

The triangle

A proposal for a learning outcomes and assessment index as elaboration of the ESG principles on the quality assurance of assessment

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Abstract

In this paper three orientations on the level of learning outcomes and the quality assurance of the assessment of learning outcomes are proposed: a) assessment of learning outcomes by direct observation, b) views on learning outcomes by stakeholders and c) institutional quality assurance procedures on the assessment of learning outcomes. These three combined orientations are called 'the triangle' and can be applied by institutions as well as by quality assurance organizations (QAO's). Judgments on these orientations could be expressed in terms of very good (A), good (B), satisfactory (C) and unsatisfactory (D). Taken together these judgments would lead to a Learning Outcomes and Assessment index (LOA-index), consisting of a three-letter rating (e.g. BCD, with the B standing for direct observation of learning outcomes, the C for stakeholder views on learning outcomes and the D for quality assurance procedures). The LOA-index would give a concise summary of the level of learning outcomes and the quality assurance of assessment and would be informative to all interested parties. Institutions could use them as an indication of future needs in the field of quality enhancement.

Contents

Abbreviations

Preface

1. Quality assurance of the assessment of learning outcomes
 - 1.1 Introduction
 - 1.2 How to look at learning outcomes?
 - 1.3 The assessment of learning outcomes
 - 1.4 Quality assurance of assessment of learning outcomes (QAALO)
2. The triangle: three orientations on QAALO and what an institution can do about it
 - 2.1 Introduction
 - 2.2 Direct observation of learning outcomes
 - 2.3 Stakeholders' views
 - 2.4 Procedures of quality assurance
3. Triangulation and the unique role of QAO's
 - 3.1 Introduction
 - 3.2 Strengths and weaknesses of QAO judgments
 - 3.3 Standardizing judgments
 - 3.4 The learning outcomes and assessment index (LOA).
4. Challenges for institutions and QAO's
 - 4.1 Introduction
 - 4.2 The evidence
 - 4.3 Institutional and QAO expertise
 - 4.4 The organization of the evaluation process
5. Conclusion and further exploration

References

Appendices

Abbreviations

AHELO	Assessment of Higher Education Learning Outcomes
ARACIS	Romanian Agency for Quality Assurance in Higher Education
CHEA	Council for Higher Education Accreditation (US)
ENQA	European Association for Quality Assurance in Higher Education
ECA	European Consortium of Accreditation
ESG	Standards and Guidelines for the Quality Assurance in the European Higher Education Area
EVALAG	Evaluationsagentur Baden-Württemberg
FIBAA	Internationale Agentur zur Qualitätssicherung im Hochschulbereich / Foundation for International Business Administration Accreditation
INQAAHE	International Network of Quality Assurance Agencies in Higher Education
LOs	Learning Outcomes
LOA-index	Learning Outcomes and Assessment index
NVAO	Accreditation Organization of the Netherlands and Flanders
PDCA	Plan Do Check Act
QAA	Quality Assurance Agency for Higher Education (UK)
QAALO	Quality Assurance of Assessment of Learning Outcomes
QAO	Quality Assurance Organization
STOAS	University of Applied Sciences and Teacher Education in the Agricultural and Green Sector
YODAK	Higher Education Planning, Evaluation, Accreditation and Coordination Council of Northern Cyprus

Preface

How valid are the degrees which institutions award to students? Do they cover what they are meant to cover, also in international perspective? How sound is the assessment leading to degrees? And how sure are staff and institutions about all this? Questions like triggered the Netherlands Inspectorate of Education and international partners to hold a workshop in The Hague (January 2011) on the Quality Assurance of the Assessment of Learning Outcomes (QAALO). The rationale of the discussion held in the Hague was the need to be assured of graduates qualities, given the increasing mobility of students and employment of graduates across Europe.

The working group in The Hague consisted of 16 participants, from 8 different quality assurance organizations (QAO's) and 8 different countries (see Appendix 1). All had brought materials with them and engaged in lively discussion. The major "invention" of the working group was the "triangle", which consists of three orientations of QAALO: direct observation of learning outcomes, views on learning outcomes by stakeholders, and the quality assurance of assessment. Institutions could use these three orientations in enhancing the quality of learning outcomes and the quality assurance procedures system. QAO's could during their evaluation process carry out independent assessments of students learning outcomes, find out about further evidence on stakeholders views and do checks on the quality assurance system. This triangle was presented and discussed at the INQAAHE-conference in Madrid (April 2011).

It has taken a while to decide how to proceed from 2011 onwards and has now resulted in a proposal for a Learning Outcomes & Assessment index (LOA-index), which essentially consist of a three-letter-rating of the respective orientations. More than in Madrid the proposal emphasizes the applicability of the triangle by both institutions and QAO's. However, QAO's keep their unique role carrying out checks on the evidence provided by institutions and finding additional evidence, but also in the triangulation of findings, because of their overview of the field as a whole

This proposal consists of four parts:

1. some general considerations on LOs, the assessment of LOs and the quality assurance of assessment of LOs;
2. the triangle: three orientations on quality of the assessment of learning outcomes as mentioned above;
3. triangulation and the unique role of QAO's;
4. challenges for institutions and QAO's in using a learning outcomes and assessment index.

The aim of this exploration is to invite quality assurance organizations (QAO's) in higher education to further thinking about this proposal. Therefore, the intended readers are first of all quality assurance agencies and their (panel-)members. But, as there is an active interplay between quality assurance agencies and institutions, subsidiary readership may consist of relevant actors within institutions and staff of higher education.

Hopefully this proposal will stimulate discussion across Europe on the quality assurance of the assessment of learning outcomes, so as to serve student and graduate mobility and enhance public trust in higher education, and at the same time provide an opportunity to share good practices across agencies and institutions alike. Comments and suggestions for further work are very welcome. Contact-persons: Erik Martijnse (e.martijnse@owinsp.nl) and Mineke Laman (m.laman@owinsp.nl), Inspectorate of Education, PO Box 2730, 3500 GS Utrecht, the Netherlands (00 31 88 6696000).

1. Quality assurance of the assessment of learning outcomes

1.1 Introduction

Assessment of learning outcomes assessment is not a new thing. In his book *De Conscientia* (ca 1220, the title only is already quite interesting!) Robert de Sorbon, founder of the Sorbonne, was quite explicit on how he would assess the achieved learning outcomes of students. "The chancellor is not satisfied with a verbal knowledge of books, without an understanding of their sense, but he requires only seven or eight passages in a book and passes the candidate if he answers three questions out of four". (from: Haskins, 1923). Everything is there: subject description ("books"), kind of learning outcomes expected ("understanding of sense"), sort of examination ("questions on seven or eight passages"), pass-fail-criterium ("three out of four answers correct"). The explicitness of Robert de Sorbon can truly be seen as the starting point of quality assurance of learning outcomes assessment. Yet, a number of questions needs to be addressed first.

1.2 How to look at learning outcomes?

The concept of learning outcomes is widely used in the Bologna process. Some examples taken from various communiqués are: ".....describe qualifications in terms of workload, level, **learning outcomes**, competences and profile....." (Berlin, 2003); "..... generic descriptors for each cycle based on **learning outcomes** and competences" (Bergen, 2005); "....the next [stocktaking] exercise should also address national qualification frameworks, **learning outcomes** and credits, lifelong learning and the recognition of prior learning"(London, 2007). The conclusion is clear: the concept of learning outcomes is cannot be ignored in the Bologna process in European Higher Education Area . Nor it is a European subject only. In the USA the accreditation agency CHEA has established an Annual Award for Outstanding Institutional Practice in Student Learning Outcomes.

In the course of the Bologna process also a definition has been developed, which with a slight change of emphasis was stated as follows '**Learning outcomes are statements of what a learner is expected to know, understand, and/or be able to demonstrate after completion of a process of learning**' (Kennedy, Hyland and Ryan, 2006): The change in emphasis is brought about by using the word "demonstrate" instead of "do", as was used in the Bologna definition. As it is, learning outcomes may be identified both at module-level and at the level of full programs.

Of course, the notion of **learning outcomes** is not a stand-alone concept. Related concepts are: aims, objectives, competences and constructive alignment. Kennedy, Hyland and Ryan (2006) point out that "**aims** are usually written from the teacher's point of view to indicate the general content and direction of the module. The **objective** of a module or program is usually a specific statement of teaching intention, i.e. it indicates one of the specific areas that the teacher intends to cover in a block of learning. One of the problems caused by the use of objectives is that sometimes they are written in terms of teaching intention and other times they are written in terms of expected learning". Likewise the term "**competence**" is not always clear. Kennedy, Hyland and Ryan notice that in the Tuning project¹ competence "is used to represent a combination of attributes in terms of knowledge and its application, skills, responsibilities and attitudes" and they continue: "Since there does not appear to be a common understanding of the term competence in the literature, learning outcomes have become more commonly used than competences when describing what students are expected to know, understand and/or be able to demonstrate at the end of a module or program".

¹ Tuning Educational Structures in Europe is a university driven project which aims to offer a concrete approach to implement the Bologna Process at the level of higher education institutions and subject areas (González and Wagenaar, 2006).

In this respect also the term **constructive alignment** may be helpful. The concept was introduced by Biggs (1999) and intended to underpin the requirements for program specification, declarations of intended learning outcomes and assessment criteria. More particularly it emphasizes the connection between learning and assessment, and the ways in which assessment and grading can be made transparent to students and other interested parties.

This may all be the case, but there is a great diversity in interpretation of what learning-outcomes in different subjects and on different levels amount to. Of course, it is in the nature of higher education that "levels" are not always as clearly described as "levels" at primary or secondary school level. But interpretations across subjects and/or on specific issues may differ considerably, not only concerning essential knowledge and skills, but also (and more so) as regards problemsolving, communication, ability to learn etc. , all of which are typical cornerstones in the formulation of learning outcomes at bachelor- and master-level. This inherent vagueness of higher education and the variety in interpretation has repercussions for the assessment of learning outcomes and the robustness of judgments by quality assurance agencies like.

Moreover, the concept of learning outcomes is certainly not uncontroversial. Some call attention to the risk that overemphasis on the role of (technical specifications of) learning outcomes may overshadow essential results of learning, such as for instance 'learning to enjoy learning'. Also

Active learning, encouraging students to contribute and to interact, is not compatible with a tight focus on prescribed learning outcomes. This debate on the operation of learning outcomes can be related to their function in curricula and learning programs (Cedefop, 2010). On the other hand, and particularly in the USA, as compared to credit-hour-calculations only, focusing on learning outcomes is seen as successful way of organizing education, provided both learning outcomes and assessments are transparent (Wilson et al. 2012).

1.3 The assessment of learning outcomes

The concept of learning outcomes implies some sort of 'demonstrating' the achievement of the learning outcomes. Depending on the nature of the learning outcomes, this 'demonstration' may take place via written or oral examinations, thesis work, presentations, reports, portfolios and a long list of other artifacts that may show the extent of the outcomes of learning. For examples of assessment of learning outcomes, see appendix 3 which is in use by Heinz.

This is not to say that – given this list – assessment will be easy to carry out. On the contrary: for instance for learning outcomes in the field of knowledge and understanding, a full test-and-assessment-theory has been developed to find proper ways and means of assessment. Even then, there is much debate on the reliability of judgments on essays and thesis work, taking into account the various preferences assessors may have. Assessment of learning outcomes in the field of communication and other skills is perhaps even more difficult to handle. The usual dilemmas in relation to grading and pass-fail decisions apply to every assessment, including issues of absolute versus relative measurements. Other complications may occur because of the conditions of assessment (e.g. authenticity, plagiarism). Meanwhile the more traditional problems of assessment – for example, teaching-to-the-test leading to learning-to-the test – may also apply to assessment of learning outcomes. That said, very desirable learning outcomes such as "love to learn" are not easy to measure either.

Therefore it was very useful that in the European Standards and Guidelines (ENQA, 2005) statements on assessment were included. As standards for the assessment of students was formulated: **Students should be assessed using published criteria, regulations and procedures which are applied consistently.** A number of guidelines were given to implement the use of this standard (see Appendix 2).

Building on these ESG-statements, in 2007/2008 an international working group, jointly initiated by the Netherlands Inspectorate of Education and QAA, met in Amsterdam, Bucharest and Berlin, in order to discuss issues relating to assessment. Their findings were published in the paper: 'Assessment matters: the quality assurance of student assessment in higher education' (QAA and Netherlands Inspectorate of Education, 2008; see also De Vries, Crozier and Harris (2009)). Apart from statements on the need for the careful design of assessments in terms of validity and reliability, the group established a number of generic points on assessment of learning outcomes, such as:

- assessment should be undertaken within an holistic framework that does not miss or 'hide' the achievement of other, non-explicit outcomes;
- assessment should be designed to ensure that appropriate links are made between the assessment of a module and the overall learning outcomes of the program;
- assessment practices should be kept under review in order to ensure that the impact of new learning environments is recognised. For this matter a PDCA-cycle should be applied.

The group also discussed the principles of comparability and consistency, accountability, transparency and involvement of students and staff and gave recommendations for these as well (see Appendix 3).

Having said this, a number of questions remain, for example whether every LO needs to be or even can be assessed adequately. Also: some (final) learning outcomes are not always assessed in final exams, sometimes already "ticked-off" on the way. Last but not least, although much emphasis should be placed on exams and many teachers focuses on grades as the primary concern Wilson et al (2012) argue that 'student attitudes and motivation to succeed in class are tied to learning, and grades are only one measure of learning'. Nevertheless, it is this measure that is meant to provide public trust in higher education, and its quality assurance of assessment is therefore a very relevant issue.

1.4 Quality assurance of assessment of leaning outcomes (QAALO)

In the course of the development of higher education, and more specifically in the last 20 or 30 years, quality assurance in European higher education has progressed rapidly, the rise in number of quality assurance organizations (QAO's) being only one expression of it. QAO's are meant to guarantee that the quality of study-programs in higher education is in order. For this matter they evaluate these programs and/or the institutions and give positive or negative judgments and/or recommendations. These judgments should be convincing to relevant parties, both within institutions (for example to students, staff, management) and outside the institutions (future students and their parents, other institutions of higher education, future employers of outgoing students, the public at large). Reassurance of learning outcomes and the assessment thereof is therefore an important art of the work of quality assurance organizations.

An important contribution to the role quality assurance agencies with respect to learning outcomes (and the assessment thereof) was provided by ECA. In their list of principles regarding learning outcomes in accreditation procedures (see appendix 4) is was stated that **Accreditation organizations should assess whether the learning outcomes are in line with the National Qualifications Framework and/or the Framework for Qualifications of the European Higher Education Area** and also that **Accreditation organizations should assess whether curriculum design and content enable students to achieve the intended LO and whether higher education institutions apply proper procedures to assess those intended LO.**

At this juncture the question may arise who is responsible for the quality assurance of the assessment of LOs. One may answer this from a variety of perspectives. For a start staff bears a big responsibility for the quality assurance of assessment. Also external ex-

aminers may play a significant role, for example in indicating strengths and weaknesses in the quality of the assessment. Institutions themselves, that is: management and boards, are to be held accountable for the assessment processes too, including perhaps establishing a quality assurance unit that may be in charge of organizing the internal quality assurance process. Within institutions last but not least also students have their own responsibility for being assessed in a fair and proper way. And then there are the external QAO's, responsible for independent external judgments and/or recommendations on learning outcomes, their assessment and the its quality assurance. Of course, when evaluating HE-programs, QAO's normally concentrate on more than learning outcomes and assessment only. And while there is no doubt that learning outcomes and assessment are essentials, other elements may be relevant too: student-wellbeing, staff quality, facilities and so on. Yet, without disqualifying the importance of these and other aspects it is clear that without a sound evaluation of the level of learning outcomes and the workings of the quality assurance procedures the evaluation by QAO's has only reduced value and focusing of these elements remains core-business of QAO's.

2. The triangle: three orientations on QAALO and what an institution can do about it

2.1 Introduction

In the The Hague workshop (2011) it was realized that all groups responsible for a good level of learning outcomes and proper quality assurance may have their own perspective on the quality assurance process. And the question that was studied was: could there be a unifying view for all different perspectives. The 'invention' of the The Hague workshop was the triangle, consisting of three orientations on learning outcomes and their assessment:

- direct observation of learning outcomes (e.g. by staff)
- views of stakeholders on the learning outcomes of graduates.
- the quality assurance procedures as regards assessment of learning outcomes

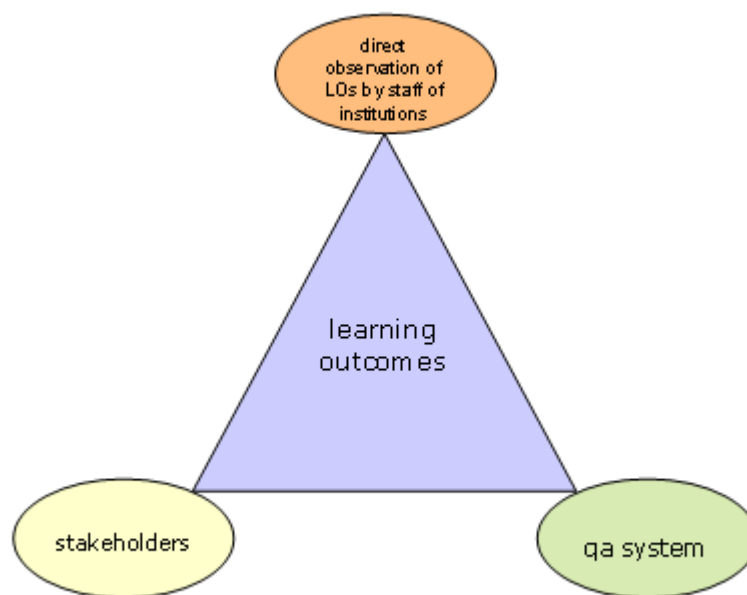


Figure 1 The triangle: three orientations of quality assurance of assessment of learning outcomes

In the following sections some suggestions are made as to what these orientations could mean for an institution that wants to assure the quality of assessment of learning outcomes.

2.2 Direct observation of learning outcomes

Who does the direct observation?

Staff for a start! Maybe double checks with peers? Maybe external examiners, eventually internship-coordinators, maybe there are "national" exams, which provide results. Any-way assessment should lead to results in such a manner that the institution should be satisfied that the assessment results reflect the status as regards learning outcomes, in such a way that a pass/fail can be decided.

What is assessed?

Assessment of realized (= achieved) learning outcomes could take place through:

- reading thesis work, essays, and exam papers
- observing demonstrations by students
- studying portfolios
- many other "artifacts" that can prove students' learning outcomes.

Some further considerations

In Appendices 2, 3 and 4 some general principles of assessment of learning outcomes are laid out. Clearly, comparing achieved LOs with stated LOs is one of the most basic ones and transparency of the criteria used while carrying out assessments are fundamental, both at the general level (e.g. Dublin descriptors) and on the specific (subject) level. Also, and in particular in view of mobility of students and graduates, it is very relevant that international comparisons can be made too. In this respect the AHELO-project could give very useful information (see Tremblay et al., 2012).

2.3 Stakeholders' views

Who are the stakeholders?

Stakeholders of a program are those that an institution sees as its stakeholders. This could depend on the sort of program (general, specific, academic professional etc.). The following stakeholders come to mind:

- competent authorities (e.g. those who may set external standards, including Dublin descriptors);
- professional field (employers, also international employers; perhaps also colleagues of graduates);
- international professional societies;
- educational field (staff in follow-up education, e.g. for graduates of bachelor programs: staff in master programs; also international institutions of higher education);
- alumni/graduates;
- National Academic Recognition Information Centres (NARIC) for academic recognition of diplomas;
- 'clients' of graduates (for example for health workers: patients; for teachers: pupils).

Of course students, who are being assessed, can be considered as stakeholders, be it perhaps in a double role (assessee and stakeholder) and therefore slightly different from other stakeholders.

How to collect information from these stakeholders?

A variety of methods may be applied: standardized enquiries, interviews with employers and representatives of (follow-up) educational institutions, regular meetings, etc. Additional stakeholder information could perhaps be gathered by looking at analysis of job-applicants' success, and other statistics, a check on success in entrance exams in other (follow-up) educational institutions.

Some further considerations

One of the challenges is not only to collect the information from stakeholders, but also how to weigh the diverse information. One stakeholder may be more relevant than another and it is up to the institution to set its standards (as the QAO's surely will do so too). It will surely also depend on the type of program.

2.4 Procedures of quality assurance

Who play a role in maintaining procedures of quality assurance?

Staff for a start (and we met them thus not only as assessors, but also as participants in the QA-process). Students too (not only as stakeholder and assessee, but also with first hand information on the quality assurance process. An assessment-committee, quality

assurance committee, examination board, whatever variation is in place would be a participant in the QA-process too. Management and boards at various levels too, as in the case of a PDCA-cycle they are certainly involved in taking new decisions.

What are elements of quality assurance?

- adherence to ESG-procedures (see Appendix 2) and to general principles of quality assurance (see Appendices 3 and 4)
- clear insight into actual results / scores on exams (student / study progress information system)
- a regular check whether national standards and requirements are adhered to
- a regular check whether learning outcomes are in accordance with qualification frameworks
- program specifications
- teaching and examination regulations, with description of assessment practices
- formulation of intended learning outcomes/module descriptors.
- a register of examiners and regular professional development of examiners (e.g. via training workshops)?
- regular evaluations and an active PDCA-cycle
- duty-lists of appointed officers
- regular consultation with stakeholders and overviews of the results thereof.

Some further considerations

Many more elements could be added, depending on the specific context of the programme. Not always would all requirements need to be met. A 'small' programme with only few students and staff would require other procedures than huge 'mass-education' programs. Here again it is up to the institution to decide what is fit.

3. Triangulation and the unique role of QAO's

3.1 Introduction

Triangulation means combining various perspectives to provide an overall picture. QAO's are in a unique position to do so, as they have an overview over the program under investigation but also over the field as a whole. Therefore they can weigh their findings against findings on other programs on the basis of preset standards. A certain degree of standardization of judgments is necessary in order to compare the various perspectives a general picture. However given the limited time and manpower available checking the perspectives is not an easy one. So that's what we will look into first.

3.2. Strengths and weaknesses of QAO-judgments

In the The Hague workshop much time was spent on finding out how a QAO's could come to judgments on the level of learning outcomes and the quality assurance of assessment of learning outcome. Basically the elements apply as presented in par. 2, and a specific QAO could set its own standards to judge the various aspects. Yet, given the general practice to rely on 5-6 yearly visits by QAO's in relatively short periods of time (2-5 days), there are limitations to the work that can be done by QAO's. This gave rise to discussions on strengths of weaknesses of evaluating the three orientations.

3.2.1 Direct observation of learning outcomes

Because of the volume of student work involved, direct observation of learning outcomes is likely to depend on sampling of the work. To begin with: panels should be independent in their selection of students' work / students' files and portfolio's. But even then the working group noted that sampling (of students and of learning outcomes) is a complicated matter. Of course there are such standard routines as: "take the best five (theses, portfolios etc.), the poorest five and some in between", but is 'five' sufficient? Also which learning outcomes to assess? And which not? Anyway, after sampling the judgments given by a QAO-panel could then be compared to judgments given by staff/examiners, and similarities and/or differences and shortcomings be noted. The working group concluded that this approach of direct observation by a panel has strengths and weaknesses, as summarized in Table 1.

Table1: Strengths and weaknesses of direct observation of learning outcomes

Strengths	Weaknesses
<ul style="list-style-type: none"> - Direct evidence - Easily explicable - Human factor – interaction - Harder to deceive 'assessors' 	<ul style="list-style-type: none"> - Sampling (can't look at all student work) - Human factor – individual preferences - Resource-intensive - Can be manipulated to present best picture

NB: Some sectors / types of institutions have specific characteristics to be taken into account in QAALO, for instance art schools (final exam = public performance with representation of), research universities versus universities of applied sciences.

3.2.2 Views of stakeholders on learning outcomes

Before a site-visit would take place QAO's can ask institutions to provide the information on the views of various stakeholders about the learning outcomes and/or the way graduates perform in their post-study-occupations. During the site visit a QAO could then have interviews with selected stakeholders to find out about their views and compare the findings with what was supplied by the institution. Again, sampling would be a complicated matter, for which routines should be developed.

According to the working group in The Hague finding out on stakeholders' views would have strengths and weaknesses, as indicated in Table 2.

Table 2: Strengths and weaknesses of finding out stakeholders' views on learning outcomes

Strengths	Weaknesses
<ul style="list-style-type: none"> - Relevant (essential) - Good relations with stakeholders can help improve the program - and may promote mobility of students - often, external sources are available, such as national student surveys, labour market research 	<ul style="list-style-type: none"> - Resource-intensive - Methodological issues not easily solved

Problems may arise when the institution cannot provide an argumentation of defined stakeholders or when essential stakeholders missing (e.g. one of the following: employers, future educators, students). Also the sample of stakeholders may be unbalanced, but as regards working methods: in a similar vein as direct observation of student work. panels should be independent in their selection of interviewees. Meanwhile, the international frames of reference of stakeholder on learning outcomes is probably the most interesting aspect, even though National Qualification Frameworks / European Qualification Frameworks / Dublin descriptors offer a certain perspective / direction but their interpretation may differ from country to country.

3.2.3 Evidence on the quality assurance system

An evaluation by QAO is very often similar to the making of a photograph; one gets a 'snapshot' of the state of the art. However, things may change rapidly, and a picture taken next year could be quite different. To allow for that, QAO's are keen to obtain an impression of the systems of quality assurance which operate within an institution/program. These systems should guarantee that developments in the near future are in line with the picture taken now. This applies to learning outcomes too. Which quality assurance procedures are in place so as to assure that in the years to come learning outcomes and the assessment of learning outcomes remain valid?

Strengths and weaknesses of this orientation, as formulated by the The Hague working group were listed in Table 3.

Table 3: Strengths and weaknesses of evaluating QA systems

Strengths	Weaknesses
<ul style="list-style-type: none"> - Systematic approach (PDCA cycle can be followed) - Comparability / allows benchmarking with similar programs 	<ul style="list-style-type: none"> - Time-limited - May be seen as a 'paper exercise' (does paper reflect reality?) - Complex and frequently changing regulations (example: assessment of prior learning)

One of the problems of relying on a check on the quality assurance of assessment of learning outcomes, is that a 5-6 yearly period may be a long time. In particular in the case of 'weak' programs with 'weak' quality assurance systems one would wish early warning signals if things would go wrong. This would mean that in these cases perhaps a more regular information supply of assessment results and stakeholder views could be asked for. A quality assurance system should allow for that.

3.3 Standardizing judgments

In order to meaningfully compare the information from diverse perspectives a certain degree of standardization of judgments is needed. A simple proposal would be give judgments with ratings like: very good (A), good (B), satisfactory (C) and unsatisfactory (D) should take place. Obviously many other rating schemes are possible too, but for the sake of convenience matter we stick to this one.

3.3.1 Assessment results

Of the three orientation assessment results are probably standardized most easily: the average of student-learning outcomes may be in range of an A (very good), a B (good), or satisfactory (C). Actually, results of graduates as assessed by staff would never be a D otherwise they wouldn't have passed, but it may be that a QAO-panel would judge otherwise and allocate a D, e.g. if thesis-work has got marks that are too high in the opinion of the panel. In countries with numerical outcomes of assessment in a 1-10 system (like the Netherlands) in which 10 is exceptionally good and 1 very, very poor, calculating the average of assessment results is even easier, and a translation from the numerical system to the letter system should then take place (perhaps in such a way that A would stand for an average of 8,5 or higher; B for average of 7-8; C for an average of 5,5 - 6,5 and D for 5 or lower).

3.3.2 Stakeholders views

It would surely be less straightforward to express judgments on the combined stakeholder views or the quality assurance system on assessment. This depends on a variety of factors:

- The mixed composition of stakeholders (employers, further educators, alumni, students, national examination boards etc.). Each of these stakeholders could have different views on the level of graduates
- For some or even all stakeholders their views on graduate-levels may differ depending on the year of graduation could be mixed over time ("One year is better than the other"), and hard to compare.
- Also not all of these would be used to express a view on achieved learning outcomes in terms of A, B, C, or D, or would have different connotations with each of these letters.
- For a QAO to weigh the various stakeholder views and find to a composite letter (A, B, C or D) is equally difficult.

Yet, one has to assume that experienced panels will be able to establish a composite final judgment. And it would be interesting to see if his judgment would be the same as the summary of stakeholder-views as provided by the institution and/or perhaps in other sources of information (like independent alumni-inquiries).

3.3.3. Quality assurance procedures

Adhering to the ESG-standards and solid principles (see Appendices 2, 3 and 4) would be a first step of assuring the quality of assessment of learning outcomes. But a diverse picture of quality assurance system may arise, as to one institution certain procedures may be less relevant than to others. How about a rating with letters A-D? This will surely be context-dependent and subject to debate, and also dependent on standards set by a specific QAO. However certain features are interesting: if the QAO finds a large difference between the assessment results given by the staff and their own judgments (e.g. thesis-work consistently marked with too high marks) quality assurance would certainly not be satisfactory (=D). Likewise if the QAO-panel gets a completely different view of stakeholder opinions than the information supplied by the institution suggests, also here the quality assurance would be unsatisfactory. However, an interesting point arises when the stakeholders opinions on graduates differs a lot from staff-assessments, in particular if the panel concludes that the staff assessment are in order. A variety of reasons may be given: the program is such is not adequate, or the opinions of (some) stakeholders are outdated, etc. Surely more discussions as to the outcomes of the program is needed. Is their sufficient rapport between program and field?

3.4 The Learning Outcomes & Assessment-index (LOA-index)

The overall picture of the learning outcomes and the quality assurance of its assessment could be expressed in a learning outcomes and assessment-index (LOA-index). This index would typically consist of the three-letter rating, in which the first letter stands for learning outcomes as assessed by the QAO-panel, the second letter as the combined

views of stakeholders as on the learning outcomes as found by a QAO, and the third as the rating of the quality assurance system on assessment of learning outcomes. Some examples may clarify what the LOA-index would indicate.

Example 1: CCA. This rating would mean: on average learning outcomes are satisfactory, stakeholders view the learning outcomes also as satisfactory, and the quality assurance of the assessment is very good. (NB: one would perhaps ask: if quality assurance system is so good, why are results not better? But there may be many reasons for that: intake level of students may be not very high, there may be only limited financial resources for the program etc.)

Example 2: BBC. This rating would indicate that good learning outcomes as seen in direct observation are confirmed by stakeholder views, but the quality assurance of assessment shows weaknesses. This may indicate that at present there is no reason to doubt that the quality of the graduates is in order, but that there is a risk that in future the level of learning outcomes assessments is not well guaranteed. Strengthening the quality assurance is therefore commendable.

Example 3: ACC. Apparently direct observation of achieved learning outcomes as judged against intended learning outcomes gives very different results than stakeholders views. Reconsidering the program as such would probably be necessary (see discussion in 3.3.3).

A special case arises if the QAO concludes that on one or more perspectives insufficient (or invalid) information is supplied, which cannot be improved during the site visit or in additional information afterwards. In that case no other solution remains than a rating with an X = insufficient information, e.g. XCD. Insufficient information on assessment results and (probably in relation with this) also unsatisfactory quality assurance.

4. Challenges to institutions and QAO's

4.1 Introduction

The previous discussion suggests that it is worthwhile to spend valuable time of institutions and QAO's to be evidence based on learning outcomes and quality assurance of assessment. And also that the LOA-index will provide the transparency that is needed against the background of student mobility and graduate employment and Europe and beyond. Yet to fulfill expectations institutions and QAO's face a number of challenges and some will be discussed in this paragraph.

4.2 The evidence

The first challenge is the evidence. How well-filled are the baskets of evidence from the three perspectives. Are institutions in a position to rate their graduates on the A-D-scale and conclude on an average level? Are QAO's able to find out about this by direct observation in the relatively short period of a QAO visit? Do institutions define their stakeholders well, and do they receive from them regular (not only incidental) and relevant views on the level of graduates? Are QAO's sufficiently well equipped to balance stakeholder views in a composite judgment on a scale A-D? And on checks of the quality assurance system? In particular ratings of stakeholder views and quality assurance systems in terms of A-D may be context dependent, and the triangulation of the three perspectives may result in diverging pictures. On the other hand, many institutions and QAO's are already used to this type of thinking and generalized standards and procedures on specific aspect are already in place, and perhaps it wouldn't be too difficult to include more evidence as suggested in the paragraphs before.

4.3 Institutional and QAO expertise

Thinking in terms of the triangle and triangulation would be a precondition to adopting the LOA-index and developing sufficient expertise in institutions and QAO's is another challenge. This expertise should consist of the level of learning outcomes as such (professional, national, international standards) and would require reference data of learning-outcomes from other institutions, possibly with national or international frames of reference. Also, not uncommon but perhaps more focused than before, expertise is needed as regards assessment techniques for assessing learning outcomes (theoretical considerations and practical examples). Thirdly, expertise in presenting evidence (by institutions) and sampling (by QAO's) is required. A QAO will normally not check on ALL learning outcomes of ALL students, not ALL stakeholders, not ALL elements of a QA-system. But then the question is: how to make a proper selection?

4.4 The organization of the evaluation process

The process of quality assurance and/or enhancement by a QAO often comes down to visits on a 5- or 6-yearly basis, and then in a short period, 2 or 3 days perhaps. How can convincing judgments arise from that? Of course QAO's can make more or less stringent suggestions on the required evidence in terms of the self-evaluation made by the institutions, the required materials and the various actors/stakeholders to be interviewed. By focusing on assessment results of and stakeholder views on graduates the actual QAO-burden could be reduced. But it may well be that for proper judgments and quality enhancement different approaches than the 5-6 yearly visit are needed, in particular for 'weak' programs, and when there is divergence between the views of institutions and QAO's. In such cases early warning signals may become important, which would possibly lead to a more diverse and flexible relation between institutions and QAO's.

4.5 Conclusion and further exploration

So there we are, we had a general discussion on the relevance of the quality assurance of the assessment of learning outcomes. This led to the presentation of a triangle consisting of three orientations: direct observation of learning outcomes, stakeholders views on the level of graduates and quality assurance procedures on the assessment of learning outcomes. This tool could be applied by institutions and quality assurance agencies

alike. Triangulation would then lead to an over-all picture on the level of learning outcomes and the quality of assessment, summarized by the LOA-index. This approach would offer possibilities of increasing transparency, as indicated by some examples, but would also pose challenges to both institutions and QAO's. Are institutions and AO's in a position to find sufficient valid evidence etc. This would suggest that further lines of exploration of the LOA-index would be asked for, possibly leading to certain guidelines to apply it. For that matter action at European level (ENQA) and/or in the world forum of INQAAHE would be welcome.

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Appendix 1
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Appendix 2

ESG- guidelines on assessment on assessment of students (ENQA, 2005)

Guidelines for the assessment of students

The assessment of students is one of the most important elements of higher education. The outcomes of assessment have a profound effect on students' future careers. It is therefore important that assessment is carried out professionally at all times and takes into account the extensive knowledge which exists about testing and examination processes. Assessment also provides valuable information for institutions about the effectiveness of teaching and learners' support.

Student assessment procedures are expected to:

- be designed to measure the achievement of the intended learning outcomes and other program objectives;
- be appropriate for their purpose, whether diagnostic, formative or summative;
- have clear and published criteria for marking;
- be undertaken by people who understand the role of assessment in the progression of students towards the achievement of the knowledge and skills associated with their intended qualification;
- where possible, not rely on the judgments of single examiners;
- take account of all the possible consequences of examination regulations;
- have clear regulations covering student absence, illness and other mitigating circumstances;
- ensure that assessments are conducted securely in accordance with the institution's stated procedures;
- be subject to administrative verification checks to ensure the accuracy of the procedures.

In addition, students should be clearly informed about the assessment strategy being used for their program, what examinations or other assessment methods they will be subject to, what will be expected of them, and the criteria that will be applied to the assessment of their performance.

Appendix 3
Principles of assessment taken from Assessment matters, 2008

Principle	Requirements
Comparability and Consistency	Assessment strategies and procedures focus on the learning outcomes (rather than input measures)
	Assessment strategies are applied equitably across an institution and allow for comparability
	Assessment strategies are applied consistently within institutions and across discipline areas.
Accountability	All individuals and committees involved in assessment are aware of, and act in accordance with, their specific and identifiable responsibilities
Transparency	The assessment strategy being used for a program is clear and easily available to all staff and students involved
	Students are informed of the form(s) and extent of assessment they will be subject to, and what will be expected of them
	The criteria used are relevant to the (program's) learning outcomes being assessed , and are available to all staff and students involved
Involvement	All staff involved in the delivery of a program or its parts are involved in the design and implementation of the overall assessment strategy
	Students have the opportunity to offer their views on the amount and type of assessments they undertake, and whether they are regarded as both 'fair' and 'effective measures of their learning and abilities.

Appendix 4

ECA-principles regarding learning outcomes in accreditation procedures

Principle 1: Accreditation organisations should take into account learning outcomes in their assessments, thus enhancing Mutual Recognition of accreditation decisions.

Principle 2: Accreditation organisations should assess whether the learning outcomes are in line with the National Qualifications Framework and/or the Framework for Qualifications of the European Higher Education Area.

Principle 3: Learning outcomes are a shared concern of stakeholders and thus accreditation organisations should assess whether the higher education institutions consider stakeholders opinion when designing or revising programs and learning outcomes.

Principle 4: Accreditation organisations should assess whether learning outcomes and their assessment by higher education institutions are understandable and public.

Principle 5: Accreditation organisations should assess whether curriculum design and content enable students to achieve the intended LO and whether higher education institutions apply proper procedures to assess those intended LO.

Principle 6: In the case of program accreditation, accreditation organisations should make explicit reference to the programs learning outcomes in their reports.

Principle 7: In the case of institutional accreditation, accreditation organisations should evaluate the institution's provisions regarding the implementation and assessment of learning outcomes.