Supporting Initial Teacher Education Students Assessment Literacy and Capability Development.

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ABSTRACT

Recent curricular reform in Ireland has utilised classroom-based assessments as part of the national assessment strategy at the junior level in post-primary education. This calls for teachers to exercise their judgement in relation to their pupils' capability which is recorded for the certified national award of the Junior Cycle Profile of Achievement (JCPA). Ensuring effective assessment in this regard requires the development of assessment literacy and capability in the teaching cohort that commences on the continuum of teacher development at the initial teacher education (ITE) phase. Teacher judgement in assessment is reliant on multiple factors that impact on the assessment outcome. It is therefore important to design components of ITE programmes that provide opportunity to strategically develop this capability for implementation in practice. This case study presents an initial analysis of the practices and experiences of (n=87) Initial Teacher Education (ITE) students as they engage in a peer assessment activity that is part of an assessment literacy and capability development strategy on a technology education ITE programme. This was facilitated through the use of Adaptive Comparative Judgement sessions (ACJ). In these sessions, the participants engaged in the establishment of assessment criteria and implemented them in the holistic assessment of peers' work through the ACJ method along with providing formative feedback and making a summative judgement of the quality of the work. The findings present the usefulness of ACJ in providing pre-service teachers a space to develop assessment literacy and capability through the active and experiential learning approach taken.

Key Words: Assessment literacy, Assessment Capability, Adaptive Comparative Judgement

1. INTRODUCTION

The nature and instruments of assessment in schools are experiencing significant change. Such change brings with it the need for teachers to have the literacy and capability associated with assessment to ensure accountability, fairness and purposeful utilisation of assessment as part of their teaching and learning strategies. Recent reform in Irish curricula have emphasised the important role assessment plays in learning and teaching where significant emphasis is placed on formative assessment as a means to support learners' development and progression. This is evident in the introduction of classroom-based assessments (CBAs) that are intended to be formative in nature but also have a summative role as they are used to give a snapshot in time of the learners' capability that is recorded on the Junior Cycle Profile of Achievement (JCPA) which is a national award at the end of the junior cycle of learning (12 to 15 year old students). For the first time, this approach sees teachers in Ireland being part of the national assessment framework through their work and practice in their everyday classroom activities. With this new approach it is critical that the teaching body have the relevant knowledge, skills and dispositions to ensure the intentions of the curriculum and its associated assessment architecture are achieved. The capacity to integrate and use assessment in the classroom to facilitate and evaluate student learning is at the heart of teacher's assessment literacy and capability (Popham, 2004; Popham, 2009; Brookhart, 2011; Xu and Brown, 2016; DeLuca and Johnson, 2017). The journey to the acquisition of these skills begins with the initial teacher education programmes that prepare student teachers for their lifelong journey through the teaching profession. It is accepted that historically assessment literacy development has been poorly addressed in teacher education programmes. (Stiggins, 1999; DeLuca et al., 2013; Xu and Brown, 2016). Within the Irish context, this limitation has received a renewed focus with the publication of CÉIM standards for Initial Teacher Education in Ireland (Teaching Council, 2020). The standards send a clear message in relation to the development of assessment literacy where they emphasise that:

> "Student teachers shall be supported in their development of strategies to support, monitor and holistically assess pupils' approaches to learning and their progress – including effective feedback techniques".

To achieve this goal and meet the standards, ITE providers must strategically integrate the development of assessment literacy and capability over the duration of the programmes of study to achieve accreditation status to graduate student teachers. With this purpose in mind, this paper presents a pedagogical approach that was implemented in the third year of a four-year undergraduate initial teacher education programme to develop assessment literacy. The approach was implemented in a subject discipline specific pedagogy module where there are specific learning outcomes relating to assessment literacy and capability development.

## 2. ASSESSMENT LITERACY DEVELOPMENT IN ITE

The treatment of assessment literacy and capability development in teacher education programmes has been neglected and has had an *ad hoc* level of integration as part of the student teacher learning experience (Xu and Brown, 2016). However, the role of assessment as part of the learning process has become much clearer through contemporary research (Black and Wiliam

1998; Hattie & Timperley, 2007; Sadler, 2009; Schellekens et al., 2021; Hattie, 2023) and thus the need for teachers to become more skilled in relation to assessment is amplified. But assessment is a complex area and in a constant state of flux, responding to policy, school environment and global trends that necessitate the need for ITE providers and student teachers to learn about and embrace multiple purposes and practices of assessment in schools (DeLuca and Bellara, 2013).

With a greater understanding of the role of assessment in teaching and learning, the area of assessment literacy development has been an increasing area of interest with many models and approaches presented in the literature. For this paper we adopt the view of Willis et al (2013, p. 242) who view assessment literacy as "a dynamic context-dependent social practice that involves teachers articulating and negotiating classroom and cultural knowledges with one another and with learners, in the initiation, development and practice of assessment to achieve the learning goals of students". We differentiate assessment literacy from assessment capability as the latter focuses on the enactment of the "know how" assessment literacy in practice from the teacher's perspective. Coombs and DeLuca (2022) explain that assessment capability focuses on the student and their interaction with the teacher to support their current and future learning as opposed to assessment literacy that focuses primarily on the teacher.

Canty et al. (2022) presented an approach to assessment literacy development based on the conceptual framework by Xu and Browne (2016) that highlights the importance of an appropriate knowledge base for the development of assessment literacy. However, it is acknowledged that a strong knowledge base alone is not sufficient for assessment literacy and for effective transfer into capability in practice. Furthermore, teacher beliefs and experiences of assessment have a significant impact on the development of assessment literacy and capability. Deeply rooted conceptions of assessment that are formed from experiences of assessment in school, such as the dominance of summative practices, can negatively impact on developing the ITE student teachers' assessment literacy (Xu and Browne, 2016). Indeed, the multiple challenges to assessment education in initial teacher education programmes are presented by DeLuca and Johnson (2017). With this evident it is critical that ITE programmes develop more strategic approaches to assessment literacy and capability development such that their experiences through the initial years of teaching in schools has a solid foundation to help them interpret and shape their approach to assessment. To address this Willis et al. (2022) present four capabilities that emerged as common to teachers from four countries, Canada, New Zealand, Australia and England. The four assessment capabilities in Figure 1 are presented as dimensions that underpin a beginning teachers assessment decision making.

Figure 1: Four Assessment Capabilities (Willis, DeLuca, Harrison, Cowie, 2022)
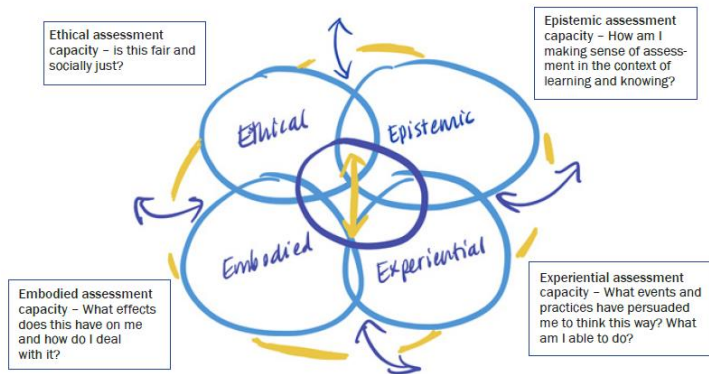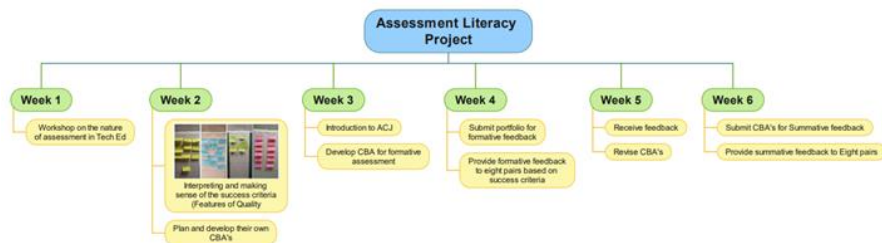
The model proposes that these dimensions provide a basis for a beginning teacher to think and communicate their reasoning in relation to assessment decisions. These dimensions provide opportunity for student teachers and academics to examine their assessment decisions and to gain insight into how they are processing their newly emerging knowledge and skills. It is therefore important that initial teacher education programmes are designed to address assessment literacy and capability development and should provide opportunity for these dimensions to be experienced and explored as part of the initial teacher education experience.

What is clear from the current research is that assessment literacy development is more than the mere acquisition of knowledge and skills in relation to assessment. Teachers' developing professional identities have a significant impact on the implementation of assessment knowledge in diverse contexts of learning. If we view assessment knowledge as independent of other knowledge relevant to teaching and learning then the potential scope of assessment of, for and as learning may not be recognised or achieved. This paper will present how an assessment literacy and capability development task, delivered in a technology subject specific pedagogy module provided opportunity for student teachers to learn and experience assessment across the four capabilities of Ethical, Epistemic, Embodied and Experiential.

3. APPROACH

This study was implemented in a subject discipline specific pedagogy module with learning outcomes relating to assessment literacy and capability development. The approach was influenced by the four assessment capabilities presented by Willis et al. (2022) and by the conceptual framework of teacher assessment literacy in practice (TALiP-model; Xu and Brown, 2016). The module of study was designed to provide experiences and opportunities for student teachers to explore and develop each of the areas of capability through the medium of a learning and assessment task informed by the national curriculum for technology education in Ireland. The task was facilitated through the use of Adaptive Comparative Judgement (ACJ) which was integrated to act as a catalyst and medium for decision making in relation to assessment that are core to assessment capability. An outline of the approach is presented in Figure 2.

Figure 2: A six-week unit on developing assessment literacy

Assessment Literacy Project

Week 1	Week 2	Week 3	Week 4	Week 5	Week 6
Workshop on the nature of assessment in Tech Ed	Interpreting and making sense of the success criteria (Features of Quality) / Plan and develop their own CBA's	Introduction to ACJ / Develop CBA for formative assessment	Submit portfolio for formative feedback / Provide formative feedback to eight pairs based on success criteria	Receive feedback / Revise CBA's	Submit CBA's for Summative feedback / Provide summative feedback to Eight pairs

As part of the ACJ process judges are presented with a pair of assessment portfolios or scripts. They use relevant criteria as their basis for their judgement of each portfolio and then pick a winner from the paring based on the portfolio they think is better. The collective aggregation of all the judgements by judges on the portfolios then creates a rank order of quality of the work within the judging session as determined by that judging cohort. The participants (n=87) were in their third year of a four-year concurrent Technology Education initial teacher education programme. As part of the learning and assessment strategy in the module, student teachers created a sample CBA task that followed the guiding principles for assessment set out by the curriculum. At an intermittent stage in the development of the CBA task participants completed an ACJ session that was formative in nature where in their role as judges they practiced giving feedback to their peers on their work to date. Following this they had a further week to develop their work for final submission. After submission they completed another ACJ session but this time the assessment was more summative in nature where student teachers had to identify how the work addressed the features of quality associated with the task and benchmark it to the levels of attainment for the CBA i.e. Yet to meet expectations, In line with expectations, Above expectations or Exceptional. On completion of the ACJ sessions students completed a reflective activity through an electronic open-ended questionnaire that captured their experience and reaction to the CBA assessment task. Data analysis followed Clarke et al. (2015) guidelines for conducting thematic analyses.

4. FINDINGS AND DISCUSSION

For the purposes of this paper, the focus is on student teacher reflections and how they relate to the four capabilities presented in Figure 1. The data analysis is in its early stages and thus this will be a broad overview of how the approach created the opportunity for students to engage with and experience aspects of assessment that relate to the four capabilities of Ethical, Epistemic, Embodied and Experiential. The approach taken in the study used ACJ and peer assessment as a central medium for students to experience assessment both from the perspective of an assessor (teacher in class) and a learner. The participants created an assessment output in response to a typical CBA assessment task where they interrogated the features of quality (criteria) from the perspective of a learner. They provided peer feedback at the midpoint of the task to help learners progress their work and at the end of the task to help learners to focus on what they need to work on for future learning. During this time the student teachers were also learning about the nature and role of feedback in learning and used ACJ activities to critically reflect on both the feedback that they gave (teacher perspective) and that they received (learner perspective). In the second

ACJ session the students also had to benchmark the work using the national standards and features of quality. These standards and features of quality are the instruments available to teachers when they evaluate and assess their students CBAs in practice for their JCPA award. This required the student teachers to make decisions on the level of work being assessed drawing on their emerging construct of quality in relation to capability in the subject discipline.

4.1. Experiential assessment capacity

The ACJ activities were a catalyst for discussion in tutorials and lectures throughout the semester with many dilemmas experienced by the students being resolved through analysis of their actions or lack of them. The following are some indicative comments that support this:

> My thoughts on making judgments on my peer's work was quite unusual. I felt my feedback given early on in the semester was very poor. Until this module we had gone into detail on summative and formative feedback, I know the cons and pros and when to use each one, but I realised after giving feedback I was poor at actually doing it. I was looking back at my feedback being one or two sentences long. It also occurred to me I will be giving a lot of feedback to students next semester (on school placement), so it is an area that needs immediate work. (Participant 19b)

> This replicated a classroom scenario. I was also able to see where my own ability to give feedback was at and how much I had learned from labs earlier on in the module as we had done activities to come up with our own descriptors for the features of quality. (Participant 7a)

> I began to understand how my feedback could help the student to learn and develop. I sat myself into the student's shoes and imagined what feedback would I like to receive and in what way would I find it easiest to decipher and make use of the feedback. (Participant 20a)

These comments indicate that the approach impacted on the student teachers as they reflected on their development as a teacher because of the approach in the module of study. The experience of having to complete a live assessment task, giving feedback that was received and interpreted by learners and making an evaluative judgement that would contribute to the rank order of quality were all significant experiences for the student teachers in the module. This helped them grapple with new ideas in relation to assessment and project forward to how they may approach assessment with their own classes in the school setting.

4.2. Ethical assessment capacity

Teachers need to be aware of the ethical responsibilities that they have in relation to assessment. Xu and Browne (2016) highlight how teachers are required to know how to work towards equity, non-discrimination, inclusion, and social justice. The ethical issue came to light early on in the peer assessment activity as the work was not anonymised. This was purposeful as these student teachers need to become used to assessing their own pupils in the future which may include their own children, the children of colleagues, friends, neighbours etc. This provides an ethical

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dilemma around equity, fairness and bias in their judgements. The following are some indicative comments from the student teachers in relation to this issue:

> I also found it strange when I had to correct a CBA belonging to someone I am friends with but I had to be honest and give all of the CBA's a fair trial without being biased. (Participant 4a)

> Grading peers work can be challenging, particularly those whom you may be friendly with. I feel as though I managed to avoid grading with bias which is something I am pleased about. (Participant 15a)

> The experience of making judgments on my peer's CBAs was quite a complex process and it required me to be careful in my considerations and not be biased in my approach, I found it more difficult when trying to give completely unbiased feedback to friends of mine but made my best attempt at looking at their work for the work alone. (Participant 22a)

While the majority of examples in relation ethical issues related to evaluating the work or friends the process did raise the issue of bias and personal decisions that could impact on the validity of assessment. In some instances, the students had to evaluate their own work (Participant 40a) against the work of one of their peers and decide on which piece of work was better. These experiences and dilemmas are helpful in preparing student teachers for classroom-based assessments of their own pupils.

4.3. Epistemic assessment capacity

This aspect of assessment capability relates to student teachers making sense of assessment as part of learning and knowing (Willis et al. 2022). At times the participants reflected and questioned themselves (Participants 13a and 46a) where they begin to see the power of peer assessment as part of a pedagogical strategy to support learning.

> One of the things I found quite interesting about the judging process was the broad range of mixed ability within the class. This was something I was aware of from my school placement as I had to cater for mixed ability in my lessons day-to-day. Because I had much younger students, their learning was not as autonomous as us, third level students, and therefore my perception of mixed ability was different prior to this judging session. By engaging with this activity, I have come to realize just how varied mixed ability can be and especially when learners are given lots of autonomy. (Participant 13a)

> Seeing the aspects of my peers work that I feel were better than mine as well as some creative ideas I never even thought about implementing showcased to me the multiple possibilities that 1 assignment can achieve. I then pondered on how similar this was to my previous school placement of assessing my students work and the many different ways my student interpreted the information I had given them to produce an assignment. I will aim to utilise this experience of peer assessment to better my own abilities in assessing student knowledge in my next school placement. (Participant 46a)

Other participants showed evidence of recognising the importance of rubrics and criteria in forming their judgements but acknowledged that how they are interpreted and actioned needs to be practiced and developed. They also experienced the challenge of assessing different approaches to the same assessment task and using the features of quality to form their judgement. Some student teachers struggled with this as in the example of Participant 30b.

> By giving feedback to my peers using the ACJ process I felt as though I improved my understanding of the features of quality and what underpins each feature. (Participant 13a)

> Personally, I think that the most important take away from this activity is starting to build on my own ability to make accurate assessment judgements, and the only way to get better at this is to get exposure to a range of different samples and the features that enhanced them. (Participant 33a)

> I found the overall experience a difficult task following the features of quality and assessing each CBA in line with the features of quality. I found myself trying to identify whether or not the criteria was met to award one descriptor over another. (Participant 30b)

4.4. Embodied assessment capacity

It is acknowledged that assessment is an activity that will impact on the emotions of both learners, teachers, parents, school leaders etc. It is evident from the student reflections that this was experienced during the module of study. Many participants referred to how difficult or time consuming it was to engage with the process meaningfully but indicated that it was important to do so. It was also evident that they wanted to help learners progress through their feedback, and they worked to ensure that the quality of their feedback improved in the second judging session. They were also conscious of the impact that their feedback may have on the learners and sometimes struggled with the best way to communicate their message such that it would not demotivate or upset the recipient. Some indicative comments from participants reflect this:

> I found the overall experience very exhausting and hard. I found that it is easy to give the positive feedback on what the student has completed, but I found it hard to provide appropriate wording of the feedback when I identified the weakest elements of the CBA without being overly harsh because I don't want to knock someone's confidence. (Participant 24a)

> On a personal level as someone who holds myself to quite high standards I did question as to the level of work I was expecting from my peers and wonder if I was being too harsh in cases. (Participant 15a)

5. CONCLUSION

The analysis of the data from this study is in its early stages and this paper gives just a snapshot of the initial analysis. The work hopes to inform future innovations in the development of assessment literacy and capability on initial teacher education programmes.

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