Quality performance could be expressed as:

- Percentage campus students – user based quality (management perception of what constitutes quality)
- Percentage of campus students within profile areas – user based quality (management perception of what constitutes quality)
- Economic contribution of courses as ECTS per lecturer hours used – value based quality (as for State & HSV)

The first indicator is followed up. Focus on this could be seen as a direct interpretation from the pressure felt from the state. However, this performance cannot be linked to student or employer quality. The second indicator is also monitored due to the pressure from the state to find a profile. It is unclear how this relates to student and employer quality. The third indicator is currently not actively monitored which it should be in order to focus on improved productivity.

Quality and Academic Quality

The common quality definition used is “the quality of a product is its ability to satisfy, or preferably exceed, the needs and expectations of the customers” (Bergman & Klefsjö, 2010:23). This could be seen as mainly a user based quality definition. We have not found any definition on quality when carrying out a search at the HSV page for “quality”, “quality definition” and “Academic Quality”. There is an extensive list with several hundred entries of how different expressions are defined, but nothing on quality. In the Swedish university world the expression Academic Quality is used. The main emphasis seems to be on having a high enough number of lecturers with high academic credentials such as professors and senior lecturers. It is the task of Swedish National Agency for Higher Education (HSV) to review the quality of higher education. This work includes:

- Evaluating subject areas (main fields of study) and study programmes
- Granting degree awarding powers (HSV Rapport, 2011)

HSV refers to European Guidelines that describe Quality Assurance (ENQA, 2009). It says that that university Institutions should have a policy and associated procedures for the assurance of the quality and standards of their programmes and exams. However, there are no details on who the customer is and how quality is defined. The strategy, policy and procedures should have a formal status and be publicly available. They should also include a role for students and other stakeholders (Julkaisupalvelut, 2005). Hultsten (2011) claims that there are many different views on quality, and that the current view from the ministry of Education as interpreted from the speech of the state secretary Peter Honeth April 6 in Gotland University is that value is seen as employability with focus on the export industry. The older objectives of broadening the student recruitment base, is being downplayed. Possibly there still is some interest for the objective of lifelong learning. The word Quality seems to be used by HSV in many occasions and for slightly different things without it having a well defined meaning. In spite of the limited review of how HSV deals with quality the impression is that educational authorities have not defined what is meant by quality and have not checked how research defines quality. Provided this observation is correct it means that universities have not access to clear and logical guidelines. Instead the task becomes to follow whatever is perceived as quality indicators such as the number of senior lecturer and professors and the quality of theses. The quality of theses could be criticised as a poor indicator for educational performance since it does not take into consideration the input. Highly ranked universities can select the best academic potential and thereby practically assure that theses also will be good even if the education would be mediocre. Additionally the measurement will be further obscured by measurement inaccuracy resulting from different evaluators and varying traditions of what is considered to be a good thesis. Seen from a quality management perspective the chosen indicator for educational quality is very poor product based indicator. Also, it only is applicable for program education and completely excludes the growing distance education

Conclusions and Discussion

The initial research has not found any indication of that distance education would be inferior to campus. Results in Table VI indicate that when main stakeholders and their needs are identified and the satisfaction of these needs is compared for campus and distance that both types of educations have merits depending on the target group. For young students taking their first exam the campus option probably has merits but there is no indication of it being more productive or of a better quality than distance education. For mature students the distance education is much better in providing value for lower costs and lower resource use.

Table VI: Summary of quality performance.

| Stakeholders | Key | Distance vs Campus | Advantage |
|--------------------|--|---|--|
| Students | Course evaluation results | Comparison between all courses in Gotland University 2009-2010: 3.3 distance, 3.0 campus Scale 1-4 (max 4) | Distance, but small difference that needs to be checked for statistical significance |
| | Course evaluation results compared to time used | Comparison between 3 randomly selected course evaluations looking at hours used per week per ECTS in a five week course 1,1 distance, 0,8 campus | Distance, but only indicative due to small sample number |
| | Work done per ECTS (product-based value) | Distance 7.1 hours/week Campus 9.2 hours/week | Campus, but only indicative due to small sample number |
| | ECTS/carbon emissions | Based on Table IV | Distance |
| | Educational relevance | Only for chosen distance courses – found relevant and due to easier access should have higher value per use or resources | Distance, but only studied for individual courses |
| Employers | Employment/cost | Not analysed | |
| State & HSV | ECTS/costs | Based on reasoning done for Gotland University | Distance, but needs to be checked for several universities |
| | ECTS/teacher hours | Distance 0.53 ECTS/h based on two topics Campus 0.51 ECTS/h based on one topic | Distance, but needs to be looked into in more detail |
| Gotland University | Percentage campus students | Not relevant | |
| | Percentage of campus students within profile areas | Not relevant | |

Results in Table VI indicate that there seem to be more advantages with distance than with campus when using the identified indicators. It has to be noted that important indicators from employers are missing.

Another important conclusion is that a thorough discussion on what quality in education is seems to be missing in Sweden. It would appear beneficial that generally accepted research within Quality Management was applied on university education. Quality Management principles are general and apply in every field including education. The commonly heard mention of Academic Quality as something different from generic quality resembles very much the common excuse of any field being so special that common principles would not apply. No definition has been found for Academic Quality and it is therefore impossible to compare how this would relate to generic quality definitions.

The results are only indicative and need to be backed up with more research. However, there seems to be strong indications that common quality principles such as customer focus and decisions based on facts have not been applied when judging the quality of distance education compared to campus education. Distance education is particularly important for the lifelong learning and penalising this based on opinions not backed up by facts is bad news for Sweden.

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