Danmarks
Akkrediteringsinstitution

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Betinget positiv institutionsakkreditering af IT-Universitetet i København

Akkrediteringsrådet

17. december 2014

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Akkrediteringsrådet har den 11. december 2014 akkrediteret IT-Universitetet i København (ITU) **betinget positiv**, jf. akkrediteringslovens § 8[1]. Rådet har truffet afgørelsen på baggrund af vedlagte akkrediteringsrapport fra Danmarks Akkrediteringsinstitution samt ITU's høringssvar, selvevalueringsrapport og øvrig dokumentation.

Akkrediteringsrådet har truffet afgørelsen ud fra en helhedsvurdering af de kriterier, som fremgår af akkrediteringsbekendtgørelsen[2] samt retningslinjerne i "Vejledning om institutionsakkreditering" af 1. juli 2013 og Akkrediteringsrådets notat af 20. juni 2014 "Vurdering af institutionernes kvalitetssikringssystemer".

Akkrediteringsrådet har vurderet, at ITU ikke i tilstrækkelig grad opfylder de fem kriterier i akkrediteringsbekendtgørelsens bilag 1.

Således er det rådets vurdering, at ITU delvist opfylder kravene i akkrediteringsbekendtgørelsens kriterium II, III, IV og V.

Akkrediteringsrådet ved helhedsvurderingen lagt vægt på, at hovedparten af universitetets kvalitetssikringssystem er velbeskrevet, velargumenteret og fungerer rimeligt i praksis, men at der er mindre velfungerende områder, som kræver opfølgning af ITU's kvalitetsindsatser. Desuden er der god kvalitet i udmøntningen af kvalitetssikringsarbejdet, som fungerer rimeligt i praksis, selvom der er mindre velfungerende områder.

Akkrediteringsrådet har vurderet, at problemerne er af en sådan karakter, at ITU vil kunne rette op på problemerne, således at rådet vil kunne træffe en fornyet afgørelse inden for to år. Danmarks Akkrediteringsinstitution vil orientere ITU om proces herfor.

Ved afgørelsen har Rådet lagt vægt på følgende kritiske vurderinger fra akkrediteringspanelet, der er udfoldet yderligere i akkrediteringsrapporten. Rådet vil ved genakkreditering af ITU vurdere, om ITU har rettet op på disse mangler ved ITU's kvalitetssikringssystem.

> ""Det er (…) panelets opfattelse, at institutionen ikke har sikret, at alle uddannelser har en tilstrækkelig forskningsbasering. Panelet vurderer, at den omfattende brug af eksterne lektorer udfordrer forskningsbaseringen på masteruddannelserne såvel som på enkelte bachelor- og kandi-

[1] Lov nr. 601 af 12. juni 2013 om Akkrediteringsinstitutionen for videregående uddannelser (akkrediteringsloven)
[2] Bekendtgørelse nr. 745 af 24. juni 2013 om akkreditering af videregående uddannelsesinstitutioner og godkendelse af nye videregående uddannelser (akkrediteringsbekendtgørelsen)

datuddannelser. Panelet vurderer desuden, at universitetet mangler ambitiøse, formaliserede målsætninger for brugen af eksterne lektorer. ITU har ikke en klart defineret standard for forholdet mellem interne og eksterne lektorer. Det var således ikke tydeligt for panelet, hvordan universitetet afgør om kursusbemandingsprocessen viser mangler i forskningsbaseringen på en uddannelse. Desuden fandt panelet ikke dokumentation for, at universitetet har foretaget en skriftlig analyse og udarbejdet en flerårig plan, som tydeligt beskriver forskningsprofilerne for de lektorer, institutionen har til hensigt at rekruttere i de kommende år.

Panelet fandt (…), at to af universitetets kandidatuddannelser har høj ledighed. Det drejer sig om Kandidatuddannelsen i Games og Kandidatuddannelsen i Digital Design og Kommunikation. Panelet fandt det positivt, at universitetets kvalitetssikringssystem har identificeret problemerne med høj ledighed, og at ledelsen har iværksat tiltag til at løse problemerne. Det er dog panelets opfattelse, at ITU kunne have gavn af mere effektive og systematiske metoder til at følge op på problemer med ledighed, når de bliver konstateret. Herudover får de enkelte uddannelser ikke regelmæssig feedback fra aftagerpanelet. Panelet konstaterede, at der kan gå op til flere år mellem aftagerpanelets drøftelser af de enkelte uddannelser.

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Det er karakteristisk for ITU, at dets kandidatstuderende kommer fra mange forskellige bacheloruddannelser uden for ITU, såvel som fra institutionens egne bacheloruddannelser. Panelet finder det positivt, at universitetet er opmærksomt på de udfordringer, dette forhold har for det faglige niveau, og at universitetet for nyligt har indført en række tiltag for at håndtere disse udfordringer. Panelet fandt imidlertid, at selvom udfordringerne ved at undervise en så forskelligartet gruppe studerende har været kendt siden universitetet introducerede sine første kandidatuddannelser for 15 år siden, har institutionen hverken vedtaget en strategi eller fastlagt fælles systematiske tilgange til de pædagogiske aspekter i forhold til at undervise en forskelligartet gruppe studerende. Dette er særligt vigtigt i lyset af den omfattende brug af eksterne lektorer, som ikke er fuldt integrerede i forsknings- og læringsmiljøerne på institutionen.

Det er panelets opfattelse, at evalueringen af kurser tages meget seriøst på ITU og følges op systematisk og at resultaterne bruges til at forbedre kurserne. Panelet finder det dog vigtigt, at alle læringsaktiviteter, og ikke kun kurser, kvalitetssikres med systematiske og gennemsigtige opfølgningsprocedurer, som anført i institutionens strategier. Desuden evaluerer de studerende ikke den samlede uddannelse, hvilket panelet mener, er væsentligt at gøre.

Selvom panelet finder det positivt, at universitetet generelt indsamler og analyserer relevant information om uddannelserne, indsamles og analyseres de forskellige informationer særskilt og ikke som en del af en løbende monitorering af den samlede uddannelse. Det vil sige, at analyser af uddannelsernes niveau og indhold ikke behandles sammen med analyser af nøgletal, forskningsbasering eller uddannelsernes relevans.

Panelet vurderer, at kvalitetssikringen er forankret i den øverste ledelse, og at ledelsen er dybt involveret i kvalitetssikringen af institutionen. Dette er meget positivt. Adgangen til alle relevante informationer om uddannelserne er det dog kun studielederen, der har, og han er bindeleddet mellem alle uddannelsesaktiviteterne, ledelsen og kvalitetsorganisatio-

nen (uddannelsesgruppen). Den åbenlyse risiko her er, at dette gør systemet sårbart, fordi det i så høj grad afhænger af en enkelt person.

Panelet fandt gode eksempler på en velfungerende 'bottom-up' kvalitetskultur på nogle af uddannelserne. Det er således panelets opfattelse, at mange af problemerne diskuteres og løses lokalt i organisationen. Dog vurderer panelet, at ITU kunne drage fordel af en mere systematisk og institutionel tilgang til kvalitetssikring, der kan understøtte og videreudvikle 'bottom-up' kvalitetskulturen."

Konsekvenser ved den betingede institutionsakkreditering

En betinget positiv institutionsakkreditering medfører, at alle nye uddannelser og uddannelsesudbud skal uddannelsesakkrediteres før oprettelsen, jf. akkrediteringslovens § 10, stk. 1.

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Akkrediteringsrådet vil underrette ministeren om institutionens betinget positive akkreditering.

Klagevejledning

Rådets afgørelse kan ikke indbringes for anden administrativ myndighed, jf. akkrediteringslovens § 28.

Klager over retlige spørgsmål ved Akkrediteringsrådets afgørelse kan dog indbringes for Styrelsen for Videregående Uddannelser, jf. akkrediteringslovens § 28, stk. 2.

Det betyder, at I kan klage til Styrelsen for Videregående Uddannelser, hvis I mener, at afgørelsen ikke følger de regler, som gælder for akkreditering af videregående uddannelsesinstitutioner. I kan ikke klage over de faglige vurderinger i afgørelsen, da rådets faglige vurderinger er endelige.

Fristen for at klage over retlige spørgsmål er senest 14 dage, efter at I har modtaget afgørelsen.

Hvis I ønsker at klage over afgørelsen, skal I sende klagen til:

Styrelsen for Videregående Uddannelser
Bredgade 43
1260 København K
Eller på e-mail:
uds@uds.dk

I er velkomne til at kontakte direktør Anette Dørge på e-mail: akkr@akkr.dk, hvis I har spørgsmål eller behov for yderligere information.

Med venlig hilsen

Per B. Christensen
Formand
Akkrediteringsrådet

Anette Dørge
Direktør
Danmarks Akkrediteringsinstitution

Danmarks
Akkrediteringsinstitution

Bilag:
Kopi af akkrediteringsrapport

Dette brev er også sendt til:
Styrelsen for Videregående Uddannelser, Uddannelses- og Forskningsministeriet

The Danish
Accreditation Institution

Institutional accreditation

2014

ACCREDITATION REPORT

IT-UNIVERSITY OF COPENHAGEN

INSTITUTIONAL ACCREDITATION

Institutional accreditation – Accreditation of the IT University of Copenhagen

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Contents

Introduction

This accreditation report contains an analysis and an assessment of the quality assurance system at the IT University of Copenhagen.

The report assesses whether the educational institution has developed an adequately effective system for quality assurance such that in the coming accreditation period the institution itself can carry out ongoing quality assurance of its own programmes.

Institutional accreditation does not include independent assessment of the relevance and quality of the individual programmes at the educational institution. The aim of accreditation is to identify whether the institution as a whole has established a quality assurance system that regularly and systematically can ensure and develop the quality and relevance of its programmes. However, sub-aspects of individual programmes can be included in the assessment of whether the quality assurance system works well in practice.

About institutional accreditation
Institutional accreditation is an assessment of whether the quality assurance system of the institution is well described and well documented and whether it works in practice. The system is to ensure that the institution has constant focus on quality, develops the system regularly and reacts when something is wrong. This applies before and after institutional accreditation has taken place.

Effective quality assurance is characterised by being regular and systematic and by living up to the Standards and Guidelines for Quality Assurance in the European Higher Education Area (ESGs). Quality assurance must have a clear division of duties and responsibilities and must have a strong foothold at management level. Furthermore, institutions must have an inclusive quality culture and focus on quality assurance work for all of their programmes, the specific teaching, as well as the special problems, conditions and needs relevant for the individual institution.

On this basis, the accreditation report assesses whether the quality assurance system of the institution lives up to the requirements placed for institutional accreditation in the Accreditation Act, including particularly the five criteria listed in the associated Executive Order.

Accreditation panel and method
In order to support assessment of the quality assurance system, the Danish Accreditation Institution has set up an accreditation panel comprising a number of experts. Among other things, members of the panel are skilled within management and quality assurance at institution level, and they are familiar with the higher education sector and with relevant labour market conditions and student conditions.

The accreditation panel has read the documentation material, and together with employees from the Danish Accreditation Institution they have visited the institution to assess its quality assurance system and practices.

Annex 1 in the report repeats the main features in the method used in the accreditation of the educational institution.

Decision
As an independent body, the Accreditation Council makes a decision on the accreditation of the educational institution. The Council decides whether the quality assurance system of the institution justifies positive accreditation, conditional positive accreditation or rejection of accreditation.

This report and its assessments form the basis for the decision by the Accreditation Council.

Overall assessment and recommendation

It is the accreditation panel's assessment that the IT University of Copenhagen is working towards achieving its mission to provide internationally leading teaching and research which will enable Denmark to become exceptionally good at creating value with IT. The mission is underpinned by the university's strategic goals and framework for a good study programme. Further, it is the panel's assessment that the procedures and goals in *The Quality Assurance Policy* support the ITU framework for a good study programme.

The ITU is a fairly small university, and at the site visits the panel met with management and teachers committed to developing good quality in education and to developing the institution's quality assurance activities. The panel also noted positively the open dialogue and readiness to engage in discussions about the quality of education. Throughout the site visits, the panel saw many examples of the informal approach and the good relations between management bodies, teachers and students when dealing with everyday problems at the university.

The goals and procedures in the ITU's quality assurance system cover all programmes and all criteria. However, in the panel's view the institution is not ensuring that all programmes have a sufficient research base. It is the panel's assessment that the extensive use of external lecturers is a challenge to the research base of the part-time master programmes as well as some of the BSc and MSc programmes. Further, it is the panel's assessment that the university lacks ambitious, formalised goals for the use of external lecturers on its programmes. The ITU does not have a clearly defined standard for the ratio between internal and external lecturers. Thus it was not clear to the panel on which basis the university decides whether the course manning process shows that a programme has deficiencies in the research base. Also, the panel did not find evidence that the university has made a written analysis and a multi-year plan which is clear about the research profiles of the lecturers it intends to recruit in the coming years.

It is the panel's view that the ITU has strong focus on the relevance of its programmes. However, the panel found that two MSc programmes have high unemployment rates; the MSc programme in Games and the MSc programme in Digital Design and Communication. The panel found it positive that the university's quality assurance system has identified the problems, and that the management has started activities in order to solve the problems. However, it is the panel's view that the ITU could benefit from more effective and systematic ways of following up on employment issues, when they become evident. In addition, the individual programmes do not get feedback from the Employers' Panel on an ongoing and regular basis. The panel found that several years can pass between discussions of the individual programmes in the Employers' Panel.

A characteristic of the ITU is that it has MSc students from many different types of bachelor programmes outside the ITU, along with its own bachelor students. The panel is pleased to note that the university is aware of the challenges this poses to the academic level and that the university has recently implemented a number of initiatives in order to address them. However, the panel found that although the challenges of teaching such a diverse student body have been known since the university introduced its first MSc programmes fifteen years ago, the university has not yet established an institutionalized strategy, nor has it adopted systematic approaches to the pedagogical aspects of teaching a diverse student body. This

is even more important given the high use of external lecturers that are not fully integrated into the research and learning environments at the institution.

It is the panel's view that course evaluation is taken very seriously at the ITU and is systematically followed up and used to improve the courses. However, the panel considers it important that all learning activities, not just courses, have associated quality assurance, with systematic and transparent follow-up procedures as stated in the institution's strategies. Further, students do not evaluate the entire programmes, and in the view of the panel this is essential.

Although the panel is pleased to see that the university in general collects and analyses relevant information about the programmes, the different sources of information are collected and analysed separately and not as part of ongoing monitoring of the whole programme. This means that analyses of the programmes' levels and content are not linked to analyses of key figures, the research base or the relevance of the programmes.

It is the panel's assessment that quality assurance is anchored at the top-management level and that the management is deeply involved in quality assurance of the institution. This is very positive. However, the Head of Studies has access to all relevant information about the programmes and he is the link between all the education activities, the Management and the Quality Organisation (the Education Group). The obvious risk here is that this makes the system very vulnerable because it relies so much on just one person.

The panel found good examples of a well-functioning bottom-up quality culture on some programmes. Thus it is the panel's view that many problems are discussed and dealt with locally. However, it is the panel's assessment that the ITU could benefit from a more systematic and institutionalized approach to quality assurance which can support and further develop the bottom-up quality culture.

On the basis of these assessments, it is recommended that the ITU is awarded a conditional positive accreditation.

Background information

Description of accreditation panel

Chairman:
Júlio Domingos Pedrosa da Luz de Jesus, Professor in Chemistry and former Vice Chancellor at the University of Aveiro, Portugal from 1994-2001. Júlio Pedrosa has been associated with the EUA - Institutional Evaluation Programme since 2004, where he has chaired several evaluation panels.

Panel members:
Kristine Bacher, student at Roskilde University (MSc in geography and mathematics). Kristine Bacher has participated in evaluation panels with the EUA - Institutional Evaluation Programme and has been a member of the Academic Affairs Committee in the European Students Union.

Fiona Crozier, Director of Quality, University College Cork, Ireland. Fiona Crozier was previously an Assistant Director at the UK Quality Assurance Agency for Higher Education (QAA) and was Vice President of the European Association for Quality Assurance (ENQA) until March 2013.

Hans-Ulrich Heiss, Professor in Communication and Operating Systems and 2nd Vice President at Technische Universität Berlin. Hans-Ulrich Heiss is also President of the European Quality Assurance Network for Informatics Education (EQANIE) and a member of the German Accreditation Commission for Quality Management Systems (ASIIN e.V.).

Tom Togsverd, Member of the Confederation of Danish Industry's Productivity Team. Tom Togsverd was previously the Director General of the Federation of ICT and Electronics at the Confederation of Danish Industry.

Participants from the Danish Accreditation Institution:
Jan Vernholm Groth, Project Manager.
Thomas Lange, Special Advisor.
Dorthe Stadsgaard, Special Advisor.
Rikke Warming, Special Advisor.

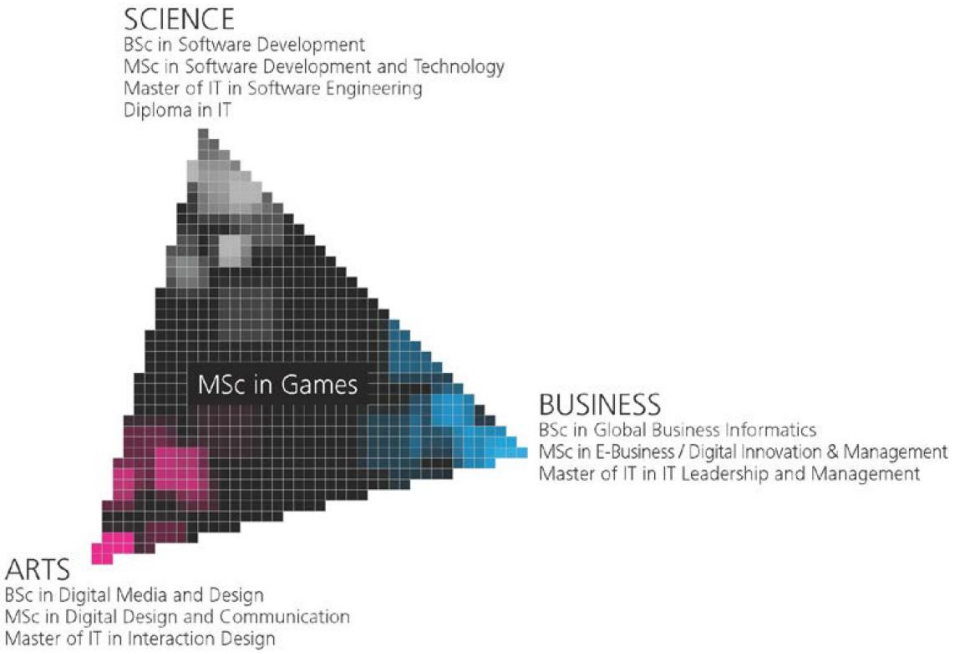
Institution profile

The ITU was established in 1999, initially as a “free faculty” with its own board but embedded in Copenhagen Business School. In 2003 the ITU was granted the status of a university in its own right. The ITU initially offered MSc programmes, together with part-time diploma programmes and part-time master programmes, but no bachelor (BSc) programmes. Consequently, the ITU attracted students to its MSc programmes from more than one hundred different bachelor degrees.

The ITU offered its first BSc programme in 2007. Two additional BSc programmes started in 2009 and 2010, respectively. Now, in 2014, the ITU has 11 study programmes, of which one is a programme at diploma level. The ITU has a student population of 2538.

The faculty at the ITU is organised in one Department, which is divided into five research sections. The ITU is organised in a matrix stucture in which the 182 researchers from the five research sections are allocated to the 11 study programmes.

The ITU sees the essence of IT as the ability to create, share and handle mental constructions using digital technology. In accordance with this view of IT, the study programmes have been designed to fit within the triangle below. The idea is that, in order to create value with IT, one very often needs a technical perspective (the Science angle), a humanist perspective (the Arts angle) and an organisational or business perspective on IT (the Business angle). The individual programmes specialise towards one of the three angles of the triangle, but they also have some intersection.



Source: *The Self-Evaluation Report*, p. 6

The tables below show key figures for dropout, average length of study and employment for the ITU in total and for all universities. See the Annex for key figures for the individual programmes and accreditation history.

Table 1: Rates of drop-out during the first year of BSc study, 2008-2011 (%)

		2008	2009	2010	2011
IT University	Science	31	17	15	11
All universities	Humanities	17	15	16	14
	Social sciences	21	17	19	16
	Health sciences	8	6	6	8
	Science and technical sciences	17	17	18	16
	Total	**17**	**15**	**16**	**14**

Source: The ministerial auditing report for the IT University of Copenhagen, 2013

Table 2: Average length of study (BSc + MSc level), 2008-2011 (years)

		2008	2009	2010	2011
IT University	Science	5.8	6.2	5.9	5.8
All universities	Humanities	6.9	6.9	7.0	6.5
	Science	6.5	6.4	6.4	6.3
	Social sciences	6.2	6.2	6.1	5.9
	Health sciences	6.5	6.4	6.4	6.3
	Technical sciences	5.6	5.5	5.4	5.4
	Total	**6.4**	**6.4**	**6.4**	**6.1**

Source: The ministerial auditing report for the IT University of Copenhagen, 2013

Table 3: Average length of study for MSc level programmes, 2008-2011 (years)

		2008	2009	2010	2011
IT University	Science	2,8	2,8	2,7	2,7
All universities	Humanities	3,4	3,5	3,5	3,2
	Science	2,9	2,8	2,8	2,7
	Social sciences	3,1	3,1	3,0	2,8
	Health sciences	3,3	3,0	2,8	2,8
	Technical sciences	2,3	2,0	2,0	2,0
	Total	**3,1**	**3,1**	**3,0**	**2,8**

Source: The ministerial auditing report for the IT University of Copenhagen, 2013

Table 4: Employment rates for graduates within 4 years of graduation, 2006-2011 (%)

		2007	2008	2009	2010	2011
IT University	Science	90	93	88	83	82
All universities	Humanities	86	88	85	81	80
	Science	90	92	90	87	85
	Social sciences	92	93	92	89	88
	Health sciences	97	96	94	92	92
	Technical sciences	90	92	91	86	86
	Total	**91**	**92**	**90**	**86**	**86**

Source: The ministerial auditing report for the IT University of Copenhagen, 2013

Criteria I and II:
Quality policy and strategy as well as management and organisation

The panel analysed the ITU's formally adopted quality assurance policy and strategy for strengthening and developing the quality and relevance of its programmes. In connection to this, the panel analysed whether the ITU has established concrete, ambitious objectives for overall quality assurance and development of the institution. Furthermore, the panel scrutinised the processes and procedures that will help to achieve the established objectives and detect and manage relevant problems and challenges on an ongoing basis. Finally, the panel analysed whether quality assurance is anchored at management level and is organised and performed in such a way as to promote development and maintenance of an inclusive quality culture that supports and furthers the quality and relevance of the programmes.

On the basis of the analysis of the different aspects of the above criteria, it is the panel's assessment, that Criterion I is fully complied with, and that Criterion II is partially complied with.

In the accreditation process the panel found it especially relevant to focus on five aspects within the two criteria:

- **The ITU's strategies and goals**
  The panel looked into the strategies and goals at different levels of the institution. The panel focused on the goals from *The Development Contract 2012-2014* because these goals are also used as the quality goals in *The Quality Assurance Policy*. The status of the ITU's goals is reported in *The Quarterly Management Information Reports* and *The Annual Reports on Quality*. The panel saw these reports as key to monitoring the ITU's goals at different levels of the institution. For this reason the panel focused on the relation between the strategies and the goals monitored in these reports.

- **The ITU's quality assurance procedures**
  The ITU has designed a *Quality Assurance Policy* that contains procedures for quality assurance of the institution's programmes. The panel analysed how the procedures support the ITU's quality goals and how the procedures cover the different aspects of quality and relevance. The performance of the system, as described in Criteria III-V, is also included in the analysis and discussion of the ITU's procedures.

- **The ITU's organisation – anchoring of the quality assurance system**
  The organisational levels are described and discussed with focus on the management levels responsible for educational quality and quality assurance. The panel focused in particular on the Education Group, which coordinates the quality assurance activities, and on the Head of Studies, who plays an important role as the link between the education activities, the Education Group and the Management.

- **Information flow**
  In connection to the organisation of the quality assurance system, the panel discussed the information flow in the organisation. The panel was interested in analysing how the different parts of the system are connected and how the information is distributed to the different levels of the institution.

- **Quality culture**
  Finally, the panel focused on the ITU's ambitions to develop a bottom-up quali-

ty culture and how the quality culture relates to the overall strategies and procedures of the institution.

The ITU's strategies and goals

The ITU has a number of strategic documents describing the goals for the development of the institution and for quality assurance of the institution's education activities:

- *The ITU Strategy 2012-2016* describes the overall mission and strategic goals for the university.
- *The Education Strategy 2012-2016* presents the overall visions and goals for quality, quality assurance, and quality enhancement in education at the university.
- *The Quality Strategy* gives an overview of current key challenges in quality assurance enhancement in education at the ITU.
- *The Development Contract* describes the development goals agreed with the Ministry of Higher Education. *The Development Contract* goals are also used as quality goals in *The Quality Assurance Policy*.
- *The Yearly Strategic Goals.* In addition to the goals in *The Development Contract*, the Management and the Board of Directors decide a number of strategic goals each year. The yearly strategic goals are derived from the ITU's long-term strategies (e.g. *The ITU Strategy* and *The Education Strategy*).
- *The Quality Assurance Policy* describes the procedures for quality assurance of the institution's education activities.

The status of the ITU's goals is reported in *The Quarterly Management Information Reports* and *The Annual Reports on Quality*. The individual strategies and goals are described below with focus on the goals monitored in these reports.

ITU Strategy

The ITU Strategy establishes that: "The mission of the IT University of Copenhagen is to provide internationally leading teaching and research which will enable Denmark to become exceptionally good at creating value with IT" (*The Self-Evaluation Report,* p. 60).

The university's focus on value creation is reflected in its strategic goals for 2016. Thus it is stated as a goal in the strategy that: "The ITU is poised to become, in the long term, the most important university for creation of value with IT in Denmark. For 2016, we take this to mean that the university is leading in one of two parameters concerning research in IT (external research funding; bibliometric points) and that the university is leading in one of two parameters concerning IT education (number of graduates; number of PhDs)" (*The Self-Evaluation Report*, p. 61).

The strategy also mentions that the university must increase its ratio between internal lectures (VIP) and external lectures (DVIP) in order to strengthen research-based teaching. According to the strategy, teaching productivity should be at least as good as the average for the Danish university sector (*The Self-Evaluation Report*, p. 62).

Education Strategy and Quality Strategy

The ITU's Quality Management Organisation (the Education Group) is based on two strategies: *The Education Strategy* and *The Quality Strategy*.

The Education Strategy presents the overall visions and goals for quality and quality assurance in education at the university, *The Quality Strategy* gives an overview of current key challenges in quality assurance enhancement at the ITU. There is a significant overlap of the goals and key challenges mentioned in the two strategies. The ITU's Quality Organisation prioritises the areas to be enhanced recurrently in *The Annual Reports on Quality* which follow-up

on the prioritised goals and key challenges each year.

The two strategies have been developed to support the framework of what the ITU considers a good study programme:

1. It attracts a large number of well-qualified students
2. Both the contents and the teaching are world-class
3. It gives students competences that are in demand on the labour market.

(*The Self-Evaluation Report,* p. 75)

According to the ITU, the definition of an ideal study programme implies an upper bound on the number of students the ITU should admit; the ITU should not admit students who are not well-qualified; nor should the ITU admit more students on a study programme than the labour market is likely to be able to absorb. Regarding item 1, the ITU has not set any goals to raise the number of students in the strategy period. The collaboration with the Employers' Panel and a goal in the overall ITU strategy to develop methods to monitor the career start of the graduates serve as focus on item 3 (*The Self-Evaluation Report*, p. 75).

The Education Strategy focuses on item 2, which establishes that both the contents and the teaching should be world-class. The strategy's focus areas and related goals are described here:

Teaching-Research relation. The strategy suggests a definition of research-based education that places equal weight on the student learning key research results, learning research methods, and learning to produce research results. All study programmes should adopt this practice. Further, the strategy emphasizes that, at the ITU, research is the combination of the search for deep knowledge and consideration of use. Both of these aspects should be present in teaching. To do this, the strategy has set the goal that: "In 2016, all programs have mapped out and documented how all students in that program are exposed to the ITU´s definition of research-based teaching" (*The Self-Evaluation Report*, p. 80).

Student-centred learning and digitization. To accommodate student diversity on the ITU's programmes, the university expects to push further on student-centered learning and in particular to push for increased digitization of the studies as a means to accommodate diversity. Among other things, this means that pedagogics must be aligned with the student body (different students require different pedagogics). The institution has set the goal that: "by 2016, all (90%) courses must have gone through a process that ensures that the structure of the course, the learning activities and the intended learning outcomes are based on student-centred learning" (*The Self-Evaluation Report*, p. 82).

MSc revisions. All MSc programmes are to be redesigned to be attractive to the ITU's own bachelors, as well as the broad spectrum of bachelors they have attracted from outside: "The redesign of each MSc must be timed to fit with the first graduation semester of the corresponding bachelor program" (*The Self-Evaluation Report*, p. 83).

Part-time education is an important part of the mission of the ITU. According to the strategy, some of the part-time programmes lack scientific staff. The strategy states that: "The part-time studies will have a similar (within 15%) VIP/DVIP ratio as the daytime programs" (*The Self-Evaluation Report*, p. 86).

Quality assurance. The strategy describes some key areas the university needs to improve regarding quality assurance. The strategy in particular mentions evaluation of projects (including thesis projects), and evaluation of entire programmes (*The Self-Evaluation Report*, p. 86).

Quality objectives

The goals from *The Development Contract* constitute the major part of the quality objectives for the ITU's education programmes as stated in *The Appendix to the Quality Assurance Policy*. These goals are monitored in *The Quarterly Management Information Reports* along with *The Yearly Strategic Goals*.

The Yearly Strategic Goals are derived from the ITU's long-term strategies (e.g. *The ITU Strategy* and *The Education Strategy*) and prioritised by the Management and the Board of Directors on the basis of a process involving all management levels (*The Self-Evaluation Report*, p. 6).

Selected goals from *The Development Contract* and *The Yearly Strategic Goals* for 2014 are shown below. The goals selected from *The Development Contract* represent the goals which are also stated as quality objectives for the ITU's education programmes in *The Quality Assurance Policy.*

Development Contract Goals/Quality objectives for the ITU's education programmes

The drop-out rate for first-year bachelor students for the ITU as a whole will be no more than 15%, provided the yearly admission does not exceed 200 students.

The employment rate of MSc graduates who graduated at most four years ago must be at least 1% higher than the national average for all MSc graduates from Danish universities in the same year.

The number of students admitted on the MSc programme who are graduates from other institutions than the ITU itself, will be at least 75% of the budgeted total number of MSc students admitted. Moreover, the number of students admitted on the MSc programme who are graduates from other Danish institutions than the ITU itself, will be at least 50% of the budgeted total number of MSc students admitted. This applies to every year in the contract period.

At least 50% of the admitted BSc students will complete their degree within the schedule of the curriculum.
At least 63% of the MSc students will complete their degree within the schedule of the curriculum plus one year.

The average course evaluation response of students to the quantitative questions should be at least 4.75 on a scale from 1 to 6.

During 2014, at least 140 students will, as part of their ITU studies, participate in globally interactive learning activities at the ITU or obtain credit for study activities completed at universities abroad.

The ratio student full time equivalent /teaching full time equivalent will be at least 15.7 in 2014.

Source: *The Self-Evaluation Report*, pp. 102-106

Yearly strategic goals 2014

Before the end of 2014, at least 2 formal experiments with new educational models for education should have been carried out and documented. Examples of a new educational model could be a globally interactive course, IT-supported teaching or significant use of material from moocs, courses for talented students etc.

During 2014, the ITU will conduct an external evaluation of its MSc programme Digital Design and Communication.

Source: *The Self-Evaluation Report*, pp. 106-107

Discussion

It is the panel's assessment that the ITU is working towards achieving its mission. In the panel's view, the mission is supported by the university's strategic goals and *The Education Strategy's* framework for a good study programme. During the site visits the panel found evidence that the university's mission is shared among the staff at the university.

It is the panel's assessment that the university has clearly defined strategies and goals at different levels of the institution. The panel is aware that the development contracts system and the quality assurance system overlap, and that they are not identical. However, the panel focussed on the goals in *The Development Contract* because they are also used as quality goals in *The Quality Assurance Policy*. By reading *The Quarterly Management Reports,*

the panel has found evidence that all the quality goals are systematically followed up in the reports, along with the rest of the goals in *The Development Contract* and *The Yearly Strategic Goals*.

The panel found that some of the goals in *The Education Strategy* have been prioritised as Yearly Strategic Goals and followed up in *The Quarterly Management Information Reports*; others have been transferred to key challenges in *The Quality Strategy* and are followed up in *The Annual Report on Quality*. The panel was critical of the fact that there is no goal for dropout rates from MSc programmes in the reports.

The panel found that the university has many goals in the strategies for the development of the institution, covering different aspects of the programmes' research base, the programmes' level and content and the programmes' relevance. Many of the goals address key challenges within these areas. For instance the institution has set goals for research-based education and for an increase in academic staff on the part-time programmes (cf. Criterion III). The objectives for student-centred learning concern the challenges of teaching a diverse student body on the MSc programmes (cf. Criterion IV). Close collaboration with employers is also something the university sees as important in accordance with the university's focus on value creation (cf. Criterion V).

The ITU's quality assurance procedures

In order to support *The Education Strategy,* the ITU has designed *The Quality Assurance Policy* that contains procedures for quality assurance of the study programmes. *The Quality Assurance Policy* is designed within the framework of The Standards and Guidelines for Quality Assurance in the European Higher Education Area (the ESG).

An appendix to *The Annual Reports on Quality* (called *The Quality Assuance Wiki*) contains a status report on quality assurance within each quality assurance procedure and the results of internal systematic follow-ups on the use and documentation of the implemented quality assurance. *The Quality Assurance Policy* and *The Quality Assurance Wiki* also identify the person responsible for the follow-up on each procedure.

The policy's procedures for approval, monitoring and periodic review of programmes and awards; information systems, and quality assurance of teaching staff are described below.

Information systems

The Quarterly Management Information Reports contain statistics and analyses on the profile of the student population, including:

- Number of enrolled students
- Number of graduates and their completion time
- Dropout analysis on bachelors
- Employment rates of MSc graduates
- Analysis of the ratio (student full time equivalent)/(teaching full time equivalent).

(*The Self-Evaluation Report*, p. 116)

The Quality Assurance Policy contains an appendix including *The Quality Objectives* mentioned above for the dropout rate for first-year bachelor students, completion time for bachelor students and MSc students and employment rates of MSc graduates. The goals are followed up in *The Quarterly Management Information Reports*. If a problem is detected, the ITU procedure is to establish a project to analyse and solve the problem.

Approval, monitoring and periodic review of programmes and awards

Regular monitoring and reviews of the university's programmes are primarily based on:

- **Course evaluation.** All courses are evaluated every semester. The topics evaluated are: overall satisfaction, constructive alignment, relevance for future job profile, workload and academic level. The evaluation form also has space for comments.
- **Heads of Programme Reports.** Every semester Heads of Programme write a report based on course evaluations, exam results and number of ECTS points earned. The report also includes feedback from course managers.
- **Feedback from Employers' Panel meetings.** The dialogue with employers is primarily implemented by biannual meetings with the ITU's Employers' Panel.
- Other material such as **graduate surveys and employer surveys**. Job relevance and unemployment rates of the MSc graduates are analysed every second or third year in *The Graduate Survey*.
- The ITU also mentions the new **Concept for Recurrent Reviews of Programmes with External Experts** as a part of the procedures for approval, monitoring and periodic review of programmes and awards. Two programmes will be reviewed per year starting from 2014.

(*The Self-Evaluation Report,* pp. 111-118)

Quality assurance of teaching staff

The Quality Assurance Policy establishes that "All study programmes at the ITU must provide research-based teaching in information technology at the highest international level. Therefore, the university must make sure that all members of teaching staff have adequate academic competences" (*The Self-Evaluation Report*, p. 114).

When employing staff and when staffing courses and projects, the ITU has a number of procedures in order to ensure that teachers and supervisors have documented, relevant experience within their academic subject. Further, it is stated that, when employing staff and when staffing courses and projects, the ITU has procedures to ensure that teachers and supervisors either already have documented formal education and teaching experience in teaching methods and course planning, or they are offered training in this (*The Self-Evaluation Report*, p. 114).

Teachers' learning competences are evaluated as part of the course evaluation. All teachers with a course evaluation score below 4 are followed up on and offered support to develop their pedagogical skills. The regular updating of the academic qualifications of teaching staff is primarily handled in the procedure for conducting Staff Development Interviews (MUS), to which all employees at the ITU are entitled.

Other procedures

The ITU has a number of additional procedures with relevance for research-based education and quality assurance of the programmes' level and content, which are not mentioned in *The Quality Assurance Policy*. Some of them are described in brief here:

The course manning process is linked with quality assurance of teaching staff. The process is to ensure that the ratio between faculty and part-time lecturers is monitored to ensure it is appropriate for the research base of the programme. If a topic is found to have too few researchers associated with it, new faculty is to be hired. *The Course Manning Plan* outlines a detailed plan with deadlines and distribution of responsibility. *The Course Manning Plan* is applied on an ongoing basis to all courses and all programmes (*The Self-Evaluation Report*, pp. 14-15).

The Procedure for Mapping of Study Programmes is related to the periodic approval and monitoring of programmes. This procedure is to ensure that all study programmes continually maintain the right level in relation to *The Danish Qualification Framework for Higher Education Programmes* as well as the curriculum in terms of learning objectives (*The Self-Evaluation Report*, p. 209).

Discussion

The panel analysed the relation between the ITU's quality goals and its quality assurance procedures. On the basis of the analysis, the panel found that the procedures and goals in *The Quality Assurance Policy* support the ITU's definition of a good study programme. It is the panel's view that the procedures in the ITU's quality assurance system cover all programmes as well as the programmes' knowledge base, level and content, and relevance.

It is the panel's view that quality assurance is based on a systematic assessment of development needs and opportunities identified in *The Quality Assurance Strategy* and followed up on every year in *The Annual Report on Quality*. Based on the site visit it was clear to the panel that the institution is well aware that work still needs to be done on transparency and systematic documentation of procedures for following up on detected problems.

It is the panel's view that the ITU has overall goals for the research base of the programmes, and that the course manning process is to ensure that the ratio between full-time faculty and part-time lecturers is appropriate to ensure the research base of the programme. However, the panel found that the high use of external lecturers is a challenge to the research base of the part-time master programmes as well as some of the bachelor and MSc programmes (cf. Criterion III). It is the panel's view that the ITU does not have a clearly defined standard for the ratio between internal and external lecturers. Thus it was not possible for the panel to ascertain when the university decides that the course manning process shows that a programme has deficiencies in the research base. Further, the panel could not find evidence that the university has made a written analysis and a multi-year plan which is clear about the research profiles of the lecturers it intends to recruit in the comming years.

The panel saw that the ITU's MSc students come from many different bachelor programmes outside the ITU along with the ITU's own bachelor students. According to the ITU's development contract, it is the ITU's goal that students with bachelor degrees from other institutions continue to represent at least 75% of the students admitted to the MSc programmes. The panel was pleased to see that the ITU is working to resolve the challenges this poses to the academic level, and the ITU has implemented a number of initiatives in this regard (cf. Criterion IV). However, regarding student-centred learning, the panel found that the university has not yet followed up on the goals for handling a diverse student body. *The Quarterly Management Information Reports* and *The Annual Reports on Quality* from 2012-2013 do not mention these goals (*Audit Trail 1*, pp. 12-296). The challenges of teaching a diverse student body have been in evidence since the university started its first MSc programmes, but the panel found that the university has not yet established an institutionalised or systematic approach to the pedagogical aspects of teaching a diverse student body (cf. Criterion IV).

It is the panel's view that course evaluation is taken very seriously at the ITU. *The Quarterly Management Information Reports* and *Heads of Programme Reports* follow-up on the average course evaluation response and have an ambitious standard for when action is required. *The Education Strategy* states that all learning activities, not just courses, must have an associated quality assurance process with systematic and transparent follow-up procedures. De-

spite this, the panel was disappointed to note that these initiatives have not been implemented yet.

The panel found that the university takes student progress very seriously and has well-described procedures for this. The progress of BSc and MSc students is monitored each term in *The Quarterly Management Information Reports*. The monitoring is based on dropout analyses for BSc and MSc students, completion analyses for BSc and MSc students and monitoring of students not starting their thesis according to their study plan. If students are not progressing according to their programme, a progress status letter from the Vice Chancellor is sent to them and they are asked to give feedback and offered counselling (*The Self-Evaluation Report*, p. 112). The panel noted that the rate for completion on time plus one year has dropped from 65 % in 2012 to 59 % in 2013 and this is below the goal (63 %) (cf. Annex, key figures). The panel found that the completion time has been discussed on several occasions in the Board of Studies and that the ITU has initiated a project about the implementation of the Study Progress Reform, which the Management expects will solve the problem.

It is the panel's view that the ITU has goals and procedures for graduate surveys, monitoring of employment rates and meetings in the Employers' Panel. The framework for a good study programme states that it should give the students competences that are in demand on the labour market. This is supported by a goal stating that the employment rate of MSc graduates who graduated four years ago must be at least 1% higher than the national average for all MSc graduates from Danish universities in the same year. The monitoring of the employment rates in *The Quarterly Management Information Reports* shows that the employment rate was 4% below the national average in 2011.

Further, the unemployment rates for the MSc in Games and the MSc in Digital Design and Communication show high unemployment for graduates from these programmes (cf. Criterion V). A project was established in March 2013 to analyse and solve the problems with unemployment for the MSc in Games, while the unemployment situation for the MSc in Digital Design and Communication was part of the evaluation with external experts in the autumn 2014. It is the panel's view that a well-functioning quality assurance system would have identified high unemployment on these programmes before 2013 (e.g. from its graduate surveys and dialogue with potential employers). Further, it is the panel's view that the ITU needs more effective and systematic ways of following up on employment issues, when they become evident (cf. Criterion V).

It is the panel's overall assessment that the ITU has goals and procedures for quality assurance of all programmes covering all the criteria. However, it is the panel's assessment that the ITU has not demonstrated effective and systematic ways of following up on identified problems regarding the research base of the programmes, the teaching of a diverse student body and the relevance of the programmes.

The ITU's organisation – anchoring of the quality assurance system

The organisational levels with responsibility for educational quality and quality assurance are depicted below.

Board of Directors

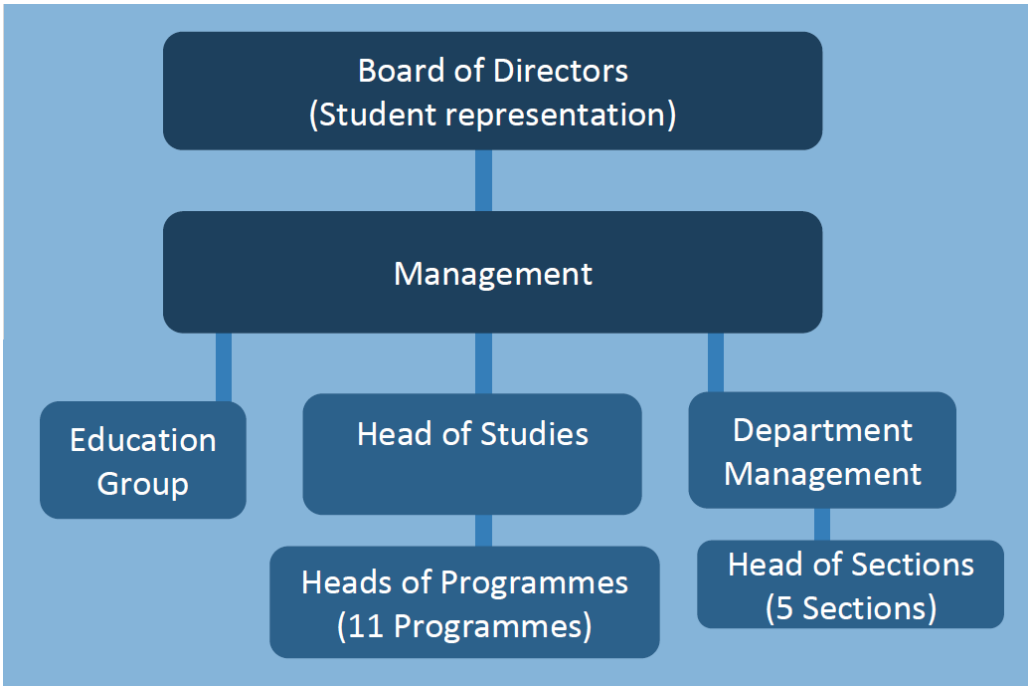
The work of the Board of Directors includes overseeing work towards the goals set up within the framework of *The Development Contract* as well as following up on internal strategic goals in *The ITU Strategy* (*The Self-Evaluation Report*, p. 11).

Management

The Management has divided responsibility internally so that the Vice Chancellor is responsibe for the ITU's education programmes, the Provost is responsible for the ITU's research and the University Director is responsible for the ITU's administration (*The Self-Evaluation Report*, p. 40). *The Quarterly Management Information Report* contains a follow-up on the development contract goals and the ITU's yearly strategic goals, which are derived from *The Education Strategy* and other strategies. All goals are allocated a person responsible for progress, and all goals are given a status (green, red or yellow), describing the degree of realisation (*Audit Trail 3,* pp. 13-297).

Education Group

Operational responsibility for the quality work for the ITU's study programmes is placed in the Education Group. The Education Group includes the Head of Studies, who is also the Head of the Board of Studies, the Head of Department, the Head of Research and Learning Support, the Head of Student Affairs & Programmes and the Head of Communication. The responsibilities of the members in the Education Group are described in *The Quality Assurance Policy* and *The Quality Assurance Wiki*. A Quality Coordinator who refers to the Education Group is responsible for coordination of running and following-up the quality-assurance activities. The Education Group publishes an *Annual Report on Quality* which gives a status of the progress of quality assurance and quality enhancement (*The Self-Evaluation Report*, p. 110).



Source: ***The Self-Evaluation Report,*** **p. 180**

Head of Studies and Board of Studies

The ITU has one Board of Studies which has 10 members: The Head of Studies, four VIP (internal lecturer) representatives and five student representatives. The Head of Studies is chairman of the Board of Studies and he is also the link between the education activities and the Education Group. He regularly produces reports concerning e.g. course evaluation results, and examination results. These documents are discussed in the Board of Studies. *The Education Strategy* is anchored with the Head of Studies, and the Board of Studies has formal responsibility for all programmes.

Subject Area Teams

In addition to the Board of Studies, the ITU has four subject area teams (not depicted in the diagram above): Business, Software, Digital Communication and Games. A subject area team is an elected body which consists of equal numbers of Heads of Programme and student representatives. One subject area team can contain representatives of more than one programme (for example, a bachelor programme, an MSc programme and a master programme within one corner of the ITU triangle). Each subject area team chooses a Head of Programme and a student representative for the Board of Studies. The subject area teams are situated below the Board of Studies and they do not make any formal decisions regarding the programmes (*The Self-Evaluation Report,* p. 40).

Educational Environment Survey Committee and Infrastructure Group

Students and teachers are represented in the Educational Environment Survey Committee, which is responsible for the evaluation of the study environment, and in the Infrastructure Group, which meets once a month to evaluate items such as the use of physical facilities (*The Self-Evaluation Report,* pp. 115-116).

Heads of Programme

For each programme, there is one Head of Programme, whose responsibility includes quality work concerning that study programme, including follow-up on evaluation results. However they do not have formal responsibility for the programmes. The Head of Programme writes a Head of Programme Report every semester on the basis of course evaluations, exam results and number of ECTS points earned (*The Self-Evaluation Report*, p. 111).

Head of Department and Heads of Section

The faculty at the ITU is organised in one Department which is divided into five sections:

- Theoretical Computer Science
- Culture, Aesthetics, Organisations and Society
- IT Management and Leadership
- Software and Systems
- Computer Games and Interactional Design

The Head of Departement has overall responsibility for the Department and for allocating resources to the programmes. The ITU is organised in a matrix stucture in which researchers from the five sections are allocated to the 11 study programmes. Every section has a Head of Section who is in charge of the research within the section. The Head of Departement is responsible for *the course manning process* which outlines which teachers are to teach which courses. The Head of Department is also responsible for employing staff and for quality assurance of the teachers' academic and teaching competences. The Research and Learning Support offers courses, seminars and individual support to improve teachers' teaching competences.

Discussion

It is the panel's view that the ITU has a complex organisation with many institutional levels for a relatively small institution. At the same time it is the panel's view that the

ITU has a very informal organisation with no great distance from top to bottom.

It is the panel's assessment that the institution has a clear division of labour and responsibilities between the different management levels. The Education Group has the key role as the coordinator of the quality assurance activities at the university. All relevant middle-level managers with responsibilities for quality assurance are included in this group. The panel found that the work of the Education Group is based on *The Education Strategy* and the key challenges in *The Quality Assurance Strategy*.

It is the panel's view that the Head of Studies is the anchor of the ITU's quality assurance organisation. He is the link between all the education activities, the Management and the Education Group. This has both strengths and weaknesses. The strength is that the Head of Studies is the key reference for most activities and he has access to all relevant information about the programmes, e.g. course evaluation, *Head of Programme Reports* and *The Quarterly Management Information Reports*. The obvious risk is that he has too much on his shoulders for one person, which makes the system vulnerable. Another risk is that information is not sufficiently spread and discussed in the organisation (cf. the next section about Information Flow).

It is also the panel's view that the Vice Chancellor plays a significant role in the quality assurance and development of the institution. He is strongly committed to the development of the institution, as well as to the quality assurance of the programmes. Further, the panel found that the Head of Department has an important role in ensuring the research base of the programmes. He has overall responsibility for the course manning process and for hiring new staff, if the course manning process shows that topics are not sufficiently research-based.

Thus it is the panel's assessment that quality assurance is anchored at top-management level and that the management is deeply involved in the quality assurance of the institution.

Information flow

This section describes how the information flow in the institution's quality assurance system is organised between the responsible groups and individuals mentioned above. The focus is on how relevant information about the individual programmes is collected, analysed and applied in the organisation. The key procedures providing information about the programmes' quality are as follows:

The Quarterly Management Information Reports and the Annual Reports on Quality

The Quarterly Management Information Reports include key figures and analyses such as number of enrolled students, number of graduates and their completion time, dropout analysis on BSc programmes and employment rates for MSC graduates. *The Quarterly Management Information Reports* are distributed to the responsible management levels, including the Management Group, the Education Group, the Board of Studies and the Heads of Section (*The Self-Evaluation Report,* p. 116; *Audit Trail 3,* pp. 13-297).

On the site visit the Vice Chancellor stated that he uses *The Quarterly Management Information Reports* to identify problems on the programmes. If key figures look strange, he asks the Head of Studies or the Heads of Programme for an explanation. Further, the Vice Chancellor said that the institution is in a transition phase regarding the use of management information. Until recently the information was brought to the management, who then decided when to take action. The institution is now moving towards giving the lower level management more responsibility and better access to information. However, the Vice Chancellor

also said that it would take time before the lower management level assumed this new responsibility.

The Board of Studies and the Subject Area Teams regularly discuss changes to curricula, revision of exam forms and types, course manning, course evaluation results, completion time, dropout rates on bachelor programmes, as well as employment and study environment surveys. The minutes show that there is a lack of student representation at the meetings of the Study Board and that participation in the Subject Area Teams varies (*Audit Trail 3*, pp. 458-703).

Course Evaluations and Head of Programme Reports

The information from course evaluations is used by the Course Managers, Heads of Programme and by the Board of Studies to adjust and further enhance the academic content, teaching methods and the design of the courses (*The Self-Evaluation Report*, p. 20).

The Head of Programme Reports vary in extent (1-4 pages). In general they reflect on exam results and course evaluations. In some cases the reports also contain reflections about infrastructure, IT facilities and the study environment based on information from the study environment evaluation. *The Head of Programme Reports* contain no information about key figures, feedback from Employers' Panel meetings, graduate surveys, external examiners' reports or key figures (*Audit Trail 3,* pp. 299-447).

The Head of Studies has meetings with all Heads of Programme based on the reports. On the site visit it was stated that problems detected by the Heads of Programme or Course Managers are dealt with locally and do not necessarily reach top management. Because of this, the reports do not serve as information for *The Quarterly Management Information Report* on a systematic basis.

Feedback from the Employers' Panel

The feedback from the Employers' Panel is given to the Vice Chancellor, the Head of Studies and the Head of Programme in charge of the relevant programme. The Head of Programme is also responsible for the follow-up on the feedback. The feedback from the meetings with employers is not discussed in the Board of Studies, the Subject Area Teams or the Head of Programme Reports (*Audit Trail 3*, pp. 299-447; 458-703).

Recurrent reviews of programmes with external experts

The reviews with external experts are based on information about the academic profile of the programme, key figures, student perspectives including a survey, quality initiatives on the programme, minutes from an evaluation seminar and management reflections including outlines of a plan of action for quality development. The research base of the programme is not always a part of the reviews (cf. Criterion IV).

Discussion

It is the panel's view that *The Annual Reports on Quality* and *The Quarterly Management Information Reports* follow-up on the institution's goals for overall quality assurance and development of the institution. The reports include relevant key information and analyses.

The panel found that the Board of Studies and the Subject Area Teams regularly discuss relevant issues such as changes to curricula, revision of exam forms and types, course manning, the study environment survey, course evaluation results, completion time, dropout rates from bachelor programmes and employment. The panel further found that *The Head of Programme Reports* are primarily a tool for follow-up on course evaluations and exam results. This means that the reports are focused on individual courses and not on the programmes as such. The panel noticed that the students are not evaluating thesis, projects and entire programmes.

It is the panel's view that the different sources of information about the programmes are discussed separately and not as part of ongoing monitoring of the entire programmes. This means that discussions of the programmes' levels and content are not linked to discussions about the research base or the relevance of the programmes. Although the panel understands that it is the same group of people in the Board of Studies and the Subject Area Teams who discuss the separate parts of information, the panel believes that the institution could benefit from connecting these sources of information and discussing them with regard to entire individual programmes.

Further, it is the panel's view that the ITU has not yet established a system of management information for use among Heads of Programme. *The Quarterly Management Information Reports* are distributed to different management levels in the organisation, but so far they have primarily been used by the Vice Chancellor and the Head of Studies to identify problems.

The panel found that feedback from the Employers' Panel is not discussed in the Board of Studies and the Subject Area Teams. The panel also found that key information from Employers' Panel meetings, external examiners' reports and key figures are not part of *The Head of Programme Reports*. This means that this information is not disseminated and shared among the teachers on the individual programmes. Nor are *The Head of Programme Reports* used systematically to share experiences across programmes. Furthermore, the panel found it unfortunate that there is no template for *The Head of Programme Reports,* meaning that the reports vary somewhat in their content and reflections.

At institutional level the panel found that *The Head of Programme Reports* do not feed into the overall quality assurance system. During the site visit the Management said that this was because problems identified in *The Head of Programme Reports* are dealt with at programme level. However it is the panel's view that this omission could mean that the ITU is missing out on valuable information at institutional level.

The panel found that the hub of the information flow in the organisation is the Head of Studies, as this is the person with overall responsibility for all the ITU's programmes. He is the person in the quality organisation with access to all relevant information and he is the link between the institutional level and the programme level.

It is the panel's overall assessment that the quality assurance system does not sufficiently connect the different sources of information at programme and institutional level. Therefore the system is not realising its full potential in quality assuring the individual programmes.

Quality culture

In *The Management's Reflections,* the Vice Chancellor stresses an active bottom-up approach to local enhancement. This means that the person closest to the students is the first to detect problems and the first to act on them. It is stated in *The Management's Reflections*: "A lot of bottom-up drive for local enhancement is a sign of good anchoring of the system. Our assessment of the anchoring of ITU's quality work is that it is about 80% there: in the majority of cases, the bottom-up drive for local enhancements works very well. From an organisational point of view, perhaps the single-most important overall development of the ITU of Copenhagen has to stick with the (normally well-functioning) bottom-up drive for local enhancement, accompanied by a reduction in top-down drive for local enhancement" (*The Self-Evaluation Report*, p. 44).

During the site visits, Heads of Programme and students gave examples of a quality practice that supports a bottom-up approach for local enhancement. For exam-

ple, teachers on the Digital Design and Communication programme are organised in clusters in which they discuss academic content and progression within and between courses. Another example is that some of the Heads of Programme have held lunch meetings with 30 students at which they discuss problems on the programmes. These initiatives are locally initiated and not part of the culture on all programmes.

Discussion

The panel found that the ITU has a very informal culture, and that there is no great distance from top to bottom in the organisation. Thus, it is the panel's view that many problems are discussed and dealt with in a more informal way at the institution. The panel found evidence of a well-functioning bottom-up quality culture on most programmes. Teachers take responsibility for their courses and use course evaluations actively as a tool for improvement. The panel also found that the clusters where teachers meet to discuss academic content and progression and the lunch meetings between Heads of Programme and students are good examples of a quality culture that supports and furthers the quality of programmes. These initiatives are initiated from below and could be picked up by the senior management to make sure that the institution disseminates these ideas.

The panel found that the fact that the ITU has not yet established a system of management information for Heads of Programme means that the Heads of Programme do not connect directly to the overall strategies and goals addressed in *The Quarterly Management Information Reports*. Making the management information an integrated part of *The Head of Programme Reports* could possibly promote the desired bottom-up drive for quality development because the Heads of Programme would identify problems bottom-up instead of the Vice Chancellor identifying the problems top-down.

The panel found that student participation in the Board of Studies and Subject Area Teams could be better. The minutes show that there is a lack of student representation at the meetings of the Study Board and that participation in the Subject Area Teams varies (*Audit Trail 3*, pp. 458-703). The panel met with some very engaged students during the site visits who wished to contribute to the development of the programmes and the institution. It is the panel's view that the ITU could gain significantly from encouraging the students to engage actively in the permanent representative bodies, and hence make sure that student views and proposals are channelled into the discussions about the institution's quality work and strategy in a continuous, systematic manner.

Assessment of Criterion I

On the basis of the panel's analysis of the different aspects of the criterion, it is the panel's assessment that the ITU fully complies with this criterion.

It is the panel's view that the ITU is working towards achieving its mission. The mission is underpinned by the university's strategic goals and *The Education Strategy's* framework of a good study programme. The panel also found that the procedures and quality goals described in *The Quality Assurance Policy* fully support the ITU's framework of a good study programme.

Finally, it is the panel's assessement that the goals and procedures in the ITU's quality assurance system cover all programmes as well as the programmes' knowledge base, levels and content and relevance.

Assessment of Criterion II

On the basis of the panel's analysis of the different aspects of the criterion, it is the panel's assessment that the ITU partially complies with this criterion.

Although the goals and procedures in the ITU's quality assurance system cover all programmes and all criteria, it is the panel's assessment that the institution has not demonstrated effective and systematic ways of following up on identified problems regarding the research base of the programmes, the teaching of a diverse student body and the relevance of the programmes. The institution has identified the problems and information exists about them, but it is the panel's view that these problems seem to have existed for many years without the ITU addressing them in an effective and timely manner.

It is the panel's assessment that the quality assurance system does not sufficiently connect the different sources of information at programme level. The different sources of information about the programmes are discussed separately and not as part of ongoing monitoring of the entire programmes. This means that discussions of the programmes' levels and content are not sufficiently linked to discussions about the research base or the relevance of the programmes. The ITU has a strong focus on course evaluation, but the students do not evaluate the entire programme.

It is the panel's assessment that quality assurance is based on systematic monitoring of development needs and opportunities which are identified in *The Quality Assurance Strategy* and revised and followed up on every year in *The Annual Report on Quality*.

It is the panel's assessment that quality assurance is anchored at top-management level and that the management is deeply involved in the quality assurance of the institution. The Head of Studies is the anchor of the ITU's quality assurance organisation. He is the link between all the education activities, the Management and the Education Group. The obvious risk is that this makes the system very vulnerable because it relies so much on just one person.

The panel found good examples of a well-functioning bottom-up quality culture on some programmes. Thus it is the panel's view that many problems are discussed and dealt with locally. However, it is the panel's assessment that the ITU lacks to some extent a systematic and institutionalised approach to quality assurance, which can support and further develop the bottom-up quality culture.

Criterion III: Programme knowledge base

The panel analysed the ITU's practice with the stated aim that programmes and teaching should always be founded on a knowledge base that corresponds to the programmes' level and provides a firm basis for achieving programme objectives. In connection to this, the panel analysed how the ITU ensures that relevant, updated knowledge constitutes the basis for the programmes and the teaching. Furthermore, the panel analysed how the programmes are connected with relevant academic environments and whether the teachers' academic qualifications are updated and developed on an ongoing basis; how the teachers take part in contact with relevant research environments, and how students are kept in contact with the relevant knowledge base.

On the basis of its analysis of the different aspects of the above criterion, it is the panel's assessment that ITU partially complies with this criterion.

In the accreditation process and in connection with the selection of audit trails, the panel found it especially relevant to put particular focus on two aspects within the criterion:

- **Research-based education and the use of external lecturers**
  The ITU uses a high number of external lecturers on its programmes. The university values the use of external lecturers, but is also aware of the challenges this causes for the research base of the programmes. In order to identify the university's efforts to address the quality assurance aspects of the high use of external lecturers, the panel examined this aspect more closely.
- **Procedures and practice for research-based education**
  As *the course manning process* allows the Head of Department to assess whether the ratio between internal and external lecturers on a programme is appropriate, the panel found that the process is a fundamental part of the quality assurance of the research base of each programme's topics. Therefore, the panel was interested in learning more about this crucial quality assurance procedure.

Research-based education and use of external lecturers

The Quality Assurance Policy states that "All study programmes at the ITU must provide research-based teaching in information technology at the highest international level. Therefore, the university must make sure that all members of teaching staff have adequate academic competences" (*The Self-Evaluation Report*, p. 114).

The university has the following definition of research-based teaching:

- Learning about others' research and its applications
- Learning to do research – research methods and methods for their application
- Learning in research mode – inquiry-based, and learning in usage mode – innovation-based teaching

(*The Self-Evaluation Report,* p. 80)

The definition of research-based teaching does not imply that the teaching is mainly done by teachers with a research background. According to the definition, external lecturers are also able to teach

students about others' research and research methods.

According to the ITU, the reason for using external lecturers is that they can bring their first-hand, professional experience into their teaching. Furthermore the university argues that some of the topics students must learn in order to be employable do not currently exist within the academic research communities (*The Self-Evaluation Report*, p. 37).

The ITU has made the following strategic choices concerning the use of external lecturers: "As part of the course manning process; on all programmes, it is allowed to have a relative high proportion of external lecturers, given that most external lecturers should not teach courses alone, but rather in cooperation with internal lecturers (i.e. researchers). As such, different teachers in the same course can cover 'the quest for fundamental knowledge' and 'consideration of use'" (*Audit Trail 2,* p. 11).

According to *The Quarterly Management Information Reports,* the ITU had the lowest ratio between internal lecturers (VIP) and external lecturers (DVIP) among the Danish universities in 2008-2012. Furthermore, the university had the lowest ratio calculated in full-time equivalents in the same period when comparing to technical/scientific programmes across universities. In 2012 the university's ratio was 0.86, which was significantly below the average 7.2 within the technical/scientific field. Further, the ITU also has the lowest VIP/DVIP ratio compared to the average ratios within the humanities, the social sciences and the health sciences (*Audit Trail 3*, pp. 215-242).

An overview of the internal and external lecturers used on the ITU's programmes is provided by the course-manning tool. Contributions by the internal lecturers (VIP) and exernal lecturers (DVIP) on all the ITU's programmes in 2013 are shown in table 5.

The table shows that the ratios for all programmes are below the average of 6.9 within the technical/scientific field in 2013 (*Additional Documentation*, p. 341). Although the ITU's programmes are in the technical/scientific field, they also consist of elements from the arts and the social sciences. In 2013 the average ratio within the

Table 5. VIP/DVIP ratios for the individual programmes

Programme	VIP ECTS	DVIP ECTS	VIP/DVIP ratio
BSc in Global Business Informatics	81.75	60.75	1.35
BSc in Software Development	85.5	72	1.19
BSc in Digital Media and Design	131.32	56.25	2.33
MSc in E-business	45	7.5	6
MSc in Software Development and Technology	206.93	42.83	4.83
MSc in Digital Design and Communication	240.3	147.2	1.63
MSc in Games	155.25	48.75	3.18
Master of IT in Leadership and Management	19.53	130.48	0.15
Master of IT in Software Engineering	28.13	31.88	0.88
Master of IT in Interaction Design	50	77.48	0.64

arts was 3 and the average ratio within the social sciences was 1.7 (Additional documentation, p. 341). All the ITU's part-time master programmes have a ratio below 1, which is below the average ratios for all fields. A ratio below 1 means that the part-time master programmes use external lecturers for the major part of the teaching. The ratios for the BSc programme in Software Development (1.19) and the MSc in Digital Design and Communication (1.63) are also low compared to the average ratios within the different fields.[1]

According to the ITU, the Master of IT in Leadership and Management and the Master of IT in Interaction Design are currently undergoing complete revisions and re-staffing as part of formalized projects (as follow up to the accreditation of the programmes in 2013); and the Master of IT in Software Engineering shares a number of research-based courses with the MSc in Software Development and Technology (*Hearing response*, p. 6).

The university is aware that the number of external lecturers poses a challenge to research-based teaching. Thus the *ITU Strategy 2012-2016* states that "the university must increase the VIP/DVIP ratio, in order to strengthen research-based teaching". Further, the strategy proposes an increase in the number of VIPs of 18 compared to 2010 (*The Self-Evaluation Report*, p. 62).

During the site visit, the Management said that the university has been trying to hire qualified staff for years, but it has been difficult to find lecturers with the relevant research profiles. External lectures have therefore been used to fill the gaps. The ITU is now more successful in hiring the relevant academic profiles. Thus five full-time professors were hired in 2013/2014.

The Education Strategy adresses the issue of external lecturers on part-time programmes in the following goal: "The part-times studies will have a similar (within 15%) VIP/DVIP ratio as the daytime programs" in relative terms. (*The Self-Evaluation Report*, p. 86; *Hearing response*, p. 7). The goal in *The Education Strategy* is followed up in the annual report on quality, which sets annual goals for an increase in the use of internal lecturers on the part-time master programmes. The annual reports from 2012 and 2013 show that the university has increased the use of internal lecturers on the part-time master programmes from 15 % in 2012 to 25 % in 2013 (*Audit Trail 3*, pp. 445-449).

During the site visit, the Vice Chancellor said that at least 55% of the teaching on all programmes should be carried out by internal lecturers and no more than 45% of the teaching should be carried out by external lecturers. This goal still remains to be formalised, but it has been used for calculating the number of faculty (both full-time and part-time) required to deliver the number of student full time equivalent and teaching full time equivalent that the ITU projected on the basis of the number of students admitted. Thus there has been a direct, mathematical and formal consequence of the ratio in the budget allocation to the Department (*Hearing response*, p. 7).

[1] The VIP/DVIP ratios for ITU's individual programmes have been calculated by The Danish Accrditation Institution on the basis of documentation from *Audit Trail 2,* pp.6-8. VIP and DVIP contribution on the ITU's programmes is measured in ECTS points, while the average ratios are calculated in full-time equivalents (one full-time equivalent corresponds to 1924 teaching hours). Thus the numbers cannot be directly compared. A course at the ITU typically has a size of 7.5 or 15 ECTS points. One or more teachers can share the teaching load, e.g. a 15-ECTS-point course can be taught 1/3 by a DVIP (hence 5 ECTS point DVIP contribution) and 2/3 by a VIP (hence 10 ECTS point VIP contribution) (*Audit Trail 2*, p. 5).

Discussion

It is the panel's assessement that the high use of external lecturers is a challenge to the research base, particularly for the part-time master programmes, but also for the BSc in Software Development and the MSc in Digital Design and Communication. The panel recognizes that two of the part-time master programmes are currently undergoing complete revisions and re-staffing as follow up on programme accreditations in 2013.

The panel was pleased to note that the challenge of the research base has been addressed in *The ITU Strategy* and *The Education Strategy*, and it is the panel's clear impression that the mangement has focus on this issue. According to *The ITU Strategy*, the university aims to increase the number of internal lecturers before 2016. The panel was also pleased to note that it is proposed in *The ITU Strategy* that the university should increase the number of internal lecturers by 18 in 2016 compared to 2010. This has been followed up by employing five professors in 2013/2014. In addition the ITU hired nine new faculty when insourcing the MSc programme in Digital Innovation and Management (E-business) in 2012/2013 (cf. next section). This is very positive.

Despite these measures, because of the serious nature of this issue, the panel felt that the university could do more in order to reach the goal before 2016. It is the panels view, that the Vice Chancellor's goal of having 55% internal lecturers and 45% external lecturers has not been formalised and it is still very far from the average ratio within the technical/scientific field. The panel notes that the 55/45 ratio has been used in the budget allocation to the Department, but that it has not been used in the course manning of the individual programmes.

The panel acknowledges that it may be difficult to find researchers with the relevant research profiles and that the university has used external lecturers to fill out the gaps. However the panel did not find evidence that the university has used the course manning process to make a written analysis and a multi-year plan which is clear about the research profiles of the lecturers it intends to recruit in the coming years.

Finally, the university's definition of research-based teaching does not imply that teaching is primarily done by teachers with a research background. The panel believes that it makes good sense that research should combine a quest for fundamental knowledge with consideration of use. However the panel did not find evidence that the ITU has developed a framework to ensure that DVIP (external lecturers) are included in the ITU's activities. It is the panel's view that the ITU does not have processes or activities that bring VIP (internal lecturers) and DVIP together in order to develop a common environment and to achieve the right balance between theory and practice.

Procedures and practice for research-based education

The course manning process describes how the ITU ensures the research base of its programmes and courses. A Course Manning Plan for each programme is developed every semester. The plan outlines which teachers are to teach which courses. When the Course Manning Plan has been completed, a mapping takes place whereby the Head of Department assesses whether the teaching groups have the appropriate composition of internal and external lecturers to ensure the research base of each programme's topics. If the Course Manning Plan shows that a course has too few researchers, a decision can be taken to hire new faculty. The Head of Department is responsible for the course manning process and goes through each programme to ensure that teaching on all topics in the programme is research-based (*The Self-Evaluation Report*, p. 11).

The university states that mapping the teachers in teaching groups responsible for teaching courses within a specific topic with a number of related research fields assures that the teaching groups have the appropriate composition of faculty and part-time lecturers to ensure the research base of each of the programme topics (*Audit Trail 2*, p. 11).

During the site visit, the Head of Department said that he would like to move the course manning process to the teaching groups – allowing self-organising faculty in teaching groups to have responsibility for course manning. A pilot project involving the BSc in Digital Media and Design programme and the MSc in Digital Design and Communication was carried out in spring 2014, actively involving input from teaching groups in the course manning process (*Audit Trail 2,* pp. 5-9).

According to the ITU, the course mapping process is also applied in connection with revisions of programmes, development of new programmes, and when courses are being re-staffed. The self-evaluation report gives an example of how the university used the course mapping process when insourcing the MSc programme in Digital Innovation and Management (E-business) in 2012 (until then the programme was outsourced to Copenhagen Business School). According to the university, the mapping of the programme topics made it clear that a number of topics would not have a sufficiently large faculty base to ensure the research base of the programme. Therefore nine new faculty were hired for the programme in 2012 and 2013 (*The Self-Evaluation Report*, p. 12; pp. 14-15).

As part of the audit trails, the panel selected two programmes: MSc in Games and Master of IT in Leadership and Management, to look further into how the university ensures the research base through the course-manning process (*Audit Trail 2,* pp. 14-15). The audit trail showed that for the MSc in Games programme, VIPs who teach within their research field teach the majority of the courses. For the Master of IT in Leadership and Management programme, the course manning showed that most of the teaching was conducted by DVIPs in autumn 2013; three VIPs and 20 DVIPs taught the courses on the programme. Many of the courses were taught by a DVIP alone and only two of the DVIPs had a PhD degree (*Audit Trail 2*, pp. 16-198).

A supplementary strategy to the course manning process is to redesign programmes in order to ensure a better research base. According to the university, challenges with the number of external lecturers on two of the ITU's part-time master programmes have been identified: Master of IT in Leadership and Management and Master of IT in Interaction Design. The two programmes are now part of formal ITU development and implementation projects with the purpose of re-designing the programmes to ensure the research base (*Audit Trail 2*, p.11).

During the site visit, the Head of Department said that the Master of IT in Leadership and Management programme will only offer two courses each semester and that a professor will take care of most of the teaching. For this reason the mangement expects the VIP/DVIP ratio to increase on the programmes, since a bigger part of the programmes will be taught by internal lecturers.

Discussion

It is the panel's view that the course manning process requires a close collaboration between the the Head of Department and the Heads of Programme to ensure the research base of the individual programmes. It is the panel's view that the course manning process has not been enough to ensure the research base of all the programmes. For the Master

of IT in Leadership and Management programme, the course manning material from the audit trail shows that most of the teaching was conducted by external lecturers. However, it is positive that the panel could note evidence that course manning was used to hire nine new faculty when insourcing the MSc programme in Digital Innovation and Management (E-business) in 2012/2013. Thus it is the panel's assessement that in some, but not all, cases the course manning process is used to ensure the research base of the programmes. Since the ITU does not have a standard on when to take action, it was not possible for the panel to ascertain when the university decides that the course manning process shows that a programme has deficiencies in the research base.

The Master of IT in Leadership and Management programme and the Master of IT in Interaction Design programme were both given a conditional positive accreditation by the Danish Accreditation Institution in 2013, partly because of their high use of external lecturers. The panel therefore found it positive that the two programmes are part of formal ITU development and implementation projects with the purpose of re-designing the programmes to ensure the research base. The panel notes that the re-design took place after programme accreditation had revealed the problems. Finally, it was difficult for the panel to tell if the re-design will ensure the research base, since the re-designing process had not been completed at the time of the visits by the panel.

Assessement of Criterion III

On the basis of the panel's analysis of the different aspects of the criterion, it is the panel's assessment that the ITU partially complies with the criterion.

It is the panel's assessement that the high use of external lecturers is a challenge to the research base of the part-time master programmes and some of the BSc and MSc programmes. It is the panel's view that the university lacks ambitious formalised goals for the use of external lecturers on its programmes. However the panel is pleased to note that two of the part-time master programmes are currently undergoing complete revisions and re-staffing as follow up on programme accreditations in 2013.

It is the panel's assessment that the course manning process provides systematic information about which programmes and which courses have deficiencies in the research base. However the panel found that the course manning in some cases was used to ensure the research base of the programmes (the MSc programme in Digital Innovation and Management) while in other cases it was not (the Master of IT in Leadership and Management). Because of this it is the panel's assessment that the course manning is not systematically used to ensure the research base of the programmes.

Since the ITU does not have a standard for when to take action, it was not possible for the panel to ascertain when the university decides that the course manning process shows that a programme has deficiencies in the research base.

Further, the panel was unable to find evidence that the university has made a written analysis and a multi-year plan which is clear about the research profiles of the lecturers it intends to recruit in the coming years.

Criterion IV:
Programme level and content

The panel analysed the ITU's practice to ensure that programmes have an appropriate level and academic content, including whether the level and content of programmes correspond to the relevant type descriptions in the Danish qualification framework for higher education programmes and reflect programme objectives. In connection with this, the panel analysed how the ITU organises the ongoing, regular student evaluations of programmes and teaching, and how the ITU ensures educational quality. Furthermore, the panel evaluated how the university's facilities and resources support teaching and students' completion of programmes, and analysed the ITU's practice and plans for regular evaluations of programmes with the inclusion of external experts.

On the basis of its analysis of the different aspects of the criterion, it is the panel's assessment that the ITU partially complies with this criterion.

In the accreditation process and in connection with the selection of audit trails, the panel found it especially relevant to put particular focus on three aspects within the criterion:

- **The ITU's handling of a diverse student body on the MSc programmes**
  The ITU accepts students from a wide variety of academic backgrounds on its MSc programmes. The university values the diverse student body, but acknowledges that this is a challenge when it comes to the levels of the programmes. In order to identify the university's efforts to handle the quality assurance aspects of the diverse student body, the panel examined this aspect closely.

- **Regular student evaluations**
  Both in the self-evaluation report and on the site visits, the ITU's system for regular student evaluations was mentioned as a fundamental part of the university's quality assurance system. The panel was therefore interested in learning more about how the evaluations are followed up at the different management levels.

- **Regular programme evaluations with the inclusion of external experts**
  Until recently, the ITU has primarily relied on programme evaluations with internal experts and programme accreditation in order to evaluate its programmes. Therefore, the panel had a special interest in how the ITU will conduct evaluations with external experts from now on.

The ITU's handling of a diverse student body on the MSc programmes

The ITU's goal is that at least 75% of its MSc students should come from institutions other than the ITU. For this reason the four full-time MSc programmes accept students from a wide variety of academic backgrounds. Thus, graduates from the ITU's three own BSc programmes, graduates with a BSc in IT from other universities, as well as graduates with a wide variety of academic backgrounds are accepted into the same MSc programme. Hence students on e.g. the MSc programme in Digital Design and Communication came with a BSc degree in anything from computer science to nursing or art history. Currently, the ITU attracts students to its MSc programmes from more than one hundred different BSc degrees (*The Self-Evaluation Report,* p. 38).

The ITU is aware of the challenges the diversity in the student body can cause in relation to the programmes' academic level. These aspects were recently highlighted in the ITU's self-evaluation report on the MSc programme in Digital Design and Communication, June 2014. In the report, one of the conclusions states that "The diversity of the student population comes at a price. Students report that the need to build a common platform affects the academic level negatively, in particular in the first semester. External examiners are generally satisfied with the academic level, but report that one group of students are failing to bridge theory and practice" (*Additional Documentation*, p. 204). The mentioned group of students who often struggle more with the academic aspects of the education are those with a professional or business academy BSc degree. The report states that it is BSc students from the ITU's own BSc programme in Digital Media and Design who mostly recognise the challenges with the academic level. Even though these students are exempt from some of the introductory courses, they found that there is a certain degree of repetition in method and literature (*Additional Documentation*, pp. 192-193).

The above example is from the MSc programme in Digital Design and Communication. In recent years, the university has taken a number of initiatives to meet the challenges of a diverse student body in all of the four MSc programmes:

MSc tracks

When the ITU introduced its own BSc programmes (in 2007), the MSc study programmes went through a revision process in order to meet the challenge of the diverse student body in which some students have an IT background and some do not. Thus, new tracks were designed to ensure academic progression for the university's own BSc graduates as well as students with similar backgrounds from other universities.

An example is the introduction of a second track in the MSc programme in Software Development and Technology. The original track, the development technology track (DT), is now the track for students with a non-IT-related BSc background, while the new track, the software engineering track (SE), is for students with a technical IT background, e.g. BSc in Software Development from the ITU.

The university states that there are indications that these adjustments to the MSc programmes have not been completely successful. The gap in qualifications and competences between MSc students with a BSc degree in IT and students who have a different background is still very big, and the university has not yet found a way of organising learning activities to sufficiently cater for this challenge (*The Self-Evaluation Report,* p. 39).

Re-designing MSc programmes

According to *The Education Strategy*, a part of the ITU's strategy is to redesign all of the MSc programmes in order to be attractive to the ITU's own BSc graduates, as well as the broad spectrum of BSc graduates with other academic backgrounds. The goal is to offer MSc programmes which are in natural continuation of the university's BSc programmes in terms of level and content. The MSc programme in Digital Design and Communication underwent a redesign procedure in 2012, and the MSc programme in E-Business underwent a similar procedure in 2012/13.

Admission requirements

In recent years, the ITU has revised its admission requirements for the technology track of the MSc programme in Games and the software engineering track of the MSc programme in Software Development and Technology in order to meet the challenge of the gap in student qualifications and competences. To gain admission to these two specific tracks, applicants must be graduates from either the ITU's own bachelor programmes or from similar pro-

grammes at other universities. The revision has been made in order to ensure that students have the necessary technical IT skills when they are enrolled at the ITU (*ITU's Admission Requirements, 1 February 2013*).

Regarding the other MSc programmes and their tracks, *ITU's Admission Requirements* state the requirements for applicants and how the applicants will be treated:

- The applicants must document how they comply with the admission requirements based on the grades point average from the applicants' qualifying degree
- There will be an individual assessment of the applicants' ability to complete the programme based on the applicants' educational background and a personal letter of motivation.

Every year the ITU establishes an admission panel under the Board of Studies. The admission panel evaluates all applications individually. One element is the connection between the programme/track applied for and the applicants' qualifying BSc programme. Another element is the applicants' understanding of the content of the MSc programme, e.g., mathematical and IT skills or design, aesthetic and art skills, depending on the programme applied for. Two full-time teachers, who evaluate the applicants' formal qualifications as well as their more informal qualifications and motivation, read each application.

Procedure for Mapping of Study Programmes

The ITU's Procedure for Mapping of Study Programmes is intended to ensure that all study programmes continually correspond with the relevant descriptions of the academic level in the Danish Qualification Framework for Higher Education Programmes. The mapping of the MSc in Digital Design and Communication and mapping of the MSc in Software Development and Technology has been part of the audit trails. The mappings show that the procedure has been used to ensure that programmes level and learning objectives correspond with the Danish Qualification Framework for Higher Education Programmes (*Audit Trail 1,* pp. 8-30).

Student-Centred Learning

The strategic goal on student-centred learning in *The Education Strategy* from 2012 addresses the alignment between the pedagogies, the intended learning outcomes and the student body. The strategy states "Pedagogies must be aligned with the student body (different students might require different pedagogies)" (*The Self-Evaluation Report*, p. 81). Further, the strategy says that student-centred learning emphasizes development of knowledge and competences as being based on the student's prior knowledge and experience. According to *The Education Strategy*, in 2016, 90% of the courses must have gone through a process that ensures that the structure of the course, the learning activities and the intended learning outcomes are based on student-centred learning (*The Self-Evaluation Report*, p. 82). The ITU does not have a procedure for how it will implement this goal.

Discussion

Due to the university's goal that 75% of the student body at the MSc programmes come from BSc programmes outside the ITU, the panel found that the diversity in the student population is a fundamental part of the MSc programmes, and therefore constitutes an important challenge for the academic level; a challenge which has to be properly handled. The panel found that the ITU is aware of the challenge and that the ITU has taken several important initiatives to meet the challenge, such as the two-track matrix on the MSc programme in Software Development, the re-design of the MSc programmes, and the revision of the admission requirements. The panel also found the procedure for mapping study programmes, which ensures that the programmes' levels correspond to the relevant

description in the Danish qualification framework, to be an important part of the university's quality assurance of the academic level.

Indeed the panel found that the institution is trying to deal with and respond to the challenges associated with the diversity in the student population on the MSc programmes. However, there is not yet evidence that the chosen initiatives have addressed the pedagogical aspects of teaching a diverse student body. The challenges of teaching a diverse student body were obviously exacerbated when the ITU introduced its own BSc programmes, but the panel found that challenges have existed ever since the ITU took in the first MSc students. Since the challenges associated with the teaching of a diverse student body are such an embedded and fundamental part of the teaching at the ITU, the panel would like to see an adequate institutionalized strategy and systematic approaches to deal with the pedagogical aspects of teaching a diverse student body. It is the panel's view that choosing appropriate teaching and learning approaches and contexts as well as exploring appropriate student-centered learning strategies, should be in focus during the process to align pedagogics and the diverse student body.

Despite the seriousness of the challenges already identified, the panel could not see a clear strategy in place with an action plan, processes and procedures showing how the university will implement real student-centred learning approaches in all the courses. The panel would also like to see an institutionalized and systematic approach to how the individual teachers should deal with the pedagogical aspects within the framework of student-centred learning in a diverse student body. For example, the university could systematically gather and exploit teachers' experiences or it could support teachers with pedagogical training on how to handle the diverse student body. The panel also believes that the university could benefit by providing a framework for teachers to exchange experiences in this area. The panel found that an institutional approach to this issue is particularly important at the ITU with its high level of external lecturers who might not have any previous experience in teaching a diverse student body.

The panel would like to emphasise the teachers' attitude towards the challenge: The teachers valued the diversity in the student body, and felt that the challenge was a positive one - one teacher even said the challenge was a big part of his continued job satisfaction. At the same time, many teachers also expressed the opinion that the variety in the students' academic backgrounds was a challenge in connection with achieving the right academic level.

Student evaluations

Course evaluation takes place each semester, and the response rates are typically between 40% and 50%. The topics evaluated are: overall satisfaction, constructive alignment, and relevance for future job profile, workload and academic level. In addition to this, the evaluation contains a free-text field. The information from course evaluations is used by the Course Managers, Heads of Programme and by the Board of Studies to adjust and further enhance the academic content, teaching methods and design of the courses (*The Self-Evaluation Report,* p. 23). The evaluations are designed in a way which makes it possible for the teachers and management to have direct dialogue with the students on critical scores or other issues which need follow-up. On the site visits, the students said that the teachers often gave feedback on critical comments or scores.

Heads of Programme compile a report every semester on the basis of the course evaluations, exam results and number of ECTS points earned and the Head of Studies writes a summary report based on the reports. He also takes up critical issues reflected in the course evaluations and the *Head of Programme Reports*. The ITU's

student evaluations only cover the individual courses, and the university has no practice for evaluations of the full programme.

After the course evaluation, the Head of Department identifies members of the teaching staff with a low score in relation to pedagogical skills. *The Self-Evaluation Report* states that 6.0 is the maximum score and a score of at least 4.0 is expected (*The Self-Evaluation Report*, p. 24). The identification is mainly based on the question "The teacher's learning activities are well chosen in relation to the exam requirements?". In this context, "learning activities" means e.g. group work, buzz groups, lecturing and case studies. Teaching staff that could benefit from support to develop their pedagogical skills are assigned to a mandatory course with the Learning Unit, in which the Learning Consultant together with the teacher make a plan to develop and improve the teacher's pedagogical skills. *The Self-Evaluation Report* contains examples of how this follow-up procedure has resulted in better course evaluations. One example is a teacher who scored 2.6 on the above question on pedagogical skills. The low score was identified by the Learning Consultant from Research and Learning Support as part of the follow-up procedure for the question. The Learning Consultant initiated an analysis of the reasons for the score and arranged a course and support in order to help the teacher to perform better in the classroom. In the following course evaluations, the teacher scored 5.0 and 5.12 on the same question (*The Self-Evaluation Report*, pp. 24-25).

Discussion

The panel saw that the course evaluation is a crucial part of the ITU's quality assurance system at all levels. The management, teachers and students were all positive about the functionality of the student evaluation, and it is the panel's view that this overall satisfaction with the system is fundamental, especially because the process is such an integrated, important part of the university's quality assurance system.

The panel acknowledges the relatively high response rates and the design of the system, which makes it possible for the teachers and students to have a direct dialogue on the quality of the content of the course and the teaching. The panel also found that the university has good systems for identifying and following up the findings of the evaluations. The panel would especially like to emphasize the students' general experience that the ITU takes action on unsatisfactory results of the evaluations and effectuates changes if necessary.

As mentioned in Criteria I and II, it is the panel's view that the evaluation system is focused on individual courses and not on the entire programmes. Furthermore the panel was disappointed to note that evaluation of projects and thesis has not been implemented yet. However the panel also found good examples of an evaluation culture, e.g. Heads of Programme having lunch meetings with students to discuss problems on the programmes.

Regular programme evaluations with the inclusion of external experts

The evaluation of programmes with the inclusion of external experts is included as a yearly strategic goal in 2014. The completion of regular programme evaluations including external experts is a new practice at the ITU. From 2008-2014 the university relied on the Danish accreditation system to perform programme evaluation with the inclusion of external experts in the accreditation panels, but with the new Accreditation Act and the demand for regular evaluations of the programmes with the inclusion of external experts, the ITU has developed procedures and plans for such evaluations. A few years ago the university carried out two programme evaluations using internal staff as evaluators. The programmes were: BSc in Software Development (in 2010)

and BSc in Digital Media and Design (in 2012).

In *Concept for Recurrent Review of ITU Study Programmes by External Experts*, the university describes the regular programme evaluations as part of its activities to ensure quality assurance in education at the ITU. The Heads of Programme and the Board of Studies are responsible for the regular reviews (*Audit Trail 3*, p. 862). The purpose of the reviews is to give an unbiased picture of the quality of a programme from different academic perspectives, with overall focus on the ITU framework for good education (*The Self-Evaluation Report*, p. 75). The regular programme evaluations are to be forward-looking, so as to be an instrument for developing the programmes (*Audit Trail 3,* p. 862). A schedule shows current and planned programme evaluations from 2014-2018. Two programmes will be reviewed each year.

The Concept for Recurrent Reviews of ITU Study Programmes by External Experts is from January 2014. The university emphasizes that reviews should not require any other quantitative data than that produced as part of the former regular reviews, e.g. data on teaching activities, dropout rates, employment, etc., and that the existing quantitative data should be supplemented by qualitative data. The Head of Programme drafts a report as well as a follow-up plan based on the qualitative and the quantitative data. The external experts review both. The process involves students, graduates, academic staff, Heads of Programme and other relevant personal. The panel's review forms a basis for an executive summary, and the follow-up plan is agreed on.

The reviews are primarily based on: course evaluations, reports every semester by Heads of Programme, based on course evaluations, exam results and number of ECTS points earned, feedback from Employers' Panel meetings, feedback from Course Managers, as well as other material such as graduate surveys, employer surveys, etc. (*Audit Trail 3,* p. 862)

The concept states that Heads of Programme will suggest potential revision ideas for the Board of Studies, if reviews reveal important and critical findings, and if there are any legislative changes.

For each review, the ITU appoints a panel of external experts, whose professional background and experience enables them to review the programme in question. The university has not specified which competences the experts are to possess.

Evaluation of the BSc programme in Global Business Informatics, spring 2014

The first programme evaluation involving external experts took place during spring 2014. The programme evaluated was the BSc programme in Global Business Informatics (GBI). The GBI evaluation works as an example of how the ITU conducts its regular programme evaluations in practice.

The review involved two international experts. Together, the experts covered the fields of science and technology studies and business, IT and organisational studies. The two experts were appointed to ensure that all of the programme components were adequately assessed. According to the ITU, the experts' professional backgrounds enabled them to review the programme in question within the ITU framework for good education (*Audit Trail 3,* p. 862).

According to *Outline of Process – GBI Programme Evaluation*, the panel evaluated the programme on the basis of:

- A self-evaluation report drawn up by the Department for Student Affairs and Programmes as well as the Head of Global Business Informatics. The report included a plan of action.

- Background material on the Danish Educational System and the ITU and a description of the programme including full course descriptions.
- A two-day site visit in April 2014.

(*Audit Trail 3,* p.1014)

The self-evaluation report consisted of information about the academic profile of the programme, key figures, student perspectives including a survey, quality initiatives on the programme, minutes from an evaluation seminar, and management reflections, including outlines of a plan of action for quality development.

During the site visit the external evaluation panel met with:

- Faculty from the programme, representing a wide selection of disciplines within the programme
- Students from all three years of the programme
- The Head of Programme, Head of Studies, Study Coordinator and Student Representative to the Study Board

(*Audit Trail 3,* p.1014)

The Self-Evaluation Report on Global Business Informatics, March 2014, states that the process involves meetings with prospective employers, as is also required by the *Accreditation Act*. However, the report does not contain information on the involvement of employers. Neither are meetings with employers part of the *Outline of Process for GBI Programme Evaluation* nor *The Schedule for the evaluation of Global Business Informatics, April 23 2014*. The BSc programme in Global Business Informatics was last discussed in the university's Employers' Panel in autumn 2010, which is almost four years prior to the evaluation. Furthermore, the programme's research base is not a part of the evaluation of Global Business Informatics.

Future external evaluation of the MSc programme in Digital Design and Communication

The next study programme to be evaluated is the MSc programme in Digital Design and Communication (DDK). *The Internal Evaluation of the DDK Education* report shows that the evaluation of the Digital Design and Communication programme includes more elements, e.g. programme relevance and involvement of employers, and it has undergone a profound analysis based on two surveys and interviews with potential employers. However, the programme's research base was not analysed in the same profound way.

Discussion

The panel noted that the evaluation of programmes by external experts is a new practice at the ITU. The university has worked out a plan for evaluations of all programmes. Two programmes will be evaluated each year and the university will have completed a full cycle in 2018. Given the size of the university and the programme portfolio, the panel found the plan very reasonable. The panel observed that the *Concept for Review of ITU Study Programmes by External Experts* is formulated in a very open way and does not, for example, include a procedure on how to conduct the evaluation. The concept makes room for quite individual ways of evaluating each programme. The panel grants that this allows for fit-for-purpose evaluations, but also feels that this may result in crucial elements not being part of the evaluations, for example non-involvement of the programmes' research base and omission of relevance and employers, as in the evaluation of the BSc in Global Business Informatics.

Furthermore, the panel noted that the evaluation of programmes by external experts was in its early stages at the time of the institutional accreditation of the ITU, and that the university therefore did not yet have a tried and tested practice for this. The panel saw the plan, the concept, the

first outline of the process and the first examples of self-evaluation reports, and is convinced that the ITU is capable of successfully conducting the evaluations in the future. The panel acknowledged the development there is between the self-evaluation reports on the BSc in Global Business Informatics and the MSc in Digital Design and Communication. However, the panel found that the university could benefit well from elaborating the *Concept for Review of ITU Study Programmes by External Experts* in order to ensure more systematic and transparent procedures for the reviews. For instance, the programmes' research base should be a systematic part of the reviews.

Finally, the panel would like to complement the ITU on the manner in which it honestly and openly describes its strengths and weaknesses in the evaluation report on the MSc programme in Digital Design and Communication. This shows that the university sees the evaluation with inclusion of external experts as a way of discussing and developing the programmes' quality.

Assessment of Criterion IV

On the basis of the panel's analysis of the different aspects of the criterion, it is the panel's assessment that ITU partially complies with this criterion.

It is the panel's overall view that, on an ongoing and systematic basis, the ITU has quality assurance systems which are monitoring the level and content of programmes. At the same time, it is the panel's assessment that part of the quality assurance system could perform better.

Since the diverse student body is a crucial part of the university's self-perception and identity, the panel was preoccupied with the strengths and weaknesses of this aspect. The panel found that the formal course mapping procedure ensures the programmes' level. The panel is also convinced that the MSc programmes foster graduates with specific academic and practical skills and notes the employers' positive evaluation of the graduates. However, as the university is fully aware, the diversity in the student body is also a challenge with regard to the programmes' academic level. The panel found that this is a particular challenge for the MSc programme in Digital Design and Communication.

More generally the panel could not see an institutionalized and systematic approach to the pedagogical aspects of teaching a diverse student body. Besides these aspects, the panel found that the university has ongoing focus on the challenges related to the level of MSc programmes and has implemented a number of initiatives to address these challenges. E.g., the revision of the admission requirements, and the development of two tracks for the MSc programmes.

The panel acknowledges the relatively high participation rates in the students' evaluations, and the praise of the evaluation system from students, teachers and management. In connection to this, the panel found that the university has demonstrated a good system for gathering, feedback and managing students' course evaluations. The panel found that the ITU could benefit from evaluations of the entire programmes.

The ITU has a concept for regular programme evaluations with the inclusion of external experts, and the university has a plan which aims to evaluate all programmes before 2018. The university only started the first evaluations in 2014, which means the practice is very new. This means that the university does not yet have a tried and tested practice. The panel can clearly see that this is a new practice in the concept and the conduct of the first evaluation. The concept is formulated in an open way and some important aspects, such as the programmes' research base and the involvement of potential employers, are not always a part of the evaluation. However, the panel is convinced that the ITU will benefit from the experience from the first

evaluations and revise the concept and procedure for future evaluations.

Criterion V: Programme relevance

The panel has analysed the ITU's practices to ensure that new and existing programmes reflect the needs of society and that the students acquire relevant competences through involvement of relevant external stakeholders such as potential employers and graduates. The analysis involved the ITU's inclusion of stakeholders in dialogue on programmes, including their objectives, content and results and that stakeholders are included in the development of new programmes. Furthermore, the panel has analysed the ITU's ongoing monitoring of the circumstances of graduates with regard to employment, and that the results of the monitoring are systematically evaluated.

On the basis of the panel's analysis of the different aspects of the criterion, it is the panel's assessment that the ITU partially complies with this criterion.

In the accreditation process, the panel has found it especially relevant to focus on two aspects within this criterion:

- **Dialogue with potential employers on programmes**
  The panel found that the inclusion of feedback from potential employers and graduates is a key issue in the quality assurance of programme relevance. Therefore, the panel will discuss the organisation of the dialogue with potential employers and graduates, and how the feedback from this dialogue is applied to the adaption of programmes.

- **Monitoring of employment and unemployment rates**
  The panel found that the issue of employability and relevance of graduates is deeply embedded in the university's overall strategy and mission, and in its quality culture. The employment and unemployment rates and follow-up systems will therefore be discussed.

Dialogue with potential employers on programmes

Part of the ITU's mission is to create value for Danish society. Because graduates from the university are an important part of this value creation, their competences must be highly relevant to society, and the university emphasizes a strong focus on the needs of the labour market. This focus is embedded in *The ITU Strategy* as well as in *The Education Strategy*, in which one of the three points stating what the ITU considers a good education states: "It gives the students the competences needed for the future labour market" (*The Self-Evaluation Report, p.75*).

The above focus is repeated in the institution's policy on continued and systematic inclusion of potential employers and graduates in dialogue on study programmes and relevance. *The Terms of Reference for the Employers' Panel* sets the framework for the discussions; for instance that the dialogue with employers is to be implemented primarily through biannual meetings with the Employers' Panel (*Audit Trail 4*, pp. 5-6).

The ITU mainly addresses the inclusion of external stakeholders through the Employers' Panel. The university has organised employers into one panel consisting of about 20 members from relevant private and public IT companies and institutions. The panel covers all the ITU's programmes.

The university values the members of the Employers' Panel because they employ graduates from the university's programmes. At the second site visit, the members of the Employer's Panel said that

they value the skills and competences of the ITU's graduates. They particularly value that many of the candidates obtain unique skills due to the combination of IT and a BSc degree from another area.

The Employers' Panel meets twice a year and discusses matters raised through introductory presentations made by the university's management. According to *The Terms of Reference for the Employers' Panel*, the Employers' Panel is involved in the composition of the overall development strategy for the education area by advising on the general framework for development of existing and new programmes. Examples of topics are: the full-time programmes within software, the MSc programme in E-Business and employment rates (*Audit Trail 4*, p. 13; 17).

The ITU prepares minutes from meetings of the Employers' Panel, and according *to The Terms of Reference for the Employers' Panel* the university prepares a status report on the benefits of the work of the Employers' Panel. However, the follow up method with a status report every second year has not yet been implemented as part of the Employers' Panel meeting process. Instead there is a follow-up praxis in which the relevant Head of Programme provides feedback at the next meeting for the Employers' Panel on the initiatives taken on the basis of the input and recommendations from the Employer's Panel. At a suitable time, and drawing on input from the Employers' Panel, the university will revise the *Terms of Reference for the Employers´ Panel* to ensure that they are in accordance with the working methods (*Additional Documentation*, p. 308).

All meetings are attended by the Head of Studies, the Head of Department and the Vice Chancellor. Not all members of the Employers' Panel attend all meetings. The university invites only a few members (2-7 according to the minutes of the meetings) with specialized knowledge of the programmes in focus.

In the *Self-Evaluation Report,* the university states that the recommendations from the Employers' Panel are followed-up orally at the following meeting. The process is therefore that at least one Head of Study Programme meets with the Employers' Panel and presents a study programme and receives feedback. At the next meeting, the same Head of Programme returns and explains what changes have been made as a result of the previous meeting (*The Self-Evaluation Report,* p. 26). Given that different members of the Employers' Panel attend meetings, and the full Employers' Panel is rarely gathered, this means that the oral feedback is given to different members than those present at the initial meeting at which the recommendations were given.

According to the minutes of meetings of the Employers' Panel and the *Schedule for Programme Evaluations*, the university asked for feedback on the following programmes in 2012-13:

Table 6. Feedback from Employers' Panel

Programme	Feedback 2012-2013	Next feedback
Master of IT in Leadership and Management	Spring 2012	Spring 2015
MSc in IT E-Business – Digital Innovation and Management	Autumn 2012	Spring 2016
BSc in Software Development	Autumn 2013	Spring 2017
MSc in Software Development and Technology	Autumn 2013	Spring 2016

Source: *Audit Trail 4*, pp. 8-21; *Audit Trail 3*, pp. 856-860

According to the *Schedule for Programme Evaluations*, the ITU has asked for the following feedback from the Employers' Panel on the two MSc programmes with high unemployment rates (cf. the next section):

Table 7. Feedback from Employers' Panel on programmes with high unemployment

	First feedback	Second feedback
MSc in Games	Autumn 2009	Autumn 2014
MSc in Digital Design and Communication	2008 (Digital Design Programmes)	Spring 2014

Source: *Audit Trail 4*, p. 8-21; *Audit Trail 3*, pp. 856-860

The minutes of meetings in the Employers' Panel show that four out of the eleven programmes were given feedback from the Employers' Panel in 2012-2013. The university has worked out a plan for the feedback covering 2009-2018. In this period the full programme portfolio will receive feedback from the Employers' Panel. Furthermore, the schedule shows that the MSc programmes in Games and Digital Design and Communication will get their next feedbacks after 2018 at the earliest.

As a supplement to the Employers' Panel, the university has a bilateral dialogue, mainly between the Vice Chancellor and the employers. Several of the researchers and the administrative staff also have ongoing contact with potential employers and companies. The university only provided the accreditation panel with a few minutes of meetings with employers other than the meetings of the Employers' Panel, which made it difficult to get a full impression of the extent of this more ad hoc contact.

The Quality Assurance Policy mentions the inclusion of key external stakeholders in the development and assessment of proposals for new study programmes: "Dialogue with groups of potential employers, the Employers' Panel, graduates from related study programmes and students from the ITU will be included in ensuring the relevance of new study programmes. Furthermore the academic content and the labour market situation for related study programmes will be intensively analysed." (*The Self-Evaluation Report*, p. 117)

Discussion

The panel welcomes the ITU's emphasis on strong focus on dialogue with external stakeholders, especially potential employers. At the second site visit, the university referred to the dialogue as part of the university's DNA, and the panel recognised the existence of a common focus on the programmes' relevance among both the management and the teachers. The panel was impressed by how strongly relevance and involvement of external stakeholders is valued at all levels of the organisation - from the Vice Chancellor and other management levels to faculty and students.

The panel noted that the ITU has chosen to organise dialogue with potential employers in one big Employers' Panel. However, the panel also found that since all the members of the Employers' Panel seldom, if ever, are gathered, and the programmes get feedback from 2-7 members with specialist knowledge of the 11 individual programmes, the consequence is that the Employers' Panel functions as several small panels and not one. As only a few members are invited to each meeting, the feedback becomes fragile, with emphasis on apologies and one-sided feedback. The organisation also means that the continuity in the Employers' Panel might be weak, as not the same members attend each meeting.

It is the panel's view that the university especially uses the Employers' Panel's feedback in relation to extensive development projects. The development of the MSc programme in E-Business and the revision of the MSc in Software Development and Technology involved the Employers' Panel. However, the panel failed to see how the feedback from the Employers' Panel con-

tributes to all the university's study programmes.

The panel was concerned about the long intervals between the feedback from the Employers' Panel on the individual programmes. According to the minutes from all the meetings of the Employers' Panel 2012-2013 and the *Plan for Programme Evaluations,* two out of the four MSc programmes have not received systematic feedback from 2012 until now, and there are 3-6 years between each round of feedback. The panel found the long intervals especially critical when it comes to the two MSc programmes with high unemployment rates. In connection to this, the panel noticed that one of the conclusions in the ITU's self-evaluation report on the MSc programme in Digital Design and Communication from June 2014 says that there is currently no systematic dialogue with industry on the programme (*Additional Documentation*, p. 204). The panel found that this is the reality for other MSc programmes, and that the long intervals between the feedback are a deficiency in the quality assurance system regarding assurance of the programmes' relevance.

The panel saw good examples of how the university discusses relevant topics regarding study programmes with the Employers' Panel. An example is the MSc programme on E-Business. While developing this programme, the university received thorough feedback from the Employers' Panel, but the minutes of the meetings of the Employers' Panel make it quite difficult to see how the university has implemented this feedback. The panel acknowledges that the management prioritize participating in the meetings of the Employers' Panel, but it was difficult for the panel to see how the feedback is disseminated to the rest of the staff. In addition, the panel recognises that according to some members of the Employers' Panel, the university could benefit more from the dialogue with external stakeholders.

In addition to this, the panel had the impression that the university is not systematic in its follow-up on earlier discussions in the Employers' Panel. Only one of the minutes from 2013 shows follow-up on discussions (*Audit Trail 4*, pp. 17-18). In connection to this, the panel noticed at the second site visit that members of the Employers' Panel would like to see better follow-up on the inputs they give to the university and they mentioned follow-up on employment rates as an example. Given the organisation of the Employers' Panel, where only some of the members attend most meetings, it is the panel's view that the follow-up on earlier discussions is important in order to ensure continuity in the dialogue with the employers.

The panel was surprised at how difficult it was for the university to get members of the Employers' Panel to meet with the accreditation panel. The panel's overall impression of the involvement of the Employers' Panel is that, even though the university has a strong focus on dialogue with potential employers, the university could benefit by adopting a more systematic and committed way of conducting and utilising this dialogue.

Even though it was difficult to see the full extent of the bilateral dialogue between the ITU and the potential employers, the panel values the ad hoc contact and sees it as evidence of the focus on the needs of the labour market. In addition, the Heads of Programme facilitate activities such as student networking and cooperation with companies, student projects at companies and internships, in order to support graduates' employability. However the panel noted that it is not very clear how the bilateral ad hoc information and contact feeds into the quality assurance system and how this information contributes to the quality assurance of the programmes. For example the panel could not discern how the information is disseminated to relevant management levels and committees at the university.

The panel was pleased to note that the university has a policy on inclusion of key external stakeholders in the development of new study programmes. However, the panel also finds it crucial for the success of this policy that the university provide clear procedures on how to include external stakeholders. The ITU does not yet have a formalized procedure for development and assessment of new study programmes, including a formalized procedure for inclusion of external stakeholders in the process. It follows that there is no tried and tested practice either.

Monitoring of employment and unemployment rates

The ITU has a goal which states that the employment rate of MSc graduates who graduated at most four years ago must be at least one percentage point higher than the national average for all "kandidat" graduates from Danish universities in the same period (*The Self-Evaluation Report*, p. 102). The employment rates for MSc graduates are also an objective in the development contract with the Ministry.

The ITU has a policy for employability of graduates, with procedures to ensure that employment rates of MSc graduates are monitored on an ongoing basis, and results systematically evaluated (*The Self-Evaluation Report*, p. 117).

The university receives information about the graduates' employment and unemployment rates from the following:

- Statistics Denmark's Research Service once a year
- AC's (Danish Confederation of Professional Associations) monthly employment calculations
- SVU (Danish Agency for Higher Education) once a year
- The Financial Section once a year
- Graduate Survey every second or third year.

The unemployment rates are analysed every year. Together the information gives the ITU information about the employment/unemployment situation and the job relevance of the graduates. All results from surveys and reports are part of the ongoing monitoring of the programmes performed by the Head of Studies. The results are published as a part of *The Quarterly Management Information Reports*. The Head of Studies is responsible for initiating actions based on the assessment of the information.

The ITU has been monitoring two accumulated employment rates since 2001, when the first students graduated. Since 2001 the ITU has monitored the following two statistics systematically every year in March:

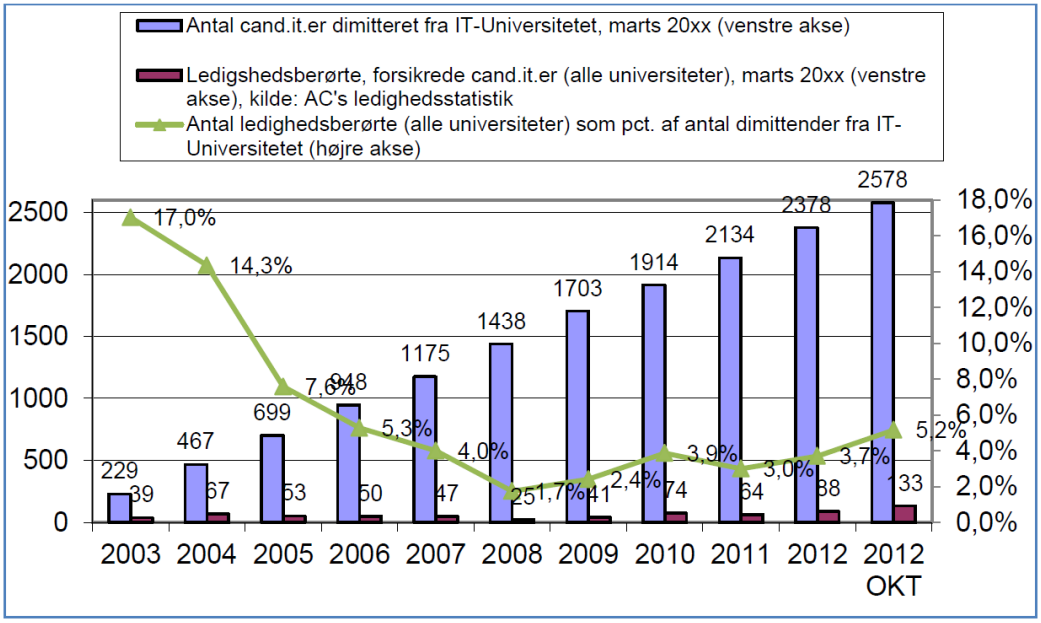
- The accumulated total number of MSc.it. graduates from the ITU
- The number of MSc.it. graduates from all universities registered as unemployed by their union.

(*Hearing response*, p. 2)

According to these figures (shown below), the trend has been that the total number of graduates from the ITU has grown by between 200 and 300 MScs a year, while the number of unemployed summed over all cohorts has varied between 50 and 100 graduates. Thus in March 2012, 2378 persons had graduated with an MSc degree from the ITU, while 88 MSc.it. graduates from all universities were registered as unemployed by their union (*Hearing response*, p. 3).

In February 2012, the Ministry of Higher Education and Science made the following statement about the employment rates of the ITU's graduates (based on its own data obtained from Statistics Denmark): "MSc graduates from the IT University had the same employment frequency as the average of all MSc graduates in 2007 and 2009. In 2006 and 2010, the employment rate was below average, while it was higher in 2008". And: "The employment rate for graduates from the IT University is a little lower than for the average, but higher than the employment rates of Arts graduates". (*Hearing response*, p. 3-4)

In January 2013, the Ministry of Higher Education and Science made the following statement about the employment rates of ITU's graduates (again based on its own data obtained from Statistics Denmark): "From 2009 to 2011, the employment rate for the relatively recently graduated MSc graduates from the IT University was lower than the average for Danish universities, both in comparison with all graduates and when comparing to natural science graduates." (*Hearing response*, p. 4)



Note: The blue bars show the number of MSc IT graduates from the ITU in March 20xx; the red bars show the number of unemployed MSc IT graduates from all universities registered as unemployed by their union in March 20xx; the green graph show the number of unemployed from all universities as a percentage of the number of graduates from the ITU (*Hearing response* p. 3).

Table 8. Employment 0-4 years after graduation (MSc), calculated by the ministry of Higher Education and Science

	2007	2008	2009	2010	2011
ITU graduates	90 %	93 %	88 %	83 %	82 %
National average	91 %	92 %	90 %	86 %	86 %

Table 8 shows the employment rates for the ITU's MSc programmes along with the national average employment rates 0-4 years after graduation. The employment rates for the ITU's programmes have dropped from 93-82 % in 2008-2011.

According to the ITU this is due to the financial state of the market, which has affected all IT programmes in a negative way. The employment rate for MSc graduates from the ITU was 82% 0-4 years after graduation in 2011. This was four percentage points below the national average rate of 86% in 2011.

The ITU states that as soon as they learned about the new figures (i.e. in January 2013), they found the development troubling and at variance with the goal in the 2012-2014 development contract. The Ministry did not provide a breakdown on the individual study programmes. Therefore the ITU went directly to Statistics Denmark and paid them to conduct a more fine-grained analysis of ITU's programmes (*Hearing response*, p. 4).

In March 2014, the Ministry – for the first time – provided all universities with unemployment figures for all their study programmes. This was also the first time the ITU learned from the Ministry that there was a problem with graduates from the MSc programmes in Games and Digital Design and Communication. By then, the ITU had already uncovered the problems through its own collaboration with Statistics Denmark (*Hearing response*, p. 4).

Looking at the unemployment rates 4-6 months after completion in table 9, the MSc programme in Games has had the highest unemployment over the years covered by the table below. However the unemployment rate for the MSc programme in Games has dropped from 57% in 2010 to 25% in 2012.The unemployment figures also show that the MSc programme in Digital Design and Communication has had rising unemployment, from 20% in 2007 to 32% in 2012.

Table 9. Unemployment 4-6 months after completion, calculated by The Ministry of Higher Education and Science (Additional Documentation, p. 19)

	2007	2008	2009	2010	2011	2012
MSc in Digital Design and Communication	20 %	20 %	30 %	29 %	29 %	32 %
MSc in E-business	14 %	8.9 %	13 %	26 %	13 %	24 %
MSc in Games	15 %	24 %	32 %	57 %	27 %	25 %
MSc in Software Development and Technology	6.2 %	9.7 %	16 %	14 %	19 %	18 %

The university has two different strategies for analysing and solving the problems identified:

- To establish a working group which aims to get a better understanding of the problems. This has been the case for the MSc in Games.
- To address the unemployment issue as part of an external evaluation of the programme, which is the case for the MSc in Digital Design and Communication (*The Self-Evaluation Report,* p. 42).

The working group focusing on the MSc programme in Games was established in March 2013 when the figures from Statistics Denmark showed problems with employment for the programme. The working group consisted of the Head of the Games Study Programme, a prospective Head of Programme, a person from the Study and Career Advisory Office and the Vice Chancellor. The task of the group was to produce a diagnosis of the problems with employment and come up with recommendations for what the ITU should do in order to increase the employment rate of Games graduates (*Additional Documentation,* p. 311). The working group completed a short report with different, concrete proposals on how to handle the problems such as: modifying the communication about the programme, interfacing with MSc programmes in Digital Design and Communication and Software Development Technologies, inviting guest speakers from relevant industries, and moderately biasing the student intake (*Additional Documentation,* p. 328).

The employment situation of the MSc programme in Digital Design and Communication is a part of the evaluation with inclusion of external experts in 2014. In the self-evaluation report, the relevance is analysed on the background of employment/ unemployment rates, an alumni survey, and interviews with employers. The analysis brings up topics like types of industries where the graduates work, the programme's profile in a competitive market, and the graduates' competencies. The report concludes that it is difficult to get an overview of the group of employers that hire graduates from the MSc programme in Digital Design and Communication, and although the unemployment rate is high compared to the national average for university grades, the programme does well compared to similar programmes with an IT profile (*Additional Documentation*, p. 193). The report neither contains examples of initiatives the ITU has taken in order to deal with the employment rates, nor does it contain a plan for what the university will do in the future.

Discussion

The panel notes that, since 2001, the ITU has received information about the accumulated total number of MSc graduates from ITU. The ITU did not know about the employment situation for the individual programmes until 2013, when they asked Statistics Denmark for figures about the individual programmes. The panel found it positive that the university has identified the unemployment problems for the MSc programme in Games and the MSc programme in Digital Design and Communication and reacted to resolve these as soon as they knew about them. However it is the panel's view that a well-functioning quality assurance system would have identified high unemployment on these programmes before 2013 (e.g. from its graduate surveys and dialogue with potential employers).

The panel noted that the working group focusing on the MSc programme in Games consisted of personnel from inside the ITU and employers or graduates from the programme were not a part of the project. It is the panel's view that feedback from employers and graduates could contribute positively to the output of such a project which aims at increasing the programme's employment rate. Furthermore, it is the panel's view that the working group's analysis could have been more detailed, although the panel was pleased to note the

concrete proposals on how to tackle the problems. The panel considered the description of the problem in the self-evaluation report on the MSc programme in Digital Design and Communication as solid, although it lacked concrete proposals on how the ITU will take action. Thus, this might be a part of the external panel's feedback to the university.

Furthermore, the panel noted that the ITU has different ways of analysing and handling the problems, which makes it difficult for the panel to see how the ITU will systematically address problems that may arise in the future.

The panel noted that the university has initiated a brainstorming process in the Employers' Panel on how the university can change the situation, but the panel also noted that according to the minutes of the meetings in the Employers' Panel, the brainstorming was generic and did not focus on the MSc programme in Games and the MSc programme in Digital Design and Communication (*Audit Trail 4*, p. 14). The panel noticed that according to the *Schedule for Programme Evaluations*, the two programmes with employment problems have received feedback in 2014, but will not receive feedback again for the next 5-6 years. The panel considers this an example of how the long intervals between the feedback on individual programmes can be a flaw in the ITU's quality assurance system.

Assessment of Criterion V

On the basis of the panel's analysis of the different aspects of the criterion, it is the panel's assessment that the ITU partially complies with the criterion.

It is the panel's overall impression that, on an ongoing and systematic basis, the ITU quality assures programmes' relevance, but the panel also finds that part of the quality assurance system is not performed in an efficient way.

The panel notes that the ITU has strong focus on the needs of the labour market and its demand for the students' competences. The university is preoccupied with the Employers' Panel, and at a strategic level the ITU highly values the feedback from the employers. The panel found that the programmes' relevance is a part of the ITU's DNA, as formulated by the university at the site visit. On the other hand, it is the panels' conclusion that in some areas, the organisation of the Employers' Panel could be more efficient.

The panel's overall concern regarding the involvement of the Employers' Panel is mainly the low frequency between the rounds of feedback for individual programmes. According to the documentation, it is the panel's analysis that there can be up to six years between separate rounds of programme feedback on objectives, content and results from the Employers' Panel, and the panel found that unfortunately the university fails to fulfil the requirement for continual and systematic dialogue on programmes.

It is the panel's view that two MSc programmes have high unemployment rates; the MSc programme in Games and the MSc programme in Digital Design and Communication. The panel found it positive that the university's quality assurance system has identified the problems, and that the management has started activities to solve the problems. However it is the panel's view that the ITU needs more effective and systematic ways of following up on employment issues, when they become evident. Further, it is the panel's view that a well-functioning quality assurance system would have identified high unemployment on these programmes before 2013 (e.g. from its graduate surveys and dialogue with potential employers).

Finally, the panel notes that the university is not asking for more frequent feedback from the Employers' Panel on the programmes which have identified problems

with the employment rates. As mentioned before, the panel found that there could be as much as 5-6 years between feed-back from the Employers' Panel on programmes with problems related to employment rates. The panel found that improving this feed-back rate is an example of how the ITU could benefit more from the Employers' Panel.

Annex

I. Methodology

The objective of institutional accreditation is to enhance the educational institution's efforts to develop programmes of an ever-increasing academic quality and relevance. The institution can plan its own quality assurance initiatives as long as these initiatives meet the five criteria for quality and relevance stipulated in the Executive Order.

This section introduces the methodology that is used in connection institutional accreditation and that forms the basis for the report's assessments.

Guidelines and criteria listed in the Executive Order
The Accreditation Act and the criteria listed in the Executive Order[2] provide the basis for the assessment of an educational institution's efforts to develop and maintain academic quality and relevance. The criteria describe what is expected of the institution's policies, strategies and procedures, as well as what is expected of the institution's quality assurance in practice. The Act and the Executive Order comply with the European standards for quality assurance of further and higher education (European Standards and Guidelines). The five criteria are described in more detail in the guidelines for institutional accreditation.

Criteria I and II deal with the overall framework for quality assurance at institution level. Under criterion I, the institution must describe its quality assurance policy and quality assurance strategy, as well as the procedures and processes on which the policy is based. Criterion II focuses on how quality assurance efforts are rooted at management level, and on organisation and allocation of responsibilities in quality assurance work as well as management information and quality culture.

Criteria III, IV and V deal with how the institution in practice ensures that all its programmes possess the appropriate knowledge base, academic content and level, as well as the appropriate pedagogical quality, and are relevant for the labour market and society in general.

Documentation for compliance with the five criteria should also describe the link between the different aspects of the quality-assurance system and how it is rooted in the different levels of management and the quality culture.

Process and documentation
The Danish Accreditation Institution has established an accreditation panel whose function is to assess an institution's quality assurance work. Among other things, members of this panel are skilled within management and quality assurance at institution level, and are familiar with the higher education sector and with relevant labour market conditions as well as student perspectives.

The institution provides documentation of its quality-assurance system in the form of a self-evaluation report and key figures, material for audit trails, as well as information the panel itself has collected during its two visits to the institution. Together, these sources form the basis of the assessment of an institution's quality assurance system.

[2] Act no. 601 of 12 June 2013 and Executive Order no. 745 of 24 June 2013

In its *self-evaluation report*, the institution describes, documents and offers examples of its quality assurance system and its quality assurance practices.

Based on this self-evaluation report, the accreditation panel pays two *visits to the institution*. During the first visit, the panel meets with institution's management, representatives for the teachers, students, employers and administrative staff. At these meetings, the panel is briefed in more detail and the information in the institution's self-evaluation report is validated. Moreover, key issues are discussed. After speaking to representatives from the educational institution, the panel identifies a number of focus areas which the panel examines these in detail in audit trails. The objective is to illustrate the quality assurance efforts in practice in key areas. During the panel's second visit to the institution, the panel meets with the management, teachers, students, employers and others who can contribute knowledge to the identified audit trails.

Audit trails are examples based on random samples taken from a cross-section of education programmes or academic areas, or that examine in detail the quality assurance efforts of a single education programme or a group of programmes. The purpose of audit trails is to examine how the education programme's quality assurance system works in practice. Focus is on well-functioning quality assurance and on some of the challenges that quality assurance efforts are to address. The identified audit trails also examine whether the institution works with quality assurance systematically and on a regular basis, and whether there is a link between goals, measures and follow-up of the quality and relevance of the education programmes. The materials used as documentation for the audit trails already exist, e.g. the minutes from staff-student study committee meetings or education committee meetings, evaluation of the education programmes or reports from external examiners.

On the basis of an analysis of all the documentation material, the panel assesses the quality assurance system and how the institution carries out its quality assurance work in practice.

On the basis of the panel's assessments, the Danish Accreditation Institution prepares a draft accreditation report, which is submitted to the institution for consultation. The report includes the panel's assessment of each of the five criteria and the panel's overall recommendation. Following the consultation, the final accreditation report is prepared and submitted to the Accreditation Council. Based on the report, the Accreditation Council decides whether to provide the educational institution with an accreditation.

II. Audit trails

Audit trail 1: Academic level, content and educational quality and the practical workings of the quality assurance system on study programmes, exemplified by MSc in Software Development and Technology and MSc in Digital Design and Communication.

The purpose of the audit trail is to pinpoint how the quality assurance system ensures that study programmes continually maintain an academic level that corresponds with the relevant type descriptions in the Danish Qualifications Framework for Higher Education Programmes and how the quality assurance system works in relation to the programmes with a special focus on Student Centered Learning and teaching of students with different academic backgrounds. Two study programmes serve as examples: MSc in Software Development and Technology and MSc in Digital Design and Communication. The purpose is also to explore which information ITU uses for identification and follow-up on problems concerning the academic level and the organisation of teaching and educational quality.

Audit trail 2: The use of external lecturers on all study programmes and the research base of Master in IT Leadership and MSc in Games.

The purpose of the audit trail is to pinpoint how the quality assurance system ensures that study programmes are connected with relevant research environments**.** The audit trail will review ITU's goals for the use of external lectures and how the use is monitored in order to ensure the research base of all study programmes. The audit trail will also pinpoint how the course manning procedure is being used to ensure the research base, exemplified by two study programmes: Master in IT Leadership and MSc in Games.

Audit trail 3: The application of management information systems at all levels of the quality-organization.

The purpose of the audit trail is to pinpoint ITU's system for management information, including how the system ensures that management at all levels can take responsibility for the quality assurance of all the university's study programmes. Furthermore the audit trail will pinpoint which standards ITU applies to ensure when management information, including key figures regarding employment, completion and drop-out rates require action. The audit trail will also review the completed, ongoing and planned recurrent reviews of study programmes.

Audit trail 4: The involvement of employers in the quality assurance of all the study programmes.

The purpose of the audit trail is to pinpoint how key external stakeholders are continually and systematically involved in ITU's adjustment of study programmes, including the objectives, content and learning outcomes of the programmes. Furthermore the purpose of the audit trail is to pinpoint how ITU ensures that the employers involved are relevant to the programmes they are consulted on.

III. Case log

Table 1. Case process

28 January 2014	Self-evaluation report received
26 March 2014	Received additional documentation regarding: • Overview VIP – sections-positions • Heads of Programme Reports • Programme Evaluations • Unemployment rates (Received from The Ministry of Higher Education and Science)
1 – 2 April 2014	First visit to the institution by the accreditation panel
14 – 16 May 2014	Second visit to the institution by the accreditation panel
22 August 2014	Received additional documentation regarding: • Head of Programme Report Template • Employer's Panel Status Report • Study Activities Overview • Games Employment Rates
2 September 2014	Received additional documentation regarding: • Programme Evaluations
10 October 2014	Accreditation report submitted for hearing at the institution
31 October 2014	Hearing responses for accreditation report received from the institution
Assessment of criteria changed after hearing responses?	No
19 November 2014	Case processing completed
11 December 2014	Processed by the Accreditation Council at council meeting

IV. Programme for visits to the institution

Programme for the first site visit

1st April 2014		
Schedule	**Meeting**	**Topics**
09:00 – 10:00	Meeting with the Management, including the Head of Studies	On the basis of the ITU mission, vision & strategies: • Management's reflections on the quality assurance system • The quality assurance strategy • The objectives of the quality assurance system • The anchoring of the quality assurance system and strategy
10:15 – 11:30	Meeting with the Education Group, including the Quality Coordinator	On the basis of the ITU mission, vision & strategies: • The quality assurance system • The quality assurance strategy • The objectives of the quality assurance system • The anchoring of the quality assurance system and strategy
11:30 – 12:45	Lunch	
12:45 – 14:00	Meeting with student representatives from the Board of Studies and the Subject Area Teams (SAT).	On the basis of the ITU mission, vision & strategies: • The students involvement in the quality assurance work • The application of the quality assurance system • The follow up on quality issues • The objectives of the quality assurance system
14:15 – 15:30	Meeting with Heads of Programmes (HP)	On the basis of the ITU mission, vision & strategies: • The quality assurance system • The application of the quality assurance system • The follow up on quality issues • The objectives of the quality assurance system
15:30 – 16.00	ITU guided tour	
16:00 – 16.15	Break	
16:15 – 17.15	Meeting with members of the Employer's Panel	On the basis of the ITU mission, vision & strategies: • Involvement of employers in the quality assurance and development of programmes • Application and follow up on the involvement of employers

2nd April 2014		
Schedule	**Meeting**	**Topics**
10:00 – 11:00	Meeting with the Heads of Sections	On the basis of the ITU mission, vision & strategies: • The quality assurance system • The application of the quality assurance system • The follow up on quality issues • The objectives of the quality assurance system
11:00 – 12:00	Meeting in the Accreditation Panel	
12:00 – 13:00	Lunch	
13:00 – 13:45	Meeting with the Education Group, including the Quality Coordinator	• Final questions • Audit trails

Programme for the second site visit

Wednesday 14th May 2014		
Schedule	**Meeting**	**Topics**
09.00 – 12.30	Internal meeting in the Accreditation Panel	
12.30-13.15	Lunch	
13.15-14.15	First meeting with the management	Discussions will include: • All four audit trails • An overview of the QA system • Top management's use of QA information
14.30 – 15.30	Meeting with members of the Employers' Panel at ITU	Discussions will include: • Employability of ITU graduates • Involvement in QA at ITU
15.45-17.30	Meeting with students from: • MSc Software Development and Technology • MSc Digital Design and Communication • MSc Games • Master in IT-leadership	Discussions will include: • Academic level and level of content • Knowledge base • Quality assurance • Student centred learning
17.30-18.30	Internal meeting in the Accreditation Panel	

Thursday 15th May 2014		
Schedule	**Meeting**	**Topics**
09.00-09.30	Meeting with members of the Employers' Panel at ITU	Discussions will include: • Employability of ITU graduates • Involvement in QA at ITU
09.45 – 10.45	Meeting with internal and external staff from • MSc Software Development and Technology • MSc Digital Design and Communication	Discussions will include: • Academic level and content on a programme with a diverse student body • Identification of and follow up on QA issues • Student centered learning on a programme with a diverse student body
11.00 – 12.00	Meeting with internal and external staff from • MSc Games • Master in IT-leadership	Discussions will include: • Knowledge base • Use of external staff • Academic and pedagogical skills and development hereof
12.00 – 13.45	Lunch and internal meeting in the Accreditation panel	
13.45 – 14.45	Meeting with lower level management	Discussions will include: (focus on Audit trail 2, Research Base) • The QA system cycles • QA of knowledge base • QA of use of external staff • QA of ratios between internal and external staff • Academic and pedagogical skills and development hereof
15.00-16.00	Meeting with lower level management	Discussions will include: • The QA system cycles • QA of the academic level and content on programmes with a diverse student body • Identification of and follow up on QA issues • Implementation and QA of student centered learning on programmes with a diverse student body
16.00-16.30	Internal meeting in the Accreditation Panel	
16.30-17.30	Meeting with middle level management	• The QA system cycles • QA of the academic level and content on a programme with a diverse student body • Identification of and follow up on QA issues • Implementation and QA of student centered learning on programmes with a diverse student body • QA of knowledge base • QA of use of external staff • QA of ratios between internal and external staff • Academic and pedagogical skills and development hereof
17.30-18.00	Internal meeting in the Accreditation Panel	

Friday 16th May 2014		
Schedule	**Meeting**	**Topics**
09.00 – 10.00	Internal meeting in the Accreditation Panel	
10.15 – 11.45	Final meeting with the management	Discussions will include: • All four audit trails • Top management's use of QA information
11.45 – 14.00	Internal meeting in the Accreditation Panel and light lunch	

V. Key figures

The key figures in this section are taken from The Self-Evaluation report.

Dropout one year after enrolment (BSc)

	2008	2009	2010	2011	2012	2013
BSc in Digital Media and Design	-	-	16.4 %	11.3 %	23.9 %	18.3 %
BSc in Global Business Informatics	-	-	-	8.3 %	17.9 %	12.7 %
BSc in Software Development	31 %	17.4 %	14 %	12.7 %	7.4 %	7.8 %
Average dropout one year after enrolment (BSc)	31 %	17.4 %	15.5 %	11.1 %	17 %	13.4 %

(*The Self-Evaluation Report*, p. 49)

Dropout three years after enrolment (MSc)

	2008	2009	2010	2011	2012	2013
MSc in Digital Design and Communication	11.1 %	7.5 %	15 %	6 %	8.3 %	17.7 %
MSc in E-business	3.9 %	8.3 %	9.6 %	17.2 %	10.4 %	10.3 %
MSc in Games	10.8 %	25 %	13.9 %	16.7 %	2.1 %	10.3 %
MSc in Software Development and Technology	3.9 %	28.6 %	22.5 %	29.5 %	15.8 %	24.8 %
Average dropout three years after enrolment (MSc)	7.0 %	17.3 %	15.8 %	15.6 %	9.6 %	17 %

(*The Self-Evaluation Report*, p. 49)

Completion on time (BSc)

	2008	2009	2010	2011	2012	2013
BSc in Digital Media and Design	-	-	-	-	-	58 %
BSc in Global Business Informatics	-	-	-	-	-	-
BSc in Software Development	-	-	-	50 %	46 %	60 %
Average completion on time (BSc)	-	-	-	50 %	46 %	59 %

(*The Self-Evaluation Report*, p. 50)

Completion on time plus one year (BSc)

	2008	2009	2010	2011	2012	2013
BSc in Digital Media and Design	-	-	-	-	-	67 %
BSc in Global Business Informatics	-	-	-	-	-	-
BSc in Software Development	-	-	-	62 %	59 %	68 %
Average completion on time plus one year (BSc)	-	-	-	62 %	59 %	67 %

(*The Self-Evaluation Report*, p. 50)

Completion on time (MSc)

	2008	2009	2010	2011	2012	2013
MSc in Digital Design and Communication	27 %	37 %	32 %	26 %	12 %	5 %
MSc in E-business	63 %	33 %	35 %	24 %	26 %	25 %
MSc in Games	40 %	35 %	39 %	31 %	29 %	46 %
MSc in Software Development and Technology	35 %	17 %	15 %	33 %	26 %	9 %
Average completion on time (MSc)	39 %	32 %	29 %	28 %	21 %	17 %

(*The Self-Evaluation Report*, p. 50)

Completion on time plus one year (MSc)

	2008	2009	2010	2011	2012	2013
MSc in Digital Design and Communication	65 %	69 %	65 %	69 %	62 %	58 %
MSc in E-business	78 %	73 %	71 %	62 %	70 %	69 %
MSc in Games	55 %	54 %	64 %	64 %	73 %	76 %
MSc in Software Development and Technology	57 %	45 %	48 %	51 %	59 %	43 %
Average completion on time plus one year (MSc)	65 %	61 %	62 %	63 %	65 %	59 %

(*The Self-Evaluation Report*, p. 50)

Employment 4-19 months after graduation (MSc)

	2007	2008	2009	2010	2011	2012
All MSc programmes	94 %	88 %	79 %	79 %	81 %	-

(*The Self-Evaluation Report*, p. 51)

Employment 0-4 years after graduation (MSc)

	2007	2008	2009	2010	2011	2012
MSc in Digital Design and Communication	-	-	-	78 %	79 %	81 %
MSc in E-business	-	-	-	87 %	86 %	87 %
MSc in Games	-	-	-	70 %	73 %	77 %
MSc in Software Development and Technology	-	-	-	78 %	79 %	83 %

(*The Self-Evaluation Report*, p. 51)

Accreditation history

ITU has applied for accreditation of three new study programmes and four existing study programmes have been accredited as part of the existing rota plan.

All new study programmes have received a positive accreditation, while two of the four existing study programmes received a conditional positive accreditation. Both of these part-time master programmes were judged to not be in compliance with the criteria concerning research-based education.

In the university sector as a whole 10 per cent of applications for accreditation of new study programmes were rejected while 17 per cent of existing study programmes received a conditional accreditation.

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