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Taking stock and looking forward

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Short bio: Having first pursued a career as a researcher, Rikke has acted as a consultant for the Danish Accreditation Council for several years, and has participated in institutional

accreditations as well as conducted several system-wide analyses. Rikke is currently the project manager for an analysis of the interaction between MOOCs and residential education and quality assurance of this interaction.

Name: Vibeke Fahlén

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Short bio: For more than 25 years, Vibeke has focused on evaluation and accreditation of higher education institutions and their programmes. In particular, she has substantial knowledge about schools of engineering and programmes within the technical sciences. At the moment, Vibeke is the project manager for an analysis of external lecturers at Danish higher education institutions.

Proposal

Title: How to forecast the future? - Different sources for gathering knowledge about the future needs of employers' with regard to competences

Abstract:

Graduates must be able to use their degree on the labour market that awaits them when they have completed a higher education study programme. Danish politicians have increasingly focused on this since the beginning of this century. It places great demands to the education institutions' ability to gaze into the future and predict which skills will be required, and on the basis of this, match the right number of graduates with the right competences. This political focus is also reflected in the Danish Accreditation Institution's (AI) criteria, methods and practice.

In the paper session, AI will present an extensive system-wide analysis of the sources education institutions use to gain knowledge about the competence needs of the future in order to ensure relevance of their programmes. The University of Southern Denmark will produce a case on how the institution is working with the assurance of the relevance of new programmes.

Text of paper:

How to forecast the future?

Making predictions about the future is difficult. However, we must attempt to do so if we are to assure programmes that are relevant tomorrow as well as five years from now. Over the past many years, the Danish education policy debate has focussed on employment and relevance. This focus has become very clear in recent years, as politicians have launched several different initiatives to help ensure programme relevance and to improve the employment situation for graduates.

In summer 2013, the Danish Minister for Higher Education and Science at the time, Morten Østergaard, said: "I think the Danish education sector has a tendency to distinguish between quality and relevance.

But businesses do not make this distinction. To them relevance is quality." And he continued: "Education institutions should not only focus on the final exam, but also on the graduates' first job."[1]

In 2013, the Danish government established a committee for quality and relevance which was to come up with solutions to a number of issues identified within higher education programmes, including great variation in the percentage of newly qualified graduates who find employment. The aim of the work and recommendations by the committee was to strengthen the competences of graduates as well as the gains for society and the individual graduate.

Another initiative that continues to dominate the education policy debate is a new model for dimensioning higher education. In late 2014, this model was presented by the Danish Minister for Higher Education and Science as a solution to the fact that in Denmark some higher education programmes produce too many graduates within certain subject fields. The model primarily concerns university programmes and is based on graduates' unemployment over time.

Today, education institutions use different methods to produce knowledge about which skills graduates of the future will need. This knowledge is necessary to adjust existing programmes or to develop new programmes, so that students who complete the programmes are prepared to meet the expectations from the labour market.

Since the first Danish Accreditation Act in 2007, assuring programme relevance has been an important element in the criteria against which Danish education institutions and their programmes are measured. On the basis of experience with assuring programme relevance in Denmark, the Danish Accreditation Institution has assessed that relevance assurance efforts should be more structured. Moreover there should be more focus on producing stronger knowledge and conducting more analyses at national level. This should be done to match the developments and increasing complexity of society. We need more knowledge about current as well as future needs, because the society a student meets at completion of a study programme may be very different from the society at the onset of the programme.

Relevance assurance in the Danish accreditation system

In Denmark, institutions are obliged to assure relevance of their programmes. This applies in relation to institutional accreditation as well as to programme accreditation. The requirement about relevance is established by law.

Since June 2013, the requirement about relevance for new programmes has been assessed on the basis of a prequalification, in which an independent council appointed by the Danish Minister for Higher Education and Science makes decisions concerning the relevance of the programme or provision of the programme. This criterion is therefore no longer included in the accreditation assessment of new programmes.

In connection with programme accreditation of existing programmes, the aim of accreditation is to ensure that the programme is relevant with regard to labour market needs. In overall terms, accreditation relates to two aspects. First of all, a description of the graduates' employment situation is required. This description must include a statement that shows unemployment figures for graduates from the programme, and how many graduates find relevant employment. Moreover, an assessment of quality efforts must be carried out to ensure relevance on the basis of the institution's description of the ongoing

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[1]"Relevance is quality", speech by the former Minister for Higher Education and Science, Morten Østergaard, at an education conference in Kolding, Jutland, on 6 June 2013.

dialogue with employers and other relevant stakeholders.[2] Accreditation of relevance in existing programmes is therefore partly an assessment of whether graduates find relevant employment, and partly an assessment of whom the institution involves in the quality assurance of the relevance of the programme and the type of ongoing contact. Furthermore, emphasis is also on the description of how this dialogue is used in practice to develop the programme, so that it matches the needs of the labour market in the best possible way.

As part of the institutional accreditation[3], education institutions must be able to document and demonstrate in practice that they have procedures for involving key external stakeholders, including employers and any authorising authorities etc., in development and assessment of new programme proposals. The institution must describe a practice that ensures that the programmes reflect, and are regularly adjusted to, societal trends. Policies and procedures for quality assurance must be elucidated, and institutions must state how the graduates' employment situation is monitored, and how employers and other stakeholders are regularly involved in developing the programmes. If quality assurance is conducted differently across the institution, the ways in which quality assurance is carried out must also be stated.

Accreditation assessments generally put emphasis on the described practice; how the institution works specifically with assuring programme relevance. Moreover, the institutions must describe the sources of knowledge used in the quality assurance in order to assure programme relevance with regard to the labour market.

In an accreditation context, the concept of programme relevance is closely linked to the graduates' employment. At the same time, there is an understanding that the dialogue with external stakeholders, e.g. direct employers or employers' organisations and institutions, ensures that the content and organisation of the programmes provide the students with skills they can use after graduation.

Description of the system-wide analysis *Different sources for gathering knowledge about the employers' future needs with regard to competences*

In the analysis, AI wants to challenge the concept of relevance as understood in an accreditation context. The aim is to use a more explorative approach to gaining knowledge about how the programmes understand the concept of relevance, and which sources of knowledge they consider as valuable with regard to ensuring a match between the students' competences and the future needs of employers.

The accreditations carried out by AI shows that the HEIs use many different sources of knowledge to assure programme relevance. In addition, the accreditations show that there are different ways to collect knowledge about the competence needs of the future, also across the individual programmes and sectors. This knowledge is necessary to adjust existing programmes or develop new programmes, so that students who complete the programmes are prepared to meet the needs of employers.

A key element in the analysis project is to examine the different sources of knowledge used by the institutions, and how these sources of knowledge are used in the development and organisation of higher education.

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[2] E*mployers* refer to the organisations and businesses that will potentially employ the graduates. Dialogue can be through organised meetings with e.g. employers' panels, education committees or other networks. Dialogue can also be through teachers and management's interaction, formal as well as informal, with graduate networks, alumni, trade unions, placement sites, etc. The institution can also use qualitative or quantitative graduate and employer surveys.

[3] Institutional accreditation was introduced as a new accreditation system in Denmark in 2013

During the analysis, it became clear that the institutions use a number of innovative and less formal methods to develop the programmes' competence profiles that the institutions themselves find valuable with regard to assuring programme relevance. These methods are not described in the standardised concept for programme accreditation. In this connection, the institutions make a number of decisions with regard to the methods that best match the unique circumstances of the individual institution and programme.

The analysis is broadly based on higher education and analyses across the development work at universities, university colleges and academies of professional higher education, which are the three largest higher education sectors in Denmark.

The aim of the analysis is to provide an overview and to inspire institutions and other stakeholders to find relevant knowledge to maintain or promote the match between graduates' competences and the labour market of the future. The objective of the analysis is to inspire across borders between institutions and programmes, so that all stakeholders who contribute to developing the programmes can learn from one another and inspire to local solutions to local issues. This approach is also in line with the overall aim of institutional accreditations that quality efforts at institution level are based on relevant conditions and challenges facing the individual programme. The project is also to also support the Danish Accreditation Institution's own method and practice with regard to assessing institutions' relevance assurance efforts.

Mapping different types of institutions' sources of knowledge about relevance

The higher education system in Denmark includes universities, university colleges, academies of professional higher education[4], artistic education institutions and maritime education institutions. The artistic education institutions and maritime education institutions only comprise a very limited part of the education system and are not included in this analysis.

The table below shows an overview of the different sources of knowledge used by the different types of institution to ensure a match between the content and organisation of programmes on the one hand, and the future competence needs of employers on the other hand. The table was developed on the basis of data from 213 accreditation reports in which a decision was made on accreditation in 2013-2014.

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[4] The object of the academies of professional higher education is to provide and develop short- or medium-length higher education programmes, based on practical and application-oriented research and development activities. The object of the university colleges is to provide and develop medium-length higher education programmes, based on practical and application-oriented research and development activities, and the object of universities is to conduct research and provide research-based programmes at the highest international level within their academic areas.

	Universities	University colleges	Academies of professional higher education
Teachers' contact with specific employers	Professional networks	Ongoing informal dialogue with local businesses Professional networks Knowledge through continuing and further education and training activities	Ongoing informal dialogue with local businesses Professional networks Knowledge through continuing and further education and training activities
Formal dialogue with external representatives	Employers' panel Surveys with employers External examiner bodies	Education committee Advisory Board Surveys with employers Partnership agreements External examiner bodies	Advisory Board Education committee Surveys with employers External examiner bodies
Contact with graduates	Questionnaire surveys Focus group interviews Alumni networks	Questionnaire surveys Focus group interviews Alumni events	Questionnaire surveys Focus group interviews Alumni events
Dialogue with businesses due to students' activities	Guest teachers/ external teachers Students' projects in collaboration with employers Dialogue with practical training	Guest teachers Visits to businesses Dialogue with practical training companies Students' projects in collaboration with employers	Guest teachers Visits to businesses Dialogue with practical training companies Students' projects in collaboration with employers
Research, development and experimental work	Knowledge from international research Research collaboration Research in collaboration with businesses	Research and development knowledge Research and development projects in collaboration with employers ect	Research and development knowledge Research and development projects in collaboration with employers ect
External analyses/ Reports	Growth plans/ Employment reports Key figures	Growth plans/needs ana- Employment reports Key figures	Growth plans/needs analyses Employment reports Key figures

International level   National level   Institution level   Provision/programme (local)

As the table shows, institutions use many different sources of knowledge to ensure that the programmes are relevant for the labour market. At institution and provision level, institutions primarily use knowledge they have developed themselves, e.g. through graduate dialogue or education committees and employers' panels. Moreover, the table shows that, to a less varying degree, institutions draw on knowledge produced at national or international level, e.g. through existing analyses.

Case descriptions

The analysis project includes case descriptions developed on the basis of 13 interviews with programme directors and heads of studies from different programmes. The cases were selected on the basis of accreditation reports from 2013-2014 for new as well as existing programmes. The interviews were conducted to examine how the institutions assure relevance in practice and how they assess the different sources of knowledge. Interviews were conducted as semi-structured individual interviews with questions divided into four different themes:

- The need for the new programme or revision of the existing programme; where does the need to revise the programme come from?

- The nature of sources of knowledge; who, what, when?

- Assessment of knowledge sources; challenges and strengths

- Use of sources of knowledge; how does the institution use the different sources of knowledge?

The following three case descriptions show that the institutions deem that the provisions' close contact with local employers provides instant knowledge about the need for skills, whereas the activities at institution level, e.g. education committee and national surveys, can be used more strategically to ensure a match between the graduates and the labour market of the future.

Case 1. Existing Professional Bachelor's Degree in Design at VIA University College in Herning, Jutland

Every other year, VIA University College (VIA) in Herning conducts an analysis at institution level, in which 25-30 leading, nationwide businesses within the textile industry are interviewed. Results from the analysis (the "TEKO analysis") are presented at a conference during which the businesses included in the survey also participate in workshops. Moreover, an education committee at institution level with representatives from relevant trade associations and trade unions advises VIA with regard to its efforts to assure relevance and quality, e.g. the committee discusses evaluation results from the provision's work on quality. At the individual local provision, the teachers visit the students during the students' placement in the 5th semester. The practical training companies are interviewed in order to identify whether the students' competences match the needs of the local businesses. VIA finds that the TEKO analysis provides knowledge about direction and trends within the relevant industries, and this knowledge can be used to ensure that, in the long term, the development and organisation of the local provision match the competence needs of the future. The visits also function as a very important source of knowledge about the businesses' specific needs for competences - the competences that are currently in demand in the local area. The education committee provides an alternative view on VIA's own philosophy and the choices they have to make when developing and organising the local provision.

Case 2. A new Master of Science in Nursing at the University of Southern Denmark in Odense, Funen

The programme was primarily developed by an institutional working group at the University of Southern Denmark, which was responsible for the development process. Initially, the working group asked relevant regional employers about their needs and job opportunities, and which competences would be relevant for graduates to acquire. During the process, the University of Southern Denmark established a dialogue group with relevant national employers who were to advise the working group. Representatives from the relevant national and international research communities were involved in the work with the curriculum. The working group went to London, where a similar master's programme for nurses has been offered for several years, and interviewed a number of employers. The interviews focussed on the employers' view of the tasks the graduates will perform as newly qualified graduates, the tasks they will be responsible for after a few years in employment, and the challenges there had been with regard to the graduates' competences and employment situation. The London programme was particularly interesting for the working group as the employers could document that the programme had made a positive difference in a socio-economic perspective. The dialogue with potential, regional employers was also used, but the working group experienced that the local employers primarily focus on their needs here and now. This was one of the reasons why it was useful to get input from a related programme outside Denmark.

Case 3. Existing Academy Professional Degree within nutrition, food, dairy and process technology at Lillebaelt Academy in Odense, Funen

In order to regularly obtain knowledge from external stakeholders to Lillebaelt Academy's (EAL) provision of the academy profession degree in process technology, the provision obtains knowledge at different levels. For example, knowledge is provided from local practical training companies when the teachers visit the students in a work placement. The teachers and placement supervisors discuss whether the students' competences match the job they are performing. Moreover, the director of training of the local provision has an ongoing dialogue with local businesses. In addition, each year the director of training reviews different job ads to identify the trends in the qualifications demanded by the businesses who employ graduates from the local provision. EAL assesses that the job ads provide specific knowledge about the current competences demanded by employers and the competences demanded over time. At provision level, the education committee offers advice, e.g. when EAL is to decide how much emphasis to place on a specific subject at the local provision. EAL finds that the education committee and particularly the dialogue with practical training companies help ensure development and the continued relevance of the programme. The teachers' participation in different professional networks also helps to future-proof the local provision, as knowledge-sharing in the networks focuses on the professional development within the field.

Conclusion

Mapping and analysis in the project have shown that institutions use different sources of knowledge at different levels to ensure that the programmes are relevant for the labour market. The information in the accreditation reports and the selected cases show that Danish HEIs have regular dialogue with employers, and this can help influence and change the structure, knowledge base, etc. of existing programmes. In contrast, the institutions are less likely to change existing programmes on the basis of international and national sources of knowledge, as well as discussions about what the programme should aim at in the future, including the programme's societal context, now and in the future. Therefore the continued inclusion of knowledge with a view to ensuring development of existing programmes primarily takes place through the institution's own systems, and with the institution as the producer of knowledge.

As described in the cases above, the institutions' assessment of knowledge depends on the specific programme as well as on the associated scholarly environment and labour market. Among other things,

the vocational programmes state that they benefitted from the local contact with the specific employers, e.g. through work placements. Teachers at the professional bachelor's programmes and the academy professional programmes have continuous dialogue with the practical training companies and institutions, and this provides a valuable insight into the employers' expectations to the students' competences. In contrast, the university programmes in particular experience that the specific employers of the graduates from the programmes do not always focus on their future needs. The universities primarily use international labour market experience and knowledge from research. At the same time, the universities state that there can be challenges in the collaboration with the specific employers in connection with the programme planning, in that employers are not familiar with all the requirements and knowledge about programme planning and content. This lack of knowledge or coupling requires the programmes to translate the employers' needs into content in the programmes.

Finally, the project identifies future perspectives in relevance assurance, both in relation to the institutions' relevance efforts and AI's efforts to develop quality assurance of the institutions' work, both in theory and in practice. These perspectives are reflected in the above mentioned questions for discussion and will be further elaborated at EQAF if this paper is accepted.