Learning-outcomes-based assessments at universities of applied sciences in the Netherlands: perceptions of business lecturers

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Abstract

About ten years ago, concerns were expressed about quality and standards in some universities of applied sciences (UAS) in the Netherlands. In response, a report (HBO, 2012) outlined a series of measures to improve the quality of assessment practices in UASs. This study provides recent analysis of lecturer perceptions of assessments UASs with a view of exploring how these recommendations have become embedded in the assessment cultures of UASs. Our qualitative study with 19 participants teaching at ten different UASs, reveals strong evidence of a staff knowledge gap around outcomes-based assessment.

Keywords: Assessment; Quality Assurance; Quality Enhancement; universities of applied sciences, learning-outcomes-based assessment, business lecturers

Introduction

Increased formalisation and standardisation of quality assurance practices and control mechanisms in higher education (HE) have contributed to an expansion of quality monitoring at higher education institutions (HEI) (Bendermacher et al., 2017; Vlachopoulos, 2016; Harvey & Williams, 2010). Increasing competition in both public and private sectors (Naidoo, 2018) and a growing emphasis on global rankings bring quality into focus, impacting on students and faculty members in the process (Luque-Martinez & Faraoni, 2019).

Quality Assurance and Quality Enhancement are often presented as entirely separate, even conflicting processes (Williams 2016: 98-99). The research reported in this paper emerged from concerns about assessment practices in certain Dutch universities of applied sciences (UAS) in the 2010s. In response, the Association of Universities of Applied Sciences (VH – Vereniging Hogescholen - the HBO council)

set up the External Validation Committee to strengthen external scrutiny of quality and standards for higher professional education. A comprehensive report made recommendations focused on increased scrutiny of quality and standards and a move towards a more transparent assessment regime. To implement the recommendations, the Ministry of Education, Culture and Science made additional resources available to UASs.

We interviewed 19 lecturers involved in assessing students in business and management disciplines from ten UASs in the Netherlands to explore the extent to which the report's recommendations have become embedded in the ways in which lecturers design assessments and examine students, the success or failure of which might indicate the extent to which national and institutional systems of quality assurance are impacting on the enhancement of teaching, learning and assessment in the classroom.

Higher vocational education (HBO) in the Netherlands

The Netherlands has a binary higher education system consisting of university education (WO) provided by research universities and higher professional education (HBO) provided by *hogescholen.* Hoeschele are permitted to refer to themselves as universities of applied sciences (UAS) in English, though they cannot call themselves universities (*Universiteit)* in Dutch.

UASs have a vocational focus in economics, business, health care, agriculture, teacher training, social work, arts and engineering (Nuffic, 2018). There are 36 government-funded and more than 20 privately owned UASs in the Netherlands. Approximately, 50% of the UASs in both categories offer business & management degree programmes, which forms the case study discipline for this article. Despite the term 'applied sciences' these institutions do not necessarily teach science or technology

subjects – they also teach or may specialise exclusively in business, social sciences or creative arts.

Dutch UASs are comparable to similarly named HEIs in other countries such as Austria, Belgium, Finland, Germany, Greece, the Netherlands, Sweden and Switzerland. They have become a pivotal part of higher education and offer a wide range of study programmes, from arts to medical sciences or from business to engineering. In some countries there are specialised UASs that offer technology and/or social science specific programmes. The larger universities of applied sciences could be reasonably compared to the so-called 'post-92' or 'new' universities in the UK; most of these were previously vocationally and professional focus 'polytechnics' that were granted university status by the Further and Higher Education Act 1992. While there are no significant legal or regulatory differences between – 'pre-1992' and 'post-1992' universities, many post 1992 institutions have maintained their vocational and professional identities – for example the University Alliance, a mission group of 12 post-1992 universities describe itself as 'the voice of professional and technical universities' (University Alliance 2021).

Quality concerns in 2010s and responses

In around 2010, reports emerged expressing concerns about quality and standards at some UASs. In one notable case, NOS news (2011) reported that three out of five students from one journalism programme did not graduate due to the quality of their final projects. An inspection revealed that academic standards fell short of those required for a university diploma and the university had to stop directly issuing HBO diplomas for the programme and go through re-accreditation. At another UAS it was reported that weak management combined with poor quality teaching and project supervision enabled students to graduate without meeting the required standards (De

Tegel, 2013). Such reports undermine public confidence in the standards underpinning awards and the integrity of the assessment processes – this is a particular serious concern for students and employers (Sharp, 2017:143-144). These reports, therefore, encapsulated concerns about standards, the management of those standards, and the quality of teaching, learning and assessment processes to enable students to demonstrate meeting those standards.

In response to these events, the Association of Universities of Applied Sciences (VH - the HBO council) set up the External Validation Committee to strengthen external scrutiny of quality and standards for higher professional education. In their subsequent report (HBO, 2012), the committee provided seven recommendations for universities of applied sciences:

(1) external validation of examinations
(2) external validation of final projects
(3) external validation via statutory recording of the obligation to implement examination policies
(4) external validation via teacher training and certification
(5) external validation via visitation committees
(6) external validation via other forms of examinations
(7) external validation via the quality of the examination system

The report specifies the measures to be taken by HBO institutions to benchmark and validate their examination systems (HBO, 2012), following the standards established by the European Association for Quality Assurance in Higher Education (ENQA, 2005). According to these standards, assessments should:

- Be developed as a measurement of the intended learning outcomes (ILOs) and programme objectives and need to be addressed by the teacher/assessor.
- Correspond to the purpose: diagnostic, formative or summative.
- Ensure that criteria for marking are clear and published in advance.
- Ensure that appointed assessors have the necessary qualifications to assess students.
- Involve more assessors for fairer judgement.
- Have clear regulations ensuring fairness, security, and transparency.

ENQA (2015) has extended these standards, and specified the following:

- That assessors are familiar with the forms and methods of examination and also receive support to develop their skills.
- Student performance demonstrates the extent to which the ILOs have been met and that they receive feedback and guidance, on their learning.
- For ensuring the consistency and fairness of the examination system at institutional level, regulations much also address mitigating circumstances, and a formal student appeal procedure is in place as well.

The committee also recommended the involvement of external assessors and cross-institutional dialogue. Priority areas for development included linking assessments to learning objectives, better assessment design, assessing examination questions based on an item analysis, setting up and/or improving examination policies, and considering greater use of digital assessment. Each of the above requires that individuals involved in the teaching and assessment of students understand the concept of learning outcomes-based assessment and are able to give effective feedback.

Given the uncertainty around these aspects of quality in higher professional education nationwide, the committee sought to ensure the development of objective and

transparent standards for the award of diplomas, much greater external scrutiny of processes and professional development for teachers while maintaining the practical/ vocational orientation and social responsibility of the institutions in consideration. The recommendations drew on practices from outside the Netherlands as well as from other types of Dutch higher education institutions. However, recent developments suggest a reorientation towards "…building trust in strengthening the ownership of students and staff over quality assurance procedures on the basis of the principle of trust-building" (Komotar, 2021: 11).

For these recommendations to be successfully implemented, all those involved in assessment of students need to be knowledgeable about good assessment practices. An institution can have policies and procedures in place, but if these are not followed by those who assess students then they have no purpose. If those assessing students do not know *what* they are assessing, what the assessment criteria are, or how to give good feedback, then such policies and procedures have no value. Similarly, there is no place for assessment via personal intuition or non-transparent criteria. Following a brief consideration of learning outcomes-based assessment, we provide some context that led to the current study, before presenting our findings.

Learning-outcomes-based assessment

Setting learning outcomes for a course or a module or section of learning enables the learner, the teacher and other stakeholders to have a shared understanding of what students should have achieved following the study of a particular module, course or section of learning. In order to know whether students have acquired the expected knowledges, skills or attributes, assessment needs to be appropriate for meeting the learning outcomes. Moreover, teaching and learning activities must align to the learning outcomes and the assessment tasks, a process known as 'constructive alignment' Biggs

1996, Biggs and Tang 2011). An intended learning outcome '… specifies not only what is to be learned, the topic, but how it is to be learned and to what standard' (Biggs and Tang 2011: 97-98). Constructively aligned learning outcomes include verbs such as 'explain' and 'apply'. A non-constructively aligned course may have intended learning outcomes, but these may be expressed in terms of 'topics' to be studied and may not have assessment tasks which review whether these have been met or not. Such an approach can lead to the teacher 'stuffing them [students] with facts' (Biggs and Tang 2011: 100).

Therefore, the learning outcomes and competencies students have to achieve and develop must be defined beforehand, while learning and teaching activities and assessment must assess these outcomes using clear, transparent assessment criteria. However, Jørgensen et al. (2017: 1) acknowledge the continued reliance on traditional examinations assessed via 'gut instinct' in many systems.

Culture of quality assessment

As we considered the literature around assessment and feedback, we recognised how our own institution's policies and procedures were informed by this literature and the recommendations of the 2011 report (Rauf et al., 2021). However, we were less certain about the extent to which the principles of learning-outcomes-based assessment, constructive alignment and a consideration of the quality of different assessment types were viewed by those directly involved in the design and marking of student assessments. Nearly a decade after the report, we wanted to see the extent to which these recommendations have been embedded in the cultures and expectations of those who teach and assess student work in UASs. The relationship between quality assurance and academic staff involved in the teaching and assessment of students has sometimes been problematic, with academics often viewing such processes as obtrusive,

unnecessarily time consuming and without clear purpose (see Newton, 2002). However, in the two decades since Newton carried out his work in the UK, the landscape of European Higher Education has changed, not only through the development of national, international and institutional quality and standards, but also through the growth of evidence-based research in higher education and formal professional development programmes for those who teach in higher education.

Therefore, we investigated the perceptions of those who assess students taking into account constructive alignment and its effectiveness by answering the following research questions:

- What are the predominant assessment methods at universities of applied sciences in the Netherlands?
- What are the perceptions of the lecturers on constructive alignment and effectiveness of the assessment methods in measuring key competencies/knowledge and achieving the intended learning outcomes?

Methodology

Positionality

Authors 1 and 2 have recently undertaken a postgraduate certificate course in learning and teaching in higher education taught by a UK university, mapped to the UK Professional Standards Framework and recognised by AdvanceHE at Descriptor 2 (Fellowship). Authors 1 and 2 work at a smaller private UAS, where there are approximately 1,500 students, all of whom are studying in business or related courses. Therefore, for the purpose of reasonable comparison with their experience it was considered appropriate to survey academics in business-related disciplines. It was

through the study of this course that we became increasingly aware of discrepancies between quality assurance, published pedagogic research and the practice of lecturers.

Data collection and analysis

An in-depth qualitative study (Maxwell, 2008; Punch, 2009) was conducted. In such studies, context (universities of applied sciences in the Netherlands) is of primary importance and, consequently, the study was conducted in a naturalistic setting (Agee, 2009). Our study is descriptive and explanatory, since it aims to explain why things happen and describes phenomena and perceptions (Punch, 2009), and this offers an in-depth understanding of research participants, including their opinions, perceptions and viewpoints (Kennedy, & Thornburg, 2018; Nassaji, 2015). The data-collection process included individual interviews with 19 lecturers officially appointed by their institution's examination board as per the national HE regulations. These 19 participants were from ten diverse Dutch UASs. One was a small UASs with 1500 students, four were mediums size (~5000 students) and five were large scale UASs (>8000 students).

We used a self-designed interview protocol (see appendix) which included a small number of factual questions (e.g., types of assessment used). The protocol included questions on constructive alignment, final qualifications, module outcomes, intellectual complexity, assessment methods, knowledge, skills, examinations, and assessments. The analysis strategy was based on the retroductive method of data collection developed by Bulmer (1979) and Katz (1988), a process of identifying important themes, patterns, ideas, directions and meaning during the data-collection process based on the variables/factors covered in the interviews (Armat et al., 2018; Nassaji, 2015). Entering the data-gathering phase with no pre-determined ideas, we observed behaviours and perceptions of the examiners, which helped us create an overview of the assessment practices and their efficiency in acquiring key knowledge

and achieving the ILOs. Recurring themes and effectiveness were operationalized taking principles of good assessment and exam by Halbherr & Schlienger (2013) and Joughin (2010), cognitive levels and constructive alignment as per the revised Bloom's Taxonomy by Anderson & Krathwohl (2001) mentioned in the literature. Using the qualitative guidelines of Cohen et al. (2018) and Holliday (2016), we followed a non-probability sampling method, (Merriam, 2009). More specifically, we relied on 'gatekeepers' of the identified institutions for initial research referrals, and for further sampling we adopted the 'snowball method', ensuring optimal coverage (Mateo, 2001).

Findings

The results of the data collected through structured interviews are categorized into two main themes derived from an analysis of secondary data, reflecting on the two research questions mentioned at the beginning in order to achieve the research aim and draw useful findings/conclusions for this study. These two main themes are:

- Examination/assessment and question types used across institutions.
- Effectiveness of assessment methods/examinations in measuring key competencies/knowledge, connection to ILOs and quality of assessments (validity/accuracy).

All of the respondents develop and grade the assessments for the modules they teach. Most (but not all) reported that their institutions provide an assessment or examination policy that prescribes the framework and rules to be applied when assessing student work. Three respondents were either not aware of the existence of such examination policy documents or, even though they are required in UASs. This has

serious implications as assessment of student work may not meet the requirements set out at the institutional level.

Types of assessments

Written examinations (Closed Book), assignment and project work are the most commonly used examination types followed by written examination (open book) and oral presentations (see table 1), but digital/multimedia assessments are gaining popularity. Regarding question types in an exam, respondents were asked to list the types of questions used in closed-book examinations based on the following eight most commonly used questions (Blackburn, Johnson, & Finelli, 2018; Sato, Hill, & Lo, 2019).

Assessment type	Frequency
Open questions	14
Multiple-choice questions (MCQs)	12
True or false	6
Fill in the blanks	5
Short answers	10
Calculation	9
Case study	14
Essay	13

Table 1: Usage frequency of exam question/item types (own data).

Open and case-study questions are the most preferred types of questions followed by essay questions and MCQs. Understandably, True or false and fill in the blanks are the least used types of questions, as such questions focus more on memory and tacit knowledge rather than students' understanding, conceptualisation and/or reflection as per Bloom's Taxonomy (Ilango Sivaraman, & Dinesh, 2015; Testa, Toscano, & Rosato, 2018).

When asked about designing exam questions/items in order to reflect different levels of intellectual complexity, there were some mixed responses; some of the examiners mentioned they follow the institutional guidelines and others make their own judgements. Few examiners indicated the '4-eyes' principle (the involvement of other colleagues), Bloom's Taxonomy or other criteria. These responses indicate a lack of standard practice for developing/including certain specific types of questions in examinations.

Intended learning outcomes and assessment quality

The questions also focused on exam quality, accuracy, validity, and connection with intended learning outcomes (ILO) and the programme final qualifications. This was done to measure the effectiveness of assessment methods/examinations in measuring key competencies/knowledge, connection to ILOs and their quality including their validity/accuracy parameters. Respondents have different opinions regarding the contribution of assessment methods in reaching the module ILOs and the programme's final qualifications. Only 30% could clearly see a link and connect their assessments to the ILOs; for example, Respondent nr.14, "*by aligning the assessment questions with learning outcomes of the subject*" and Respondent nr. 18 "*by comparing the exam with course objectives/goals*". Though the quality assurance mechanisms may vary from institution to institution, we expected such fundamental elements be widely known and practised. This suggests that the recommendations outlined by the HBO report do not seem to have become widely embedded in the assessment culture of UASs.

When asked about another related aspect of measuring the knowledge and skills of the students for a particular subject/module, a clear majority responded "Yes" and only a few responded "No". There were five participants who mentioned "It depends", and in follow-up interviews they highlighted that sometimes it is unclear or there is a

need for professional development. Some of the respondents also highlighted in the follow-up response the lack of or no consideration of soft skills in assessments.

A follow-up question explored if the measurement of student performance reflects the knowledge and skills acquired during a particular course. Similar to former responses, the majority of them responded "Yes" (ten out of the total 19 responses). They also mentioned either "*To some extent*" or, "*It depends on four each for both these categories*".

Follow-up responses clarified this very aspect, as one respondent mentioned that generally assessments will only show the students' ability to reproduce information and basic knowledge. As per examiners' elaborations in the follow-up interviews, not all examinations assess the students' knowledge and skills carefully and effectively. This might be an area where institutions and examiners will have to work further to make such an assessment more effective (improved validity and reliability).

It is also important to see if there is a relationship between students' exam performance and future career performance in the view of assessors. An interview question in this regard was asked – "*Could an exam performance predict the future career performance of a student*?" Surprisingly, a majority of the examiners said "*No*", and/or "*Not always*". This appears to be one of the fundamental challenges of designing study programmes and there is a need to change this to help the graduating student in developing/gaining key knowledge/skills to perform future career roles effectively. Follow-up responses shed light on this very aspect, as our interviewee no. 1 answered that "I believe that having multiple points of cross-checks versus single points of assessment of the students' performance from a different perspective may yield the better realistic assessment of the student". As for examiners' responses, it appears that sometimes it is challenging to design effective assessments reflecting students' future

knowledge and skills requirements. In order to achieve this, assessments should be designed with regard to 'real

-world' authenticity (Race, 2020: 46). There is a clear need to further consider the value of class participation, group assessments, role-plays, practical aspects in exams and formative assessments (Chari, Dashputra, and Gupta, 2018).

Another question asked if there are any shortcomings in current assessment methods. Respondents shared interesting opinions about exams and examining the system in this respect. For example, Respondent nr. 9 "*the issue of the relevance of the knowledge under real-life situation*" and Respondent nr.10 "*should include more online work*". The issue of relevance to 'real life' is an important point that was hardly acknowledged by most respondents to an earlier question, i.e., the relationship between students' exam performance and future career performance. Certainly, this has to be addressed to make assessments more realistic and valid. Respondent nr.17 questions the assessment methods by saying, "*assessment methods don't evaluate the effort of the student during the semester. They evaluate only the outcome that the student produces in the assessment"*. This seems to suggest that there is a troubling disjuncture between student engagement and outcomes.

Some participants recommended that a combination of assessment methods is more effective, and examiners should be given sufficient time to develop and execute assessments effectively. For example, Respondent nr.1, "*exams/assessment should always serve an educative and development purpose (as well): the examinee should learn from the exam; an exam should not be a test per se*"**.**

The examiners also mentioned new methods they would like to try if there is an opportunity. Some mentioned assessing students with the help of simulations, gamification, peer evaluations, and including both theoretical and practical knowledge

in the exams. For example, Respondent nr.8 reported "*a concept assessment form that covers both practical and theoretical knowledge of the student through a continuous process during the semester*", and Respondent nr. 14 said, "*there are a few novel methods that combine written exams followed by group-based discussion on the exam*".

Based on our primary data, we can conclude that there is a systemic approach used across Dutch HEIs, mostly led by a clear exam policy/framework provided by their institutions. These findings are not surprising when considering Dutch-Flemish Accreditation Agency (NVAO) has a thorough assessment of the achieved learning outcomes and the student assessment, that involves detailed description of these in the self-evaluation for programme accreditation as well as an assessment of the students' final projects (thesis) of minimum 15 graduates per programme. The findings helped us to provide a clear description of selected examination types as per the first research question, which is not formally prescribed by the NVAO as long as the assessment, meets the standards of validity, reliability, transparency etc. outlined by NVAO. However, in most accreditation reports NVAO notes that most UASs use diverse approaches and forms of student assessments which are appropriate.

However, when it comes to the second research question 'on the effectiveness of the assessment methods in measuring key competencies/knowledge and achieving the ILOs', it is difficult to conclude if all assessments used could be sufficiently categorised as effective (also considering their validity and reliability aspects) in this respect and whether they support student's learning process as effective as intended. The Dutch-Flemish accreditation notes that the respective business programmes at an UAS some of the student assessments still heavily rely on reproduction of knowledge (remembering) of the material, however in the case of another report the panel of the NVAO is

appreciative of efforts being done in developing a programme specific vision of testing based on software such as the Quality Pyramid of Testing. This outcome resonates with the UK context (Norton, Floyd, and Norton, 2019: p. 1218), which found "evidence of assessment professionalism among their participants in terms of their current assessment-design practices"; however, they also exhibited some constraints similar to our observations that it is not possible to confirm that all assessments are effective all of the time.

Conclusions and recommendations

The principal conclusion of this investigation is that the recommendations outlined in HBO (2012) with respect to assessments being related to learning objectives are not yet embedded into the culture and mindset of all those who teach and assess business students in UASs. While we are not claiming that UASs have failed to embed these processes into the central quality assurance practices of UASs, the lack of awareness about outcomes-based assessment amongst some assessors needs to be investigated further as a matter of urgency if the 2010 concerns are not to be repeated. This would probably be best achieved through the professional development of staff via formal courses.

We were encouraged to find a diversity of assessment methods being used in UASs. Recent studies reveal that students particularly value the benefit of having authentic 'real-world' assessments that were closely connected to their career ambitions and helped them in developing key skills (e.g. Lynam and Cachia, 2018), and diversity in assessment is an important part of this. However, the reliance of a minority of assessors on their own non-published criteria is a matter of concern.

In the Netherlands, all higher institutions carrying out examinations are obliged to have an examination committee by law from the Ministry of Education, Culture and

Science (Staatsblad van het Koninkrijk der Nederlanden, 2017, no.43). In this regard the UASs have policies and procedures to safeguard standards on an institutional level, but it does raise questions about the professional development of staff and whether more in-house faculty experts are needed to assist with the development and execution of high-quality assessments. We recommend that the UASs should allocate sufficient resources/budget and time for assessment processes to ensure effective assessment measures of students' learning.

Based on the evidence presented above through the primary and secondary data, regarding the first question, despite diverse assessment approaches across institutions, a systematic approach is used by examiners across Dutch UASs, mostly led by a clear exam policy/framework provided by their institutions. However, responding to the second question, for designing effective assessments reflecting on student's future knowledge and skills requirements and ILOS, it is not only perceived as difficult but proves to be demanding, as there is a real need to do more work for achieving this according to the participants of this research.

Therefore, although we found evidence of academic colleagues using university frameworks and assessments, there is still a lot to be done in terms of engaging some assessors with learning-outcomes-based assessment and the importance of using transparent pre-published criteria. We recommend that UASs consider their professional development practices for both new and existing staff, possibly based on or making direct use of the UK Professional Standards Framework and AdvanceHE Fellowships accreditation as the authors have in their UAS.

References

Agee, J. 2009. Developing qualitative research questions: a reflective process. *International Journal of Qualitative Studies in Education 22*, 431–447. DOI: 10.1080/09518390902736512

Anderson, L. and Krathwohl, D. 2001. *A taxonomy for learning, teaching and assessing: A revision of Bloom's taxonomy of educational objectives.* New York: Longman.

Armat, M. R., Assarroudi, A., Rad, M., Sharifi, H., and Heydari, A. 2018. Inductive and deductive: Ambiguous labels in qualitative content analysis. *The Qualitative Report*, *23*(1), 219-221. DOI: https://doi.org/10.46743/2160-3715/2018.2872

Astin, W. A. and Antonio, A.L. 2012. *Assessment for Excellence: The Philosophy and Practice of Assessment and Evaluation in Higher Education.* Lanham, MD: Rowman & Littlefield with the American Council on Education.

Bendermacher, G.W.G., Oude Egbrink, M.G.A., Wolfhagen, I.H.A.P. and Dolmans, D.H.J.M., 2017. Unravelling quality culture in higher education: a realist review. *Higher Education, 73*(1), 39-60. https://doi.org/10.1007/s10734-015-9979-2

Biggs, J. and Tang, C. 2011. *Teaching for Quality Learning at University*. New York: McGraw Hill.

Biggs, J. 2014. Constructive alignment in university teaching. *HERDSA Review of Higher Education*, *1*, 5-22.

Blackburn, M. M. W., Johnson, A. W., and Finelli, C. J. 2018. Developing an Observation Protocol to Categorize Formative Assessment in Engineering Courses. In *Proceedings of the 2018 ASEE Annual Conference & Exposition*.

Brown, S. 2005. Assessment for learning. *Learning and teaching in higher education*, (1), pp.81-89.

Bulmer, M.G., 1979. *Principles of statistics*. Courier Corporation.

Chari, S., Dashputra, A.V. and Gupta, M., 2018. University examination: The examiners perspective. *Journal of Education Technology in Health Sciences*, *5*(3), pp.135-138. DOI:10.18231/2393-8005.2018.0026

Chu, A. and Westerheijden, D. F. 2018. Between quality and control: what can we learn from higher education quality assurance policy in the Netherlands, Quality in Higher Education, 24:3, 260-270, DOI: 10.1080/13538322.2018.1559513

Cohen, L., Manion, L. and Morrison, K. 2018. *Research Methods in Education*. New York: Routledge, 8th Ed.

De Tegel, 2013, Slechte scriptie, toch je bul, Available at: Slechte scriptie, toch je bul - De Tegel, Accessed on: 17 May 2021

Mateo, J. and Vlachopoulos, D., 2010. The New Nature of Learning and of Evaluation in the Context of Competential Development European Challenges in the Education on the 21st Century. Revista Iberoamericana de Evaluación Educativa, 3, 45-61.

NOS 2011. Journalistenopleiding Zwolle onder vuur, [Press release], 21 December 2011. Available at: Journalistenopleiding Zwolle onder vuur | NOS , Accessed on: 17 May 2021

ENQA. 2005. *Standards and Guidelines for Quality Assurance in the European Higher Education Area.* Brussels: EURASHE.

ENQA. 2015. *Standards and Guidelines for Quality Assurance in the European Higher Education Area*, Brussels: EURASHE

HBO. 2012. Vreemde ogen dwingen Eindrapport Commissie externe validering examenkwaliteit hoger beroepsonderwijs. HBO-raad, vereniging van hogescholen: Den Haag Retrieved from https://www.scienceguide.nl/wpcontent/uploads/2018/08/Vreemde_ogen_dwingen.pdf

Halbherr, T. and Schienger, C. 2013. *Guidelines on Grading Written Examinations.* Zurich: ETH Zurich.

Harvey, L. and Williams, J., 2010. Fifteen years of quality in higher education (Part Two). Quality in Higher Education, 16:2, 81-113, DOI: 10.1080/13538322.2010.485722

Holliday, A. 2016. *Doing and Writing Qualitative Research*. Sage: London.

Inocian, R.B. and Inocian, L.T. 2016. Outcomes-based Teaching for Brain-based Learning Vis-à-vis Pedagogical Content Knowledge. *Asia Pacific Journal of Multidisciplinary Research, 4*:2, 65-75.

Jørgensen, C., Goksøyr, A., Hjelle, K.L. and Linge, H., 2017. Exams as learning arena: A criterion-based system for justified marking, student feedback, and enhanced constructive alignment. *The 2nd European Conference for The Scholarship of Teaching and Learning*, Lund.

Joughin, G. 2010. The hidden curriculum: a critical review of research into the influence of summative assessment of learning. *Assessment and Evaluation in Higher Education, 35*(3), 335-345. https://doi.org/10.1080/02602930903221493

Ilango Sivaraman, S. and Dinesh, K. 2015. Blooms Taxonomy- Application in Exam Papers Assessment. *International Journal of Multidisciplinary Sciences and Engineering, 6*(9), 5-8.

Katz, B., 1988. *How to market professional services*. Nichols Publishing Company.

Kennedy, B. L., and Thornburg, R. 2018. Deduction, induction, and abduction. in Flick, U. (Ed.) *The SAGE handbook of qualitative data collection,* Los Angeles: Sage, 49-64.

Kezar, A., Holcombe, E., and Kitchen, J. 2018. *Scaling Change in Higher Education: A Guide for External Stakeholder Groups.* New York: Association of American Universities. Retrieved from https://eric.ed.gov/?id=ED591454

Kinser, K., 2014. Questioning quality assurance. New Directions for Higher Education, 168(2014), pp.55-67.

Komotar, M. H. 2021. Accreditation in European higher education from the comparative perspective: Slovenia and the Netherlands, *Quality in Higher Education,* DOI: 10.1080/13538322.2021.1909215

Luque-Martínez, T., and Faraoni, N. 2019. Meta-ranking to position world universities. *Studies in Higher Education. Studies in Higher Education*, 45:4, 819-833, DOI: 10.1080/03075079.2018.1564260

Lynam, S. and Cachia, M., 2018. Students' perceptions of the role of assessments at higher education. *Assessment and Evaluation in Higher Education*, 43:2, 223-234. DOI:10.1080/02602938.2017.1329928

Mateo, J. 2001. *La investigación educativa.* Barcelona: Universidad de Barcelona.

Maxwell, J.A., 2008. Designing a qualitative study. The SAGE handbook of applied social research methods, 2, pp.214-253.

Merriam, S. B. 2009. Qualitative research: A guide to design and implementation. San Francisco, CA: Jossey-Bass.

Naidoo, R. 2018. The competition fetish in higher education: Shamans, mind snares and consequences. *European Educational Research Journal, 17*:5, 605–620 DOI:10.1177/1474904118784839

Nassaji, H. 2015. Qualitative and descriptive research: Data type versus data analysis. Language Teaching Research 19: 2, 129–132 DOI: 10.1177/1362168815572747

Norton, L., Floyd, S. and Norton, B., 2019. Lecturers' views of assessment design, marking and feedback in higher education: a case for professionalisation? Assessment & Evaluation in Higher Education, 44:8, 1209-1221, DOI: 10.1080/02602938.2019.1592110

Nuffic. 2018. *The education system in the Netherlands.* Retrieved from https://www.nuffic.nl/documents/459/education-system-the-netherlands.pdf

Panadero, E., Fernández Ruiz, J., Fraile, J., Castilla-Estévez, D., & Ruiz, M.A. 2018. Spanish university assessment practices: examination tradition with diversity by faculty. *Assessment & Evaluation in Higher Education,* 44:3, 379-397, DOI: 10.1080/02602938.2018.1512553

Punch, K. F. 2009. *Introduction to Research Methods in Education*. London: Sage

QAA. 2018. *UK quality code for higher education.* Gloucester. QAA.

Race, P. 2020. *The lecturer's toolkit: a practical guide to assessment, learning and teaching*. London. Routledge.

Rauf, A., Abdelwahab, H.R., Chen, D. and Birdsall, P., (2021). University of Applied Sciences Students' Engagement with Scientific Literature for Final Year Projects: An Exploratory Study. International Journal of Learning, Teaching and Educational Research, 20(9).

Sánchez-Chaparro, T. 2016. La asociación europea para el aseguramiento de la calidad en la enseñanza superior (ENQA- european association for quality assurance in higher education). Mision, relevancia y principales líneas de acción. *Education & Law Review, 13*, 1-8.

Sato, B. K., Hill, C. F., & Lo, S. M. (2019). Testing the test: Are exams measuring understanding? *Biochemistry and Molecular Biology Education,* 47(3), 296-302. https://doi.org/10.1002/bmb.21231

Sharp, K. 2017. The distinction between academic standards and quality: implications for transnational higher education, *Quality in Higher Education*, 23:2, 138-152, DOI: 10.1080/13538322.2017.1356615

Staatsblad van het Koninkrijk der Nederlanden. 2017, no. 43 Willink.

Testa, S., Toscano, A., & Rosato, R. (2018). Distractor Efficiency in an Item Pool for Statistics Classroom Exam: Assessing its Relation with Items' cognitive Level Classified According to Bloom's Taxonomy. *Frontiers in psychology*, *9*, 1585. https://doi.org/10.3389/fpsyg.2018.01585

University Alliance (2021) University Alliance Members
https://www.unialliance.ac.uk/home/member/

Vlachopoulos, D., 2016. Assuring quality in e-learning course design: The roadmap. *The International Review of Research in Open and Distributed Learning*, *17*(6). https://doi.org/10.19173/irrodl.v17i6.2784

Williams, J. .2016. Quality assurance and quality enhancement: is there a relationship?, *Quality in Higher Education,* 22:2, 97-102, DOI: 10.1080/13538322.2016.1227207

Appendix: Study Interview Protocol

Learning-outcomes-based assessments at universities of applied sciences in the Netherlands: perceptions of business lecturers

1. Do you write/create the examination for the subjects (modules) you teach? Do you also grade them?

If yes, can you describe shortly what important factors do you take into consideration when creating an examination paper for a particular module/subject?

Which assessment methods/techniques do you apply?

If no, how is this organised at your institution?

2. Does your institution provide an official assessment or examination policy that prescribes the framework and rules to be applied when assessing the students for a given subject/module?

If yes, do you think it helps in the development of exams/assessments and how? If no, then how does that affect the development of exams/assessments?

3. Which of the following exam types/assessment methods are you using at your institution?

   - Written Examination (Closed Book)
   - Written Examination (Open Book)
   - Assignment/Report/Essay
   - Project Work
   - Portfolio
   - Active Participation
   - Oral Presentation/Oral Interview
   - Digital/Multimedia Assessment

- Other

4. Which of the following exam types/assessment methods are you using at your institution?

   - Oral Presentation/Oral Interview
   - Written Examination (Closed Book)
   - Written Examination (Open Book)
   - Active Participation
   - Portfolio
   - Project Work
   - Assignment/Report/Essay
   - Digital/Multimedia Assessment
   - Other

5. Which of the following exam question/item types are you using in assessments/exams?

   - True or False
   - Fill in the blanks
   - Multiple choice questions (MCQs)
   - Short answers (1-2 words)
   - Open questions (up to 500 words answers)
   - Calculation
   - Case Study
   - Essay
   - Other

6. How do you classify the exam questions/items in order to reflect on their intellectual complexity at the institution?

   How do you make sure that the level of complexity and difficulty of the exam items and exam itself correspond to the required intellectual level of the student?

7. Which are your most preferred assessment methods and why?
8. Are there new (novel) assessment methods that you would like to try out? Please, motivate your answer.
9. How do you think that the assessment methods contribute to reach the intended learning outcomes of the module/subject (the programme's final qualifications)?

10. Do you think the assessment methods used at the institution are effectively measuring the knowledge and skills of the students for that particular subject/module?
11. Do you think that student performance measured reflect the knowledge and skills acquired during the course?
12. Would performance on a given examination predict future career performance of the students?
13. Which assessment methods do you think are the most accurate to measure student performance?
14. Are there any shortcomings of the current assessment methods applied/used by yourself? If yes, which are these?
15. Would you like to add anything relevant on the topic that you consider necessary to be mentioned regarding assessments and examinations?
16. Please, leave your name and/or email address if you wish to receive the results of this study.