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The Role of the Teacher as Assessor: Developing Student Teachers' Assessment Identity.

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Abstract: The closure of schools across the globe due to the Covid-19 pandemic had the potential to have a catastrophic impact on a fundamental pillar of initial teacher education: school placement. This paper maps a new "site" of professional practice for "school placement" called "Teacher Online Programme" (TOP) using Xu and Brown's (2016) conceptual framework of teacher assessment literacy in practice. Its main focus lies in the integration of the assessment baseline knowledge into the programme under the seven elements proposed by the framework. A case study methodology informed the approach taken. Data was collected and analysed in three phases: the Teaching Online Programme Year 3 (TOP3) initiative; Studentteacher and Tutor Ouestionnaires and Student-teacher and Tutor focus group interviews. The findings highlight the complex and multifaceted process of building teacher assessment identity which nests in the larger purposes for education. They encourage an emergentist and collaborative approach to assessment knowledge and view working in communities of practice as a threshold for creativity and innovation.

Introduction

In March 2020 the world ground to a "screeching halt" (Latour, 2020) in response to a global pandemic. For many universities who engage in the work of Initial Teacher Education (ITE), the closure of schools presented them with a momentous task and challenged all to reimagine many of the long established practices (Donlon, McDonald, Fitzsimons, & Sexton, 2020). Over the course of their four year programme, student-teachers on the Bachelor of Religious Education and English/History/Music (BREHM) degree in Dublin City University, Ireland, must complete a minimum of 30 weeks' onsite placement in a number of partner post-primary schools (Teaching Council, 2020). Schools tightened up on the number of "visitors", which meant that the student-teacher placements were limited and tutor assessment visits to schools were not possible. A radically new placement experience would have to be designed so that student-teachers could meet the professional requirements of the Teaching Council (2020) and the University (Mohan, McCoy, Carroll, Mihut, Lyons & McDomhaill, 2020). This was a catalyst to reimagine Teacher Assessment Identity (TAI) through the lens of Xu and Brown's (2016) conceptual framework of teacher assessment literacy in practice. The question that challenged the team was: "How can we assist emerging student-teacher assessment identity through a new site of professional practice called Teaching Online

Programme (TOP)?" Whilst the initiative employed the full conceptual framework of Xu & Brown, (2016), this paper focusses solely on the first component, the integration of assessment baseline knowledge under the seven elements proposed. Further papers will follow on the other components of the framework.

Teacher Identity

Internationally, researchers have highlighted the difficulty in adequately defining identity as a concept. The challenge lies in its relationship with words such as self, subject and subjectivity (Biesta, 2017). Literature suggests that identity revolves around the notion of self which is dynamic and multifaceted. This 'self' is "the meaning *maker* and they see identity as the meaning *made*, even as the self and identity evolve and transform over time" (Beauchamp & Thomas, 2009, p.179). Identity is not fixed but is rather a relational phenomenon (Beijaard, Meijer & Verloop, 2004) which transforms in a socio-cultural context with others and the world (Dewey, 1938). Literature further offers insights on how the role of emotion, the power of stories, reflection, and agency can help or hinder the building of identity (Beauchamp & Thomas, 2009).

Teacher identity is depicted as a multi-faceted, complex and socio-cultural process that takes place over the life time of the teacher (Looney, Cumming, van Der Kleij & Harris, 2017). It includes teachers' beliefs (Xu & Brown, 2016), feelings (Beijard et al, 2004), selfefficacy (Bandura, Freeman & Lightsey, 1997), agency (Day, Kington, Stobart & Sammons, 2006) and dispositions (Dottin, 2010). The challenge for BREHM was to ensure that the new "site" of teacher placement could aspire to contributing to this multifaceted identity. The complexity of teacher identity lies on a socio-cultural continuum of experiences that are developed through personal, professional and political encounters with mentors, colleagues and pupils (Mockler, 2011). Any proposed change of placement "site" dictated that former and proposed practises should be interrogated to ascertain how they expand this continuum of experiences. Teacher identity is a non-linear progression which contain the historical experience of the teacher, their present professional contextual and cultural restraints and agency (Day et al, 2006) and their underpinning hopes for how they might become a teacher in the future. It empowers "the narratives that teachers create to explain themselves and their work" (Looney et al, 2017, Connelly & Clandinin, 1999). The urgent question lay in whether the present programme proffered encounters that moved these narratives forward.

Curriculum and Assessment Changes in Ireland

Ireland has undertaken monumental curriculum change for post-primary (secondary) education in the form of the Junior Cycle (JC) (NCCA, 2012). The JC curriculum was reconceptualised as a process that focussed on learning outcomes and designed to ensure the centrality of all pupils in their learning (NCCA, 2015). It proffered a new rationale, framework and pedagogy (Dempsey et al, 2021). It was evident that the JC curriculum was proposing more than "qualification" which provides pupils with the knowledge, skills, understandings and dispositions so that they can "do something" (Biesta, 2010, p.20). The JC wished to move beyond competiveness and measurement (Biesta, 2010, p.12). The "socialization" aspect (dealing with identity and what am I) and "subjectification" (exploring who am I and how am I becoming) were now seen as essential purposes for education to balance the focus on qualification alone (Biesta, 2013). This new focus on the "subject" rather than the "test" has implications for how assessment is viewed and the convergence of

formative assessment (Wiliam, 2011) and social constructivist theory (Vygotsky, 1978) underpinning the JC curriculum, propelled the role of the teacher as assessor into new territory. These purposes for education encouraged the emergence of a specific identity for junior cycle and its pupils. Simultaneously, it prompted a new exploration of the role of the teacher within this identity.

Like many of the "new curricula" (Priestley and Philippou, 2018), the JC promoted the teacher as a dynamic and agentic curriculum maker. The question of how student-teachers would make sense of this new role as curriculum maker and "not fall back on existing practices and ways of thinking" (Priestley et al., 2018, p.152), was to the forefront of our re-imaginings. In particular, the JC reform shifted the role of the teacher as assessor from a narrow focus on summative assessment (Junior Certificate) to a dualistic approach whereby both formative assessment (Black and Wiliam, 2009) and summative assessment (Biggs, 2006) are at the heart of supporting teaching and learning (NCCA, 2015). Assessment purposes, processes and practices had changed in the JC (Doyle, 2019) and pointed to a whole new narrative for the teacher as assessor.

In 2020, the senior cycle Leaving Certificate summative examination, which is the threshold to third level education in Ireland, was cancelled due to the Covid-19 pandemic. Teachers for the first time in Ireland were asked to grade and rank their post-primary pupils as part of the Calculated Grades 2020 for Leaving Certificate (Doyle, Lysaght and O'Leary (2021). The professional assessment judgement of teachers was put under scrutiny and had considerable implications for ITE and the preparation of teachers as assessors. Repeatedly, the question that needed to be considered was whether our graduates were prepared fully in their capacity and identity as assessor to make such significant professional judgements and be accountable for their assessment practices?

Teacher Assessment Identity

The changing context in Ireland drew the BREHM team to the importance of the teacher's role as assessor and the development of their assessment literacy. Xu (2016) defines assessment literacy as "a basic understanding of educational assessment and related skills to apply such knowledge to various measures of student achievement" (p.2). Looney et al. (2018) proffered a reconceptualization of teacher assessment literacy entitled "Teacher Assessment Identity" (TAI). TAI is made up of "beliefs about assessment, disposition towards enacting assessment, and perceptions of their role as assessors" (p. 442). Smith, Hill, Cowie and Gilmore (2014) noted that student-teachers' thinking and beliefs about assessment are often dominated by their prior experience of formal summative assessment. These conceptions of assessment have a backwash effect on pedagogy and this limited understanding informs their identity in their assessment story. The BREHM team recognised that TAI was a component of teacher identity that merited little attention previously in the programme due to the being overshadowed by the emphasis on learning (Biesta, 2010).

Theoretical Framework

The Year 3 Teaching Online Programme (TOP3) focussed on the theoretical framework of teacher assessment literacy in practice proffered by Xu and Brown (2016). Whilst the framework offers seven important components contained in teacher assessment

literacy¹, this paper is mainly concerned with the first component which is the baseline knowledge of assessment. Assessment literacy begins with a basic knowledge not only of a teacher's disciplinary and pedagogical knowledge but with a range of different approaches to assessment; knowledge of assessment purposes, content and methods; knowledge of grading; knowledge of feedback; knowledge of peer and self-assessment; knowledge of assessment interpretation and communication; and knowledge of assessment ethics. To ensure all elements were explored, both theoretically and in practice, a collaborative approach across three schools in the Institute of Education in DCU was adopted: The School of Humanities, The School of Policy and Practice and The School of STEM Education, Innovation & Global Studies.

The focus previously had been a somewhat disjointed approach but in the reimagining of TOP3, the knowledge elements make sense, not as separate entities, but rather were offered in the programme as inter-connected and dynamic (Xu and Brown, 2016). The task for the team was to empower student-teachers to understand assessment knowledge as holistic and to expand their assessment identity. The following table offers a summary of how the team collaboratively connected each module with Xu & Brown's (2016) baseline knowledge:

| Xu & Brown's Assessment Baseline Knowledge | Schools in the Institute of Education | Building Assessment Knowledge |
|---|--|---|
| Disciplinary Knowledge | School of Humanities | Theology, scripture, morality, dogma and religious education and electives. |
| Pedagogical Content Knowledge | School of Policy & Practice | Pedagogical content knowledge: |
| Knowledge of assessment purposes, content and methods | | Module on Curriculum & Assessment Curriculum theory Curriculum policy Purposes, Framework and pedagogy of the new Junior Cycle Formative and Summative Assessment Curriculum making |
| Knowledge of grading Knowledge of feedback Knowledge of peer and self- assessment | | Module on preparing student-teachers for their Teaching Online Placement with a focus on the Classroom Based Assessment Classroom Based Assessment (CBA) Enquiry, exploration, reflection/action in the RE classroom. Interpreting Learning Outcomes, Learning Intentions and Success Criteria? Content, activities, resources for a synchronous or asynchronous lesson Formative assessment processes Interpreting the Features of quality and different descriptors for the CBA Rubrics |

¹ The seven elements of the full conceptual framework are: The knowledge base; Interpretive and guiding framework, Teacher conceptions of assessment, Macro socio-cultural & micro institutional contexts; Teacher assessment literacy in practice; Teacher learning & Assessor Identity (re)construction (Xu & Brown, 2016).

-

| | | Module on Methodology Constructivism Assessment supporting learning Activity based learning, group work, narrative enquiry, concept learning etc. |
|--|---|--|
| Knowledge of assessment interpretation and communication Knowledge of assessment ethics | | Group assignment to prepare a CBA Individual assessing of 4 CBAs and judgement made about descriptor merited Group meeting in a Subject Learning and Assessment meeting to discuss the descriptors and come to a consensus working with "on balance" judgement. Bias and fairness Reporting and feedback Ethical responsibility of use, storage and dissemination. |
| Applying the 7 elements of the knowledge base | | A four week block of Teaching Online Programme (TOP) in January 2021 including synchronous and asynchronous lessons |
| Digital Technology | School of STEM Education, Innovation & Global Studies | Digital technological skill set for synchronous and asynchronous lessons Zoom platform Google Classroom E-portfolios |

Table 1 Aligning Xu & Brown's (2016) Baseline Knowledge with the TOP3 programme

To apply assessment knowledge proffered in the modules, the team focussed on the planning of asynchronous lessons and the teaching of synchronous lessons which prepared a second year post-primary student for their Junior Cycle Classroom Based Assessment (CBA). A CBA is a specific task assessed by the teacher with clear criteria, either completed as an individual or group, during class contact time. The CBA is a formative assessment process that takes place over a three-week period and culminates in the teacher making a professional judgement on the work. It is underpinned by learning outcomes taken from various strands of the Junior Cycle subject specification. It focuses on the processes involved in learning and not just the end product. All student-teachers in the BREHM programme were involved in the Religious Education CBA and had one other CBA to consider from their elective:

- a. Religious Education CBA1 report on "A person of commitment"
- b. English CBA1 Oral presentation
- c. History CBA1 report on "The Past in my Place".
- d. Music CBA1 Composition Portfolio

To assess the CBA1, the teacher uses the Features of Quality and Descriptors based on four different levels; Exceptional; Above Expectations: In line with Expectations and Not yet in line with expectations, as outlined by the National Council of Curriculum and Assessment (NCCA, 2015). Each teacher brings their initial evaluations of the CBA to a Subject Learning and Assessment Review (SLAR) meeting which is subject specific and lasts approximately two hours. The SLAR supports professional discussion and opens the potential for them to develop knowledge and craft (Pollard, 2010) around standards, evaluation and consistency of judgements on student performance. Student-teachers rarely have the opportunity to engage in work on the CBAs on school placement because they may not have the class group or the teacher may not wish to allow the student-teacher to take on exam based work.

Methodology

The methodological approach to this research is a single case study (Stake, 1995) undertaken during placement period of TOP3. Yin (2006) argues that "the strength of the case study method is its ability to examine, in-depth, a "case" within its "real-life" context" (p.111). He suggests that the case study method is pertinent when your research addresses either a descriptive question (*what* happened?) or an explanatory question (*how* or *why* did something happen?). The case study was selected as the instrument to help navigate the complexity (Byrne, 2005) and interdependencies of the baseline assessment knowledge.

The case study comprised of three phases:

Phase one consisted of implementing TOP3 for 96 student-teachers from September 2020 to February 2021. Artefacts such as handbooks, templates, recordings, and rubrics were all prepared. Assignments were set and applied assessment knowledge into a practical or reflective element. Each student was supported by a tutor who engaged with them from November until early February 2021. Tutors viewed each student's e-portfolio, synchronous and asynchronous lessons and engaged them in a dialogue about their experience and learning. Formative feedback was offered to the student to help them progress in their learning.

Following ethical approval from the University's Research Ethics Committee, Phase two consisted of two questionnaires:

- 1. A 30-minute on-line Qualtrics questionnaire involving predominantly multiple-choice and open questions was issued to TOP3 student-teachers in February. It asked questions related to the challenges, complexities and learning experienced during TOP3. 59 of the 96 student-teachers responded to the questionnaire giving a response rate of 61.5%.
- 2. A second on-line questionnaire was issued to tutors in February 2021. This captured tutor views on their experience of student-teacher preparation, planning and placement. Eight tutors out of 20 responded to the questionnaire, giving a response rate of 40%.

Phase three consisted of a series of six, 45-minute focus groups with student-teachers (n=17) and also with tutors (n=18). The team did not carry out these interviews themselves as they were involved in grading and evaluating student-teachers. The interviews were transcribed and anonymised before the data was referred to the team. Open thematic analysis (Braun and Clarke, 2013) was carried out with the use of Nvivo to allow for the emergence of key themes and learning as a result of the process. The researchers then applied deductive coding using the framework from Xu and Brown (2016) to expand their findings on TAI.

Findings

From September 2020, the class were divided into groups of six to encourage the building of collaborative practice. In the student-teacher questionnaire (SQ), 36 student-teachers (75%) selected isolation due to the pandemic, in the first four of the greatest challenges to **the** programme. Juxtaposed to this challenge, they indicated that working as a team was one of the most positive experiences, not only in terms of "motivation", "creativity" and "learning" but for the comradery it offered in lockdown. The successful functioning of the team added significantly to the successful development of TAI.

My group was amazing to work with and we came up with great ideas and supported each other every step of the way. This motivated me a lot to succeed in my placement. (SQ)

Disciplinary Knowledge and Pedagogical Content Knowledge

In the main, student-teachers demonstrated very good disciplinary knowledge and were accessing the new subject specifications for the JC. They used Learning Outcomes and Intentions not only as gestures at the beginning of their lessons but tutors in the questionnaire (TQ) were able to "see the linkages" (TQ) throughout the lesson. Student-teachers were able to "build success criteria" (TQ) from their Learning Intentions which demonstrated their ability to break down content and concepts. Their disciplinary understanding was evident from the variety of people of commitment in the RE CBA1 they choose in their planning and assignment:

Even the characters they choose for the CBA ranged from a variety of genders to a variety of areas of interest. (Tutor 3)

Tutors commended the progression student-teachers made with their pedagogical knowledge and understanding and noted that they had moved away from teacher exposition or "monologue" (Tutor 12) to a more constructivist approach. The overall methodological approach was "student centred" (TQ):

I saw a lot of concept formation, activity-based learning but very little of the teaching exposition and you can really see how as the student's progress, how the skill base develops. (Tutor 2)

One of the difficulties student-teachers faced was building lessons based on imaginary pupils for the asynchronous lessons and their own peers for the synchronous lessons. To assist in imagining a class of second year pupils they choose a post-primary school in Ireland and researched it online under context, culture and curriculum and built their imaginary class. This exercise was to stimulate the expertise of the student-teachers in accounting for the power of context and culture in the decisions they make in their role as assessor (Mockler, 2011). Some student-teachers found this space helped to build expertise and were happy not to have to deal with classroom behaviour and management. This meant that they could really develop the depth of their knowledge around pedagogy:

I found that this very much depended on the student-teachers' ability to suspend disbelief. Those who could imaginatively place themselves in a classroom with their pupils had very few issues in strengthening their teacher presence. Because the pupils were real to them, their selection of learner activities and textual resources, etc., and even the tenor of their voice on the recordings, were all much more impactful. (TQ)

For some student-teachers, they missed the real encounter with pupils in the classroom. They learned very quickly that the online asynchronous arena lacks that connectivity with pupils and "teaching a student-centred topic to pupils who are not there or real is incredibly hard and draining" (SQ). Teaching asynchronously has its challenges and yet it can draw further on the creativity and innovation of the teacher:

My greatest challenge was coming up with creative and innovative activities for imaginary kids asynchronously as it limited what you could do in terms of classroom discussions and group work. I overcame this by using different functions such as Padlet or Google classroom to facilitate the classroom discussion. (SQ)

Knowledge of Assessment Purposes Content and Methods

Student-teachers reported that their knowledge of assessment purposes, content, and methods had improved over the course of the programme. They were asked to rate their knowledge and understanding before and after the programme:

| Field | Mean before TOP3 | Mean after TOP3 | Improvement |
|-------------------------------|------------------|-----------------|-------------|
| | | | |
| | | | |
| CBA | 42.49 | 80.45 | 37.96 |
| SLAR | 39.29 | 83.27 | 43.98 |
| Asynchronous Lessons | 41.46 | 80.51 | 39.05 |
| Synchronous Lessons | 51.63 | 82.98 | 31.35 |
| Student Engagement Activities | 28.35 | 71.98 | 43.63 |
| Google Classroom | 29.23 | 72.98 | 43.75 |
| Methodology | 67.97 | 78.67 | 10.7 |
| Differentiation | 61.85 | 75.40 | 13.55 |
| Formative Assessment | 60.21 | 78.15 | 17.94 |
| How to work as a team | 78.43 | 86.91 | 8.48 |
| Reflective Practice | 65.48 | 77.28 | 11.8 |
| Lesson Planning | 71.35 | 82.98 | 11.63 |
| Technology for teaching and | 51.43 | 79.23 | 27.8 |
| learning | | | |
| Giving Feedback | 56.13 | 78.10 | 21.97 |

Table 2 Knowledge before and after TOP3

It is evident that student-teachers' perceptions of increased knowledge and understanding were cited for the CBA (37.96%), the SLAR (43.98%), Student Engagement activities (43.63%), asynchronous lessons (39.05%), and Google classrooms (43.75%). An open question (Q.G) in the questionnaire asked: "How has the study and practice of the CBA helped you prepare to be an assessor?" and the following response captured the extent of this learning from the pupil's perspective:

The CBA process, in relation to being an assessor, has greatly contributed to my teaching career. Having an active and practical assignment here, allowed me to see what it is going to be like when I have to grade real CBAs. It also showed me how to work when in a SLAR meeting, how to get points across, analyse other teachers' decisions, working as a team, etc. It will help me in future teaching and this will also benefit the pupils I will teach in the future. (SO)

Student-teachers believed that the knowledge they gained about the CBA helped them to improve their "confidence", "creativity", and "courage" in their planning and teaching. This critical development of CBA knowledge was acknowledged by the tutors:

The result of that was that they could just focus on methodology and awareness around assessment...I thought that that engendered in them a great self-confidence. (Tutor 6)

One interesting insight from tutors was the literacy problem in relation to formative assessment as experienced by student-teachers. Their prior experience of assessment had been primarily summative in approach. Tutors highlighted that understanding formative assessment was a "grey area" for many student-teachers. They noted that student-teachers missed the subtlety of what formative assessment was about and tutors believed "it's a growth in terms of understanding what it means and what it looks like in a good practice" (Tutor 1). However, they also pointed to the narrow understanding that student-teachers had

for the purposes for education and assessment. They asked if the student-teachers had really thought through what was the purpose of the CBA?

Is it just to get it done and have your portfolio as it is in English....or are you using the whole CBA to make better pupils? Is it going to make them better at English, is it going to make them better musicians, you know? (Tutor 3)

This insight from the tutors highlighted the need to ensure that knowledge and understanding around the intended purposes of different assessment types needed to be prioritised further. Professional judgement relies on being able to deduce the purpose of the assessment so that interpretation is valid and reliable. Student-teachers understood the rationale behind the JC curriculum but were struggling with aligning these with the purposes for assessment.

Knowledge of Grading and Assessment Interpretation

Each student had to evaluate four CBA reports prepared by their peer group. The majority of student-teachers found this key to their development as assessors and "it showed how you have to be fair and honest and treat each piece exactly the same and stick to the principles and marking guidelines (SQ). The unusual situation that the programme confronted was that even post-primary teachers in Ireland had not yet engaged in Religious Education CBAs and this offered a space for the student-teachers themselves to be creative and innovative:

It was helping them, feeding off each other, supplying each other with ideas, being both participant and observer, being both student and teacher, being both a participant and assessor and they were coming at it from every angle, and I thought such a positive experience for them (Tutor 5)

Perhaps the greatest learning was offered in the Subject Learning and Assessment Meeting (SLAR) as student-teachers had to offer the grades and interpretations behind these evaluations and get a deeper understanding of the practical use of the features of quality and descriptors. The recordings of these SLAR's presented the team with insightful evidence of rich dialogue around assessment. The discussion that took place about the fairness and justice of grades according to the descriptors highlighted the advances these student-teachers were making in relation to their assessment identity. One student summed it up when they noted that:

The process of evaluating the CBAs as a team at the SLAR meeting, based on the descriptors, was very helpful in understanding how to measure the success of the work in meeting the descriptors. It helped to identify the areas we missed as a team in producing a CBA and therefore fed into the understanding of the process for teaching. (SQ)

One of the challenges for some student-teachers lay in the difficulty of evaluating their own peers and worries that "the other participant wouldn't take the constructive criticism personally as it was in the best interest of the task and the CBA" (Student 3). They were confronted with their own bias and had to work through this and make a professional judgement on the CBA. Student-teachers agreed that the greater their knowledge of the standards and descriptors for the CBA task, the more likely they were to give a fair and just evaluation:

Yeah, it definitely built my understanding a bit more in terms of there's a prescribed template that you have to work towards instead of just looking at a piece of work and then going based solely on your own opinion, you know, your

own intuition or viewpoint of what is good, bad or indifferent. I didn't really realise that at the start. (Student H)

Knowledge of Feedback

Throughout TOP3 the importance of developing the student-teachers' understanding of the function and power of feedback was prioritised. This entailed not only learning to give feedback to their peers on their CBA reports but they also each week offered a Student Engagement Activity (SEA) for peer review and feedback. There were varying responses in data to the process of developing the activities and giving feedback. For many of the student-teachers, the SEA's offered a space where they could really think through how to ensure that learning was on track:

This year I have realized how important this actually is to keep pupils on task and also to add some fun into the classroom (SQ).

Data evidenced that these activities "gave inspiration" (Student-teacher G) as to how to achieve and apply appropriate methodology and "made student-teachers think at a much deeper level" (TQ). There were student-teachers who took the time to understand the SEA process and who saw it as helping to "cement the key elements of the lesson plan process, as in a live classroom you can compensate for elements that are not planned well, however, in an asynchronous lesson each detail must be planned clearly as you cannot change what is delivered to the student in a recording" (SQ).

There were also student-teachers who did not see the point of the SEA or giving feedback to peers. They noted the lack of "live reaction" to the SEA's from pupils and that "it is completely different when your fellow student-teachers correct your activities as they see it from a teacher's point of view not a pupil's" (SQ). There is no doubt that having real live pupils would be the best scenario for engaging in the development of formative feedback and assessment. Yet, what TOP3 offered was building knowledge in a safe environment where risks could be taken on formative activities developed with technology that might not be attempted in the classroom.

Knowledge of Student Involvement in Assessment

One of the challenges of TOP3 was the lack of post-primary pupils and the contextual experience of teaching to a post-primary class. Data highlighted the lack of "feedback" from pupils, the problem with the "screen" and building "presence", not dealing with "behaviour" and the feeling that it was very "rehearsed", akin to "a training pilot in a simulation" (SQ). They missed the "un-predictableness" of the classroom (Student L). Yet, this lack also drew out the recognition of the very powerful place that pupils have in the process of assessment. Student-teachers who recognised this insight worked hard to make the knowledge come alive for pupils: "I was able to make up that little video on castles and abbeys......so the pupils can actually see that there's physical objects out there" (Student D). There was a growing recognition that "Now, it is student centred, everything that we do, and the CBA is student centred" (Student C). Overall, the role of the pupil in the classroom encounter and their input into the assessment process emerged as a major nexus of learning for student-teachers in the programme.

Knowledge of Assessment Ethics

The role of the assessor demands an ethical approach to assessment. Formative assessment at its heart concentrates on the singularity of the student and summative assessment focussed on the assignment/test rather than the person of the pupil. Through the evaluation of the CBA and the SLAR meeting, the student-teacher was able to engage in the reality of this dualistic focus. The fact that they were evaluating their peers worked to our advantage as it offered a scenario whereby they had a relationship with the peer student they were grading and they had to become wise in dealing with their biases:

I found even in the SLAR meeting I had to remind people, we're actually not accessing the people because I felt that was coming into it you know, and I said it in a gentle way. (Student B).

In the teaching of the CBA over a four-week period, they were able to see the formative assessment possibilities of where they could encourage pupil choice and voice, spaces for offering feedback and potential areas that might need scaffolding.

They [student-teachers] are very creative because the whole new JC is that the pupil is responsible for their own learning and I think that some of them were so creative that they really gave space to the pupils in the class to learn and to be responsible and to be like I suppose autonomous and that they were responsible for their own learning." (TQ)

Discussion

The findings above on the complexity of implementing the knowledge components of Xu and Brown's (2016) conceptual framework in relation to teacher assessment identity, offer considerable insights for ITE programmes. The following discussion will focus on four areas of learning that emerged in the TOP3 research:

- a. Assessment is multifaceted and needs to be deconstructed for thresholds of emerging assessment identity to be possible
- b. The process of assessment knowledge making is emergentist and demands a holistic understanding of the knowledge base on assessment
- c. Assessment identity is a cognitive and socio-cultural construct which is fostered through collaboration
- d. Emerging assessment knowledge is a threshold for creativity and innovation

Assessment is Multifaceted and Needs to be Deconstructed for Thresholds of Emerging Assessment Identity to be Possible

Data acknowledges that the process of learning involved for the student-teacher in becoming an assessor is a highly complex and multifaceted landscape (Xu and Brown, 2016). It is complex because the student-teacher must navigate a multiplicity of knowledge elements which have layers and demand higher order and critical thinking in how they converge. Literature has repeatedly acknowledged that student-teachers' knowledge and understanding of assessment is based on their own experiences of schooling as pupils (Smith et al., 2014) and is very context specific (Brown and Remesal, 2012). Researchers suggest that these student-teachers need to move from viewing assessment as pupils to seeing it through the eyes of a teacher (Brown et al., 2012). TOP3 student-teachers had experienced a mainly strong summative approach to assessment which endorsed a high-stakes terminal examination. Assessment was viewed as happening at the end of learning rather than as a

"powerful force in supporting learning, and a mechanism for individual empowerment" (Broadfoot and Black, 2004, p. 22). Student-teachers' understanding of assessment and its purposes needed to be interrupted, deconstructed, and challenged. One of the first steps in building TAI is to connect assessment to the bigger arena of purposes for education: qualification, socialization, and subjectification (Biesta, 2013) and to engage in a critical dialogue about these purposes and how they impact on assessment. Irish assessment identity had been a closed fortress for so long and the summative examinations "drowns out the whispers of other assessment discourse" (Looney, 2006, p. 352). A default to qualification alone would no longer answer the philosophical vision of the new curriculum in Ireland.

The Process of Assessment Knowledge Making is Emergentist and Demands a Holistic Understanding of the Knowledge Base on Assessment

The seven elements in the knowledge base of Xu and Brown's (2016) conceptual framework are seen as inter-connected and inter-related. They explain that:

A basic mastery of this body of knowledge serves as a threshold; teachers who have crossed it would have the opportunity to engage in assessment at a deeper level. It should be noted that this knowledge base is dynamic and evolving, depending in part on the context in which assessment is deployed (Xu and Brown, 2016, p. 20).

The cognitive challenge for TAI is to join the inter-connections of these elements in a holistic way, alongside having detailed knowledge and understanding of the individual parts. TOP3 drew on Osberg's (2008) "centrifugal" and non-linear understanding of knowledge in the preparation of the programme.

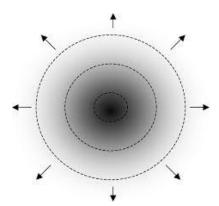


Figure 1 A complex or centrifugal process in which the "space of the possible" is continually expanded into that which is incalculable through "renewal" of what came before (Osberg, 2008)

Knowledge is expanded not in terms of adding on something to what was there already, but rather, a reordering and renewing in a way that expands and opens knowledge up to the incalculable. Osberg (2008) explains that the spheres within the dotted lines in the illustration are continuously expanded into that which is incalculable through "renewal" of what came before (larger spheres subsume and transcend small spheres). Davis and Sumara (2008) support this understanding of the "logic of emergence" and they suggest that knowledge "production" might be described as an ever-expanding space of possibility that is opened and enlarged simply by exploring the space of what is currently possible (p.134). They contend that the creation of knowledge is "progressive" not because it is moving in a given direction but because it is constantly "expanding the space of the possible by exploring the current space of possibility" (p.57) – expansive but not directional. Thus, rather than

compartmentalising assessment and scrutinising each part, TOP3 initiated a process that engaged the student-teacher in expanding knowledge from a pupil's perspective by becoming a second year pupil and engaging in the CBA process; from a teacher's perspective as they evaluated the CBAs and engaged in the SLAR meeting and also planned and taught lessons for the CBA; from a peer's perspective as they offered feedback on their Student Engagement Activities and synchronous lessons. They also engaged with their tutor in professional conversations, prompting reflection and engaging with feedback. This was the space of the possible.

Assessment Identity is a Cognitive and Socio-Cultural Construct which is Fostered Through Collaboration and Connectivity

The programme intertwined both theory and practice into all the knowledge base elements in order to increase the ability of the student-teacher to assimilate and use that theory in their practice (Gallagher, 2010). It is clear that there were gaps in learning and further development will need to take place over the continuum of the development of TAI. What these gaps demonstrated were the complexity of what was being asked of the student-teacher in the process of building their TAI. There were significant roadblocks to the understanding of the importance of peer feedback. Student-teachers understood the theory of feedback as a multi-directional process which feeds learning forward (Hattie, 2012). However, the richness of their own peer feedback was discounted by some. For others they recognised it as a real help in the development of professional behaviour and saw collaboration as a team as an essential part of this learning. Further thought will need to be put into engaging student-teachers further in this area of peer assessment.

Perhaps the connection between these gaps show a need for the programme to engage student-teachers in more critical thinking about how they are learning. The significance of teacher capacity to engage in reflective thinking has been documented by many researchers (Choi & Oo, 2012, DeWitt, Alias & Siraj, 2015, Schon, 1987). Further pathways to self-reflective practice will need to be considered as a learning tool (Choy, Yim, and Tan (2017) The TOP3 academic team engaged in self-assessment during and after the initiative. The modelling of such practices of the team in which we became both learner and teacher might assist the closing of the gaps. The constant dynamic move from learner to teacher is one that really adds a richness to TAI and is a movement that should become second nature over the career of a teacher.

TAI is a social construct and is built through the educational encounters with pupils and colleagues. The building of the team structure for the student-teachers was informed by thinking such as that proffered by Fullan and Langworthy (2014) who note that "systems that foster highly collaborative practices and purposefully build social capital are places where new pedagogies thrive" (pp. 53-54). Student-teachers who engaged with their team were able to fill in the gaps between theory and practice and expand their knowledge (Hargreaves, 2000). Despite clear instructions through handbooks, lectures, Q&A sessions, workshops and a myriad of emails, communication is a complex component and needs to connect to the student-teachers own networks. The online space assisted in this option for student-teachers and those who engaged in the social networks evidenced that this was often where they were able to really dialogue on theory and practice (Ansari & Khan, 2020).

Emerging Assessment Knowledge is a Threshold for Creativity and Innovation

TOP3 opened a threshold for creativity. Creativity is viewed here not just as a cognitive construct but also a social and cultural event (Csikszentmikayi, 1999). TOP3 requested a move to rethink how student-teachers would teach online, how the pupils would learn and how they could assess that learning. The creative imagining of a class fed the understanding of how a school context has a vast impact on the professional agency of a teacher in their role as assessor (Mockler, 2011). However, the importance of context was lost on some student-teachers and this affected their ability "to adopt educational innovations" (Lund & Stains, 2015). Those who built this profile knowledge constructed methodologies and activities that were responding to specific needs and this knowledge opened up inspiring avenues of innovation. One such creative event was the use of the Bitmoji classroom and the employment of the avatar teacher. The adventure and engagement in these classrooms was palpable and served a multiplicity of student needs. Not only did they help build teacher presence (Donlon, Conroy Johnson, Doyle, McDonnell and Sexton, 2022) in a cognitive and social manner but they assisted in wrapping the lesson in an aesthetic presence (Sajnani, N., Mayor, C., & Tillberg-Webb, H., 2020). This research demonstrates that without a considered understanding of contextual knowledge, such dynamic interplays in the classroom are greatly reduced.

Conclusion:

In answer to our research question, data suggest that TAI begins to emerge when the space is offered to interrogate the multifaceted elements of the baseline assessment knowledge and when these begin to converge into practice. The programme interrupted student-teachers to evaluate their beliefs and feelings about the purposes of assessment and linked these with the greater purposes for education and curriculum. The process of challenging previous thinking, concepts and norms opens a threshold of re-imagining the possibilities of assessment for post-primary pupils. Without this opportunity offered in ITE, we argue that student-teachers will struggle with their assessment identity and default to what they have previously experienced and understood about assessment.

TAI needs to be encouraged through an emergentist approach in ITE. The complexity of the baseline assessment knowledge makes it difficult for all student-teachers to make similar connections across all elements. By seeing knowledge making as a centrifugal process, each student-teacher was able to make sense and construct meaning from their own space of possibilities. TOP3 recognised TAI as a very unique creation for each student-teacher which will continue to emerge over the teacher's career. TOP3 instigated an initial turning towards the world of the pupil and the classroom, focusing on how best to support learning and teaching through assessment and within a space that allowed risk. Data acknowledged that this emergence in the form of TAI was uniquely progressive in a diversity of ways for student-teachers.

From the success of the collaborative elements of this programme, the academic team feel that ITE must take the lead on student-teachers working in communities of practice (Wenger, 1998) for placement and move forward from an individualistic approach to a team based element. Data highlighted that this collaborative space assisted with the building of new narratives about teacher assessment identity. We are in agreement with Looney et al. (2018) when they state that "when teachers assess more is in play than simply knowledge and skills" (p.445). TOP3 offers a new professional site for student-teacher practice and emerging teacher assessment identity. It challenges ITE to deeply deliberate on new learning

spaces for student-teachers through interruption, emergentist and collaborative processes which offer new professional sites of practice. Further research into how to further connect the online component of TOP3 with a more developed connection with schools needs to be explored in the future. This will further help prepare the student-teacher for the messiness and complexity of the classroom (Xu & Brown, 2016, p.19).

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