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Co-teaching improves assessment competences – perceptions of Finnish novice university teachers' assessment in higher education

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Co-teaching improves assessment competences – perceptions of Finnish novice university teachers' assessment in higher education

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Abstract

Assessment culture in university teaching influences roles, participation, power relations, and social justice. The pedagogical expertise of the higher education teacher becomes apparent when conducting assessments. Currently, assessment in higher education is at a turning point, requiring teachers to engage students as active participants in the assessment process. The research employed an autoethnographic approach to capture experiential insights from three Finnish university teachers during their first teaching semester. Data were collected through reflective diaries and analysed using content analysis informed by constructivist grounded theory. This study explores how novice university teachers perceive and implement assessment within Finnish universities, focusing on the cultural and practical dimensions of assessment. Findings indicate that co-teaching serves as a valuable resource for teacher development, fostering self-reflection and promoting transparency and social justice in assessment. Collaborative discussions enable teachers to identify best practices and enhance ethical and sustainable approach. Additionally, assessment grounded in clear criteria and goal-oriented frameworks improves consistency and fairness in competency assessment. Formative assessment is considered essential for quality and diversity, though integrating it visibly within summative assessment remains challenging. Overall, the study argues that continuous, open dialogue among teachers and within the academic community is critical for advancing sustainable assessment practices and cultivating an inclusive assessment culture.

Keywords: university teacher, co-teaching, assessment perceptions, constructivist grounded theory

Introduction

Aspects of assessment and assessment activities have been at the centre of assessment research in Finland and internationally for decades. Despite this long-standing interest, studies indicate that actual changes in higher education assessment remain minimal (Brown, 2015; Deneen and Boud, 2014). As a result, the perspectives of sustainable assessment and social justice are not distinct in the context of university assessment. According to the recent national evaluation by Finnish Education Evaluation Centre (Toom et al., 2023), Finnish higher education institutions demonstrate strengths in assessment practices that support learning. However, the report highlights the need for systematic feedback and stronger alignment with working life, particularly in universities.

Previous studies have shown that Finnish universities assessment continues to be implemented in a very traditional manner (Postareff, Virtanen, Katajavuori and Lindblom-Ylänne, 2012; Virtanen, Postareff and Haikari, 2015). Specifically, summative assessment at the end of a course, dominates and is used to measure learning outcomes through numerical grades. This type of assessment focuses on how well students have achieved intended learning objectives. In contrast, formative assessment in the form of feedback during the course, supports students in developing their skills and offers insights into their progress. Sustainable assessment and high-quality learning can be promoted by furthering students' self-assessment competences (Boud, 2000, 2010). Diagnostic assessment, conducted at the start of a course, also plays a role by identifying prior knowledge, aiding course planning, and encouraging students to connect existing understanding with new content (Black and Wiliam, 2009; Boud, 2000; Vesaranta, 2022).

Higher education policy reforms and increased focus on individual responsibility have been seen to challenge academic traditions (Laalo and Jauhiainen, 2019). The demand for high levels of expertise and research-oriented teaching have stretched university teachers' assessment skills. Assessment is context-dependent and embedded in the shared culture of the academic community. This culture evolves through educational reforms, societal values, and institutional priorities (Nieminen, 2019; Xu and Brown, 2016; Vesaranta, 2022). In higher education, assessment is typically used to refer to the assessment of singular student's knowledge and ability (Maunumäki, 2021). This study focuses on assessment by university teachers and uses theoretical tools to explore how assessment culture and perceptions shape practices.

The paper focuses on assessment culture, perceptions, and practices in the universities. Its qualitative approach aims to understand novice university teachers' views on assessment and identify strategies to support sustainable assessment development. Exploring assessment practices from the practitioner's perspective provides insight into teachers' processes and pedagogical expertise (Looney, Cumming, van Der Kleij and Harris, 2018; Maunumäki 2021; Vesaranta, 2022).

Autoethnographic data was employed as a pedagogical tool, emphasising self-reflection to uncover subconscious practices (see Kiili et al., 2023; Uotinen, 2010). Through reflective writing, teachers critically examined personal experiences, revealing implicit assumptions and opportunities for improvement (Ellis, 2009). This approach highlights diverse perspectives and makes assessment

practices visible to both insiders and outsiders (see Ellis, Adams and Bochner, 2011; Tienari and Kiriakos, 2020).

Data consisted of autoethnographic diaries written by three novice university teachers who were co-authors of the study. Data were collected between February and November 2022. Writing served as a tool for processing conscious and unconscious experiences, offering insights into underlying phenomena (Ellis, 2009; Kuusela, 2020; Sparkes, 2000). The analysis applied content analysis using constructivist grounded theory (Charmaz, 2014). The study addresses the following research question:

What are the perceptions of novice higher education teachers regarding the implementation of assessment in university settings?

Assessment culture in higher education

Assessment culture refers to the values and beliefs affecting how an academic community views assessment objectives and activities. Dominant values in the workplace shape a community's assessment culture as well as key modes of assessment (Fuller and Skidmore, 2014). Research has shown that assessment in higher education is more likely to seek to assess student skills and knowledge than to improve their learning (Hailikari et al., 2014; Postareff et al., 2012). According to Nieminen (2021), Finnish Universities should develop their assessment culture in a way that supports the learning of all students. Assessment research has long emphasised the need for change in the higher education assessment culture: from being a culture of assessment to being a culture of learning development and consolidation (Birenbaum, 1996; Black et al., 2004; Brown, Bull and Pendlebury, 1997). It has also been acknowledged that change in assessment practices in higher education settings is slower than in other educational contexts (Deneen and Boud, 2014).

Different approaches to assessment have shaped assessment culture. The concept of sustainable assessment (Boud, 2000) has been used to describe key issues of lifelong learning, such as its manifestations, the support needed, and connections to other notions of assessment and learning. Boud (2007) and Boud and Falchikov (2006) note that traditional views of assessment limit the potential for sustainable assessment, as they emphasise students' responses to external prompts from teachers and assessors. Conscious assessment of one's own abilities, scope of practice, and achievements has been identified not only as an important skill for students in terms of effective learning, but also to inform teacher decision-making on how best to guide students (Looney et al., 2018). Sustainable assessment is more than just grading performance: it focuses on student's learning to continually assess their own knowledge and development independently (see Boud, 2000, 2010). Sustainable assessment also provides teachers with tools to better understand students' development and support them appropriately. Basheer, Ahmed, Bahroun and Anane (2025) have identified six thematic areas for assessing sustainable development in higher education. These include the integration of sustainable development goals into the development of common tools. Basheer et al. (2025) have examined stakeholder perspectives and reveal differences in student, teacher and administrator priorities, highlighting the need for inclusive and context-sensitive frameworks. At the institutional level,

sustainable assessment can also support quality assurance and help universities fulfil their legislative role as providers of the highest level of education, as emphasised in the Finnish context.

In the early 2000s there was a move away from teacher- and content-oriented degree-requirement thinking to a more student-centred curriculum. With this change, one of the central questions has been the description of competency. In Finnish universities, competency-based education is seen to be the training of (future) experts with a view to meeting future skill requirements (Husko and Pyykkö, 2021). In this study, we use the term 'competency' to refer to knowledge, skills, abilities, and attitudes relevant to higher education learning outcomes. In workplace contexts, competency often denotes internal attributes or potential—such as knowledge base, motivation, social role, or skill—that enable effective performance (Dubois, 1993). Competence and competency are sometimes used interchangeably, but they can represent different perspectives: competence as a product and competency as a process (Mäkinen and Annala, 2012). In addition, the Performance-Based Assessments in Higher Education research group at the University of Jyväskylä has focused on assessing students' general skills, such as critical thinking and argumentation, and on developing authentic, comprehensive assessment methods that support meaningful learning outcomes (see Ursin and Hyytinen, 2022).

Student assessment is based on set goals, so clearly presenting these objectives to students at the start of a unit of study is an essential part of the assessment process (University of Jyväskylä, 2023). The introduction of competency goals to higher education has been criticised as undermining academic freedom, learning and teaching as well as diminishing the broader impact of university education on society at large (Mäkinen and Annala, 2010; Wald and Harland, 2019). Nevertheless, the competency-based approach has become a permanent feature of the higher education system (Biggs and Tang, 2011; Sadler, 2005). Learner-centred pedagogical approaches and the introduction of artificial intelligence have accelerated change in recent years. The flipped classroom model and formative assessment have emphasised the active role of students in learning (Ziegenfuss and Furse, 2021), and artificial intelligence has brought both new opportunities and challenges to the implementation of assessment (Mpolomoka, 2024).

In this study, assessment culture refers to the values, beliefs, and practices shared by the academic community that guide the understanding and implementation of assessment. However, assessment culture is not a uniform phenomenon, rather it is intertwined with several cultural dimensions: pedagogical culture (teaching philosophies and methods), academic culture (institutional traditions and norms), and discipline-specific cultures (field-specific conceptions of knowledge and assessment practices). Pastore (2023) has pointed out that assessment competence and culture in higher education are often poorly structured, and unclear definitions obscure how institutional and discipline-specific contexts influence assessment practices. Since the empirical part of the study focuses on a single discipline, it is important to recognise that the culture of that single discipline can have a significant impact on how assessment is understood and implemented in practice. The opportunities offered by co-teaching should be identified in cultural dimensions. Co-teaching is a collaborative teaching approach in which two or more educators share responsibility for planning, implementing, and assessing instruction for the same group of students in a shared classroom (Rytivaara et al., 2024). It

is based on shared expertise, joint decision-making, and mutual accountability for learning outcomes (Villa, Thousand and Nevin, 2013).

Teachers' perceptions of assessment

Teachers' perception of assessment reflects the organisation-level assessment culture, including the official values, goals and methods. Lam (2019) has explained teacher perception of assessment as the opinions, beliefs and insights about assessment held by teachers. Lam (2019) has cited Xun and Brown's (2016) classification of the two dimensions of teacher evaluation: cognitive and affective. The cognitive dimension represents teachers' understanding of the purpose of assessment. The affective dimension, on the other hand, points to beliefs about assessment. Teacher experience and understanding have a significant impact on assessment methods used by the teachers (Lam, 2019; Xu and Brown, 2016; Vesaranta, 2022). For the purposes of this study, perception of assessment refers to all thoughts, views and subjective experiences regarding assessment as found in the data.

Research on teacher perception of assessment have shown that perceptions mirror existing assessment methods, while also affecting everyday assessment practices (Brown, 2004, 2008, 2011; Halinen, Ruohoniemi, Katajavuori and Virtanen, 2014; Postareff et al., 2012). Xu and Brown (2016) have stated that teacher understanding of the knowledge base and pedagogy guides assessment. Teacher interpretation and guidance framework filter the knowledge base into a personal, potentially shared, understanding of assessment (Atjonen, 2021; Xu and Brown, 2016). It has been argued that opinions and epistemological beliefs about learning can either promote or hinder the adoption of new assessment concepts (Atjonen, 2021). At the macro-level, the higher education system has stipulated the overall direction of assessment concepts which at the micro-level impacts the concrete assessment practices implemented by teachers. Each teacher actively selects assessment methods based on their understanding of assessment, as informed by both macro and micro-level factors (Atjonen, 2021; Xu and Brown, 2016).

In higher education, this involves compromise between university curriculum and the existing assessment culture. The Finnish Ministry for Education and Culture (2014) has underlined that the responsibilities of university teaching staff are defined by career experience and job-title in university-specific contracts. Nevertheless, teaching duties related to planning, student assessment and feedback practices are driven by the teachers' perception of assessment as well as institution-specific assessment cultures.

Teachers' assessment practices

As described above, assessments can be classed on the basis of assessment objective or assessment method. Diagnostic, formative, and summative assessments have been commonly used in this domain (Brown et al., 1997; Crisp 2012). The different purposes of assessment ideally merge into one whole, characterised by dynamic diagnostic, formative and summative assessment practices. This can be referred to as interactive assessment (Crisp, 2012; Maunumäki, 2021).

Sustainable assessment has emphasised the link between assessment and the student's own self-evaluation and self-study skills (Boud and Molloy, 2013; Hounsell, 2007; Maunumäki, 2021). According

to the principles of sustainable assessment, the relevance of assessment is seen as a much broader process with student participation. Assessment should steer the student proactively and in such a way that guides self-learning (Boud, 2014). Assessment practices have also impacted the language of assessment with competence emerging as a keyword (Mäkinen and Annala, 2012; Maunumäki, 2021). As a result, higher education teachers have had to change their assessment practices so that they provide the student with an opportunity to evaluate their progress and assess how objectives have been met. Central to this is active participation by students in the assessment process, in such a way that it is useful to them as they further their studies, graduate and continue in work-life (Boud and Falchikov, 2006).

Higher education assessment methods have varied depending on the teacher, they include essays, projects, portfolio work, research papers, multiple choice exams or open-ended question exams, presentations or practical demonstrations. Activities can be designed for individuals, pairs or group work. Teachers can also employ self- or peer-assessment (Brown et al., 1997). If the teacher views assessment as a separate, self-standing part of the teaching-learning process, emphasising the amount of content learned, then there is a risk that assessment is purely summative and promotes information repetition. If, on the other hand, the teacher regards assessment as an integrated part of the teaching-learning process, then their assessment practices are likely to emphasise formative assessment as well as knowledge application and problem solving (Postareff et al., 2012; Samuelowicz and Bain, 2002; Watkins, Dahlin and Ekholm, 2005).

Data and methods

In this study, we analyse our personal experience as university teachers of learning assessment and its implementation in higher education settings. We use an autoethnographic data to study narratives regarding assessment culture, perceptions and practices. The data was collected using a personal diary between February and November 2022. The diaries were intended to encompass all matters related to the course assessment. This entailed a free-style writing approach, covering the periods before, during and after the assessment process. At this point, the utilisation of the data for the study was not yet determined. A decision regarding this matter would be made after the preliminary reading had been completed. We each wrote about the implementation of learning assessments during our first semester teaching at the same university. The diaries were 5-6 pages length. Through our writing we aimed to process both conscious and subconscious aspects of our experience (Ellis, 2009; Sparkes, 2000) and thus understand the experiences behind the phenomenon (Kuusela, 2020). It is noteworthy that the knowledge that others may read the diaries may have influenced what was recorded in them, potentially leading to the removal of deeply personal thoughts from the text. This is the case despite anonymisation and the assumption that only the writer would be aware of the identity of their own writing.

After the semester ended in November 2022, the diaries were combined into one document totalling 5515 words. At this point we were each able to read the experiences of the other researchers. Following the preliminary reading, the presence of observations pertaining to the assessment processes of novice university teachers within the diaries was noted. These observations were identified so that they can

be used as data for the study. An autoethnographic approach used in collecting the data enabled us to describe personal experiences systematically, to use personal experience to understand cultural experiences (Ellis et al., 2011). It provided a way to model how researchers' own experiences can be perceived and brought into a broader context through research (Ellis, 2009). The aim of our research is not to declare how evaluation should be carried out, but to open up an ethical debate about the phenomenon being studied and the possibilities that the phenomenon offers for future solutions (see Ellis, 2009).

The data has been analysed with content analysis using Constructivist Grounded Theory (CGT) (Charmaz, 2014). CGT is an extension of the Grounded Theory (GT) method. In CGT analyses are done with the help of existing research and theories, as opposed to GT where findings are discovered from the data (Glaser and Strauss, 2017; Charmaz, 2006). Our analysis process specifically utilised CGT tools like structured open and axial coding as well as the continuous reflection on the theoretical framework of assessment culture of higher education, teachers' perceptions of assessment and teachers' assessment practices (see Lavanti, Harju-Luukkainen and Kuusisto, 2023). Furthermore, the research team engaged in a collective discussion of their findings throughout the analysis process.

We analysed the diaries for meaningful expressions that related to assessment culture, perceptions and practices; these were then classified according to the connections identified. The second author was responsible for the analysing, however, analyses and results were collectively discussed with all authors, as will be explained further below. The categories for coding were derived from the data itself. A word document was employed to create tables for the data management. Subsequently, the extracted codes were grouped into thematic categories (e.g., Elo and Kyngäs, 2008; Charmaz, 2014). The inductive approach facilitated our analysis in identifying conclusions from the unrestricted data (Bengtsson, 2016). Our inductive analysis, which was based on open coding, category creation and abstraction (Elo and Kyngäs, 2008), led to the conclusion that Table 1 illustrates our coding process.

Table 1: Examples of coding: open coding, category creation and abstraction

Continuous reflection between the research team and the theoretical framework	Open coding: Assessment is just really difficult Of course, the course should be assessed according to some criteria What happens if the criteria does not work?
	Axial coding (categorisation): Teacher assessment competence
	Selective coding (abstraction): Assessment competence

In order to facilitate our coding process, we created conceptual headings based on the assessment culture of higher education, teachers' perceptions of assessment, and teachers' assessment practices. These headings were used to group the data from the open coding phase to the abstraction phase. During the categorisation process, we merged similar categories in order to identify key themes within

the transcribed data. This allowed us to establish preliminary categories which were further refined by merging similar ones, thus leading to the distillation of the main themes from the data. In accordance with the methodology outlined above, we proceeded to address the research problem. During the coding phase, we conducted a continuous reading of the transcribed data, taking notes on the headings. This process enabled us to develop data-driven codes with the help of the theoretical framework. Our process led to the merging of the categorised findings into three themes: assessment culture, assessment concepts, and assessment practices.

Findings

This study investigated university teachers' perceptions of learning assessment through autoethnographic data produced by the co-authors of the study. Data was analysed using content analysis by CGT. The research question in this study is: "What are the perceptions of novice higher education teachers regarding the implementation of assessment in university settings?". The findings are based on previous research of learning assessment and research group discussion throughout the analysis process. These led to three main themes about teachers' perceptions of assessment, under which the results are divided. These themes are assessment culture, assessment concepts and assessment practices (Table 2).

Table 2: The sub-categories of teacher perceptions of Finnish university teachers' assessment in higher education.

Assessment Culture	Assessment Concepts	Assessment Practices
Teachers autonomy	Ethics of assessment	Formative assessment
Previous assessment experience	Assessment structure	Summative assessment
Role of co-teaching	Teacher assessment competence	Multifaceted assessment

Teachers' perceptions of assessment culture

In this section, we describe the perceptions of three novice higher education teachers regarding the culture surrounding competence assessment in university. According to findings, assessment culture consists of teacher autonomy, previous assessment experience and the role of co-teaching.

Teacher autonomy was described as the possibility to choose how to implement assessment solutions and to decide on what basis the teacher chooses to implement assessment during the course. The teachers' shared values and belief system were understood to promote the implementation of equal assessment across courses, though a degree of tension was identified among the teachers concerning the practicalities of implementing equal assessment.

Each teacher's own associations and personality impact assessment, as do the kind of criteria they use to assess. (02)

I set a common objective and goal to work towards. I intended this to ensure that I work equally and ethically too— so I would only assess what I had already set out in the objectives. (01)

University teachers consider that previous assessment experience refers to both how the teachers' competence has been assessed previously, as well as beliefs and assumptions about assessment. It was noted that perceptions are born of experience and they, in turn, affect the implementation of assessment. University teachers felt that previous assessment experience bolstered the teacher's work in assessment development.

It was a relief that having just graduated from university I was able to draw on relatively recent experience and remember how my own courses were assessed. For most courses, it was clearly stated what would be assessed and the weighting of assignments. It was far more pleasant to participate in these courses, knowing how the grades would be awarded. (02)

Co-teaching was regarded as a good resource. Working alongside teachers with more knowledge, experience and know-how was seen to make the assessment process easier. University teachers noted that co-teaching was, however, seen to create some tension when considering fair and equal assessment, since jointly prepared assessment criteria must work in practice regardless of which of the course teachers is assessing. Nevertheless, it was felt that overall co-teaching eased the practical implementation of assessments.

One of the things I appreciated about assessing the course with my colleague was that it lightened the load; we shared assessment work evenly between the two of us. In trickier cases, I was able to benefit from [her] support. I wasn't left to make tough decisions on my own. (02)

Teacher perceptions of assessment concepts

Teacher views of assessment concepts include the ethics of assessment, assessment structure and teacher assessment competence. University teachers perceived that the assessment implementation raises ethical questions such as perspectives on the openness and transparency of assessment. The teacher's openness both in explaining the basis for assessment and in their work throughout the assessment process was considered to bring transparency. University teachers increases considered this to positively impact student confidence in the use of public authority by the teacher during the process. Written feedback on competence assessments was seen to help students see the interrelation between assessment and objectives; thus, it lets the student gauge if the assessment has, in this regard, been consistent. Additionally, it was perceived that ethical considerations were also apparent in the goals of equality and fairness through the assessment process, so course assessment only assessed what had been explicitly stated in course objectives.

Assessment needs to be open and transparent. Assessment cannot be without objectives. The starting point for course planning and assessment implementation is competency goals. Assessment should not be a separate, stand-alone part of the course. (03)

Assessment development was seen to cover the progression of the planning process towards a common goal and course objectives. For university teachers, clearly structured assessment in line with course objectives as well as steady progression of learning and assignments towards these, were seen to help students understand the purpose of assessment during the course. Such clarity of assessment structuring facilitated implementation and furthered student learning. It was observed that as teacher assessment skills developed, their assessment goals became clearer. The objectives were formulated in a more concrete and detailed way, which made them easier for students to understand.

My aim is to create comparable criteria for each course that I teach, so that I am able to assess my students fairly and honestly. (02)

We set out to plan the course based on the competency objectives. Our goal is to build a clear assessment for the students – with the kind of activities that further student learning. (03)

Assessment of competency was seen as one of the key starting points; student competency is demonstrated and measured based on their critical thinking as reflected in answers, and their ability to integrate theory with practice. For university teachers course specific assessment criteria was seen to guide the work of both students and teachers. In completing learning assignments, the criteria gave students the opportunity to work towards their individual grade goals. Moreover, the criteria provided the teacher with clear guidance as to what to consider when grading. This was seen to provide a good foundation for the teachers' work and gave increased confidence in their role as assessors. At the same time, however, it was noted that the lack of flexibility in criteria was a challenge. In practice, criteria did not correlate perfectly with competency objectives which then impacted assessment implementation. In such cases, teachers had to explain to students the reasons for their grades. It was noted that with experience, the implementation of criteria-based assessment becomes easier, and the definition of level-appropriate criteria becomes clearer.

With hindsight, I realise I should have made criteria a little stricter, so that students would have had to work a little harder to achieve a top grade. I think some of them got a good grade with relatively little effort this time. (02)

University teachers found that implementing assessment of competency was somewhat challenging. Solutions for implementing various assessment methods were considered from the perspective of both teacher workload and student learning.

I wonder if an essay or an exam might have been a clearer indicator of competency – but would they have given me a good representation of what they can do? A clear learning activity or an exam would have been the easiest for me. Still, I chose a different solution even though it was a challenge for me as an assessor. (01)

University teachers perceived that assessment competences were lacking in some areas. Group work assessment was considered particularly challenging, with teachers noting that individual students' competences and growth remained unclear. At the same time, it was noted that in some cases the targeting of assessment was unclear: how and according to what criteria can something that is essentially unmeasurable be assessed? This was particularly an issue when assessing attitude and

motivation which was seen to be ethically problematic, it was, however, specifically growth in these areas that was considered for assessment.

The demonstration of motivation through participation is one assessment principle. But that is not the product itself. Even if what is written on the paper is a “correct assessment”. How do I assess internal learning and insight gained from a subject teacher’s point of view? (01)

Furthermore, formulating assessment criteria derived from the objectives was seen to be difficult. In some cases, gaps in this area were only identified at the end of the course when the assessment was given. This confused students, as they did not have a sufficiently clear understanding of the assessment criteria at the start of the course.

Do assessment criteria really help? Are the criteria sufficiently clear for both student and teacher? What happens if the criteria are flawed, but we only notice the pitfalls at the point of assessment? (03)

University teachers perceived that their assessment literacy grew during and after the course. Most significant growth was noted in practical implementation – what and how each course should be assessed. Learning and assessment were seen to be inextricably linked. It was understood that assessment literacy was reflected in the development of teachers thinking about assessment goals. Additionally, experience of successful assessment implementation was seen to build overall assessment competence, though previous assessment experience continues to drive teacher thinking. Two types of experience were noted to impact current thinking – on the one hand, teachers’ own experience of how their competence has been assessed, and on the other hand experience of assessments previously implemented by the teachers.

In the future, it would be good to consider more carefully the weighting of course work over the whole course. This would have helped to better balance theoretical and practical aspects of the course, and to strengthen my students’ academic skills. (03)

Teacher perceptions of assessment practices

Teacher perception of assessment practices covered formative assessment, summative assessment as well as multifaceted assessment.

Formative assessment was carried out by directing learning towards course objectives and through self-assessment. Through formative direction teachers focused on course work already in progress, encouraging students to identify the strengths of the project and areas for improvement. University teachers perceived formative assessment as meaningful, relevant and supportive of the learning process. It was noted as being an integral part of the teachers’ work. University teachers also considered the role of formative assessment in the overall assessment of student competence. The inclusion of formative assessment facilitated multifaceted assessment. Formative assessment was seen to provide guidance for students. Carefully formulated formative questions guided students in their thinking and learning.

What kind of questions should I pose to students? What do I want them to pay attention to and think about through this formative assessment? The questions I ask and how I ask them are really very important. (03)

University teachers identified two types of student competence assessment: individual assessment and group assessment. Individual competence assessment was considered from the point of view of personal skills and strengths that were displayed during course work. Students were then asked to write a reflective piece on the development of their thinking and learning during the course. In group assessment the competence of the group as a whole was assessed and its effect on the summative course assessment.

During our first session we went through the course timetable etc. and at the end I introduced the grading criteria. It's really quite clear when presented verbally like that. However, I had not considered how group work should be presented in the diagram. (01)

It was seen that the summative assessment was carried out as far as possible through multifaceted assessment. Competence assessment was carried out, for example, by assessing lesson plans made by students; different reflective writing assignments e.g. reading reports and reflections. The course grade came from group work and part from individual assignments, overall, this was seen to be an effective approach. In summative assessment attention was given to ensure that the assessment was in line with the overall course objectives.

Discussion

Through this study, we have investigated higher education teachers' perception of university assessment culture, assessment concepts and assessment practices. In the changing context of higher education assessment, demands for higher levels of teacher expertise require that teachers critically examine their assessment literacy (cf. Atjonen, 2023; Nieminen, 2019) specifically in relation to strong, autonomous pedagogical expertise in competence assessment (cf. Looney et al., 2018).

Firstly, we understand co-teaching as a practice develops teachers' assessment literacy and supports sustainable learning and teaching. Through collaborative dialogue, co-teachers refine their assessment thinking, integrate prior experiences, and engage in self-reflection on teaching and social justice. Literature confirms that previous assessment experience shapes future practices (Lam, 2019; Xu and Brown, 2016; Vesaranta, 2022), while collegial discussions foster transparency and fairness (Villa et al., 2013). Shared principles and goals underpin an equitable assessment culture, ensuring consistency for all students. When assessment was active and dynamic, co-teaching proved to be a valuable resource and is particularly recommended for novice university teachers (Atjonen, 2021).

Secondly, we saw that assessment being clearly based on course criteria and objectives increases the transparency, reliability and sustainability of competence assessment. When this is the case, it provides structure for teachers as they work and guides the student learning process towards competency objectives. This conclusion is supported by Boud (2014) who notes that sustainable assessment is planned and structured to be a guiding and participatory process in which students are proactive (see also Singh, Meena, Khandelwal and Dangayach, 2023). Our research highlights the importance of the

wording of assessment criteria in the awarding of grades. Therefore, the criteria must clearly correspond with the course objectives and be practical. Criteria and objective-based assessment was, however, seen to be demanding for the teacher, requiring the precise definition of criteria to match course objectives. If the definition of the criteria is unclear, any student demonstration of skills and competence is disconnected from objectives. Nevertheless, it is our view that the implementation of criteria-based assessment is relevant and essential for assessment to be fair, consistent and transparent. It is our opinion that there is a need for the further development of such assessment culture as a part of university pedagogy. Nieminen (2021) examines this same issue, highlighting the role of assessment culture in sustaining the student learning process.

Thirdly, formative assessment should be seen as a significant tool that facilitates a multifaceted approach to competency assessment and to enhance social justice. At the same time however, the question of how to integrate formative assessment in summative assessment remains a challenge to teachers. According to Birenbaum (1996), researchers have long been aware of the pressures to change assessment culture towards a more holistic approach that consolidates the learning process (cf. Black et al., 2004; Brown et al., 1997). However, it has been noted that teacher perception of assessment determines assessment methods used. If the teacher emphasises appraising student knowledge, then their assessment will be based on summative methods. If the teacher emphasises the learning process and its role, then their assessment methods will be formatively led (Postareff et al., 2012; Samuelowicz and Bain, 2002; Watkins et al., 2005). Based on this research, we see a need for more assessment training for teachers at every stage (undergraduate and in-service training) in order to achieve consistent integration of formative and summative assessment. As a solution we propose the adoption of a competence-based approach to learning assessment in higher education. This increases student participation through formative assessment. Thus, commitment to the course is improved and learning is deepened. Course planning should be based on competence goals, with teachers adapting their assessment methods to consolidate the student learning process (cf. University of Jyväskylä, 2023).

When considering the limitations of this study, it should be noted that autoethnographically produced data reveals very personal thoughts. The awareness that another author will read a personal diary may lead to overly personal matters being omitted from the diaries. We acknowledge that memory and recollections are often inaccurate and subjective, meaning events may not be reported as they truly occurred (Ellis et al., 2011). Experiences can only be interpreted from limited perspectives, when data has been produced using autoethnography (Ellis, 2009). We also understand the aspect of autoethnographic data that the experience under study cannot be fully captured - it can only be interpreted from limited and partial perspectives (Ellis, 2009). When generalising the findings of the study, it is important to note that the data was collected from the authors of this research article, all of whom were analysing and writing this paper. This may have affected the authors' views when they were analysing and interpreting their own diaries. Furthermore, the amount of data should be considered when generalising the findings. It is imperative to acknowledge that in the context of autoethnography, the concept of generalisability is viewed through the lens of the reader. The reader, therefore,

undertakes an analysis of the text from their individual perspective, determining the extent to which the narrative has a relevance or offer to them. If there are aspects of the story with which they can identify, or whether the story brings insight to unknown cultural practices and processes (Ellis et al., 2011), then the reader may find the following aspects of the findings to be interesting.

Conclusion

Teacher perceptions of assessment are reflected in daily assessment practice (Brown, 2011; Halinen et al., 2014; Postareff et al., 2012). Moreover, shared assessment perceptions build an assessment culture within which critical reflection on one's own performance is possible (Atjonen, 2021; Xu and Brown, 2016). Nieminen (2021) stresses the need for a university assessment culture that supports student learning. As part of this move, the competence-based approach has been integrated into the higher education system and it has also brought about changes in the emphasis of assessment in university (Biggs and Tang, 2011; Sadler, 2005). Thus, we argue that maintaining a culture of open reflection among university teaching staff is key in continuing to develop assessment implementation and in growing a sustainable assessment culture. Our research findings are also supported by Basheer et al. (2025) which views sustainable assessment as a multidimensional concept that supports lifelong learning, ensures institutional quality, and promotes the broader mission of higher education. Based on the findings of the study, we suggest that it would be valuable to study further how co-teaching is implemented as well as how it contributes to teachers' assessment competences and how these affect equality and social justice in higher education.

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