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Demonstrating ‘Impact’: Insights From the Work of Preservice Teachers Completing a Graduate Teacher Performance Assessment

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Abstract: Initial Teacher Education (ITE) reform in Australia has mandated that graduating teachers demonstrate their practice and ‘impact’ through the completion of a Teaching Performance Assessment (TPA) prior to graduation. The requirement to analyse ‘impact’ in teaching, requires a nuanced understanding of what ‘impact’ is and how it manifests in varied contemporary classrooms. This paper reports on how a sample of high-performing pre-service teachers from one Australian ITE institution, within a framework devised by Australia’s largest TPA consortium, appraised the impact of their teaching in the context of the disciplinary area of Humanities and Social Sciences (HASS). How ‘impact’ was articulated through GTPA submissions revealed data-informed and holistic interpretations layered to include opportunistic teaching moments and relational and affective impact as well as analysis of cognitive progress. The paper also identifies ways in which analysis of impact might be further finessed with greater attention to pedagogical content knowledge and discipline-specific progression.

Key words: Graduate Teacher Performance Assessment (GTPA), Teaching Performance assessment (TPA), Impact, teacher effectiveness.

The Graduate Teacher Performance Assessment® Project was created by the Institute for Learning Sciences and Teacher Education, Australian Catholic University, and has been implemented in a collective of Higher Education Institutions in Australia (graduatetpa.com).

Introduction

The Teacher Education Ministerial Advisory Group (TEMAG) report *Action Now: Classroom ready teachers*, focusing upon initial teacher education (ITE) policies and processes in Australia, made specific recommendations about pre-service teachers (PSTs) making ‘a positive impact on the learning of all students’ (TEMAG, 2014, p. xv). The impact of PSTs on students’ learning is increasingly being viewed as an ‘ultimate framing to understand the effectiveness of initial teacher education programs’ (Mayer, 2015, p. 3). The TEMAG report also underlined the necessity and importance of ITE programmes collecting sophisticated evidence of their own and their PSTs’ impact (TEMAG, 2014, pp. x, xv, 1, 10, 11, 18, 19, 24, 28). Impact evidence has become a central component in assessing the quality of programs offered by Australian ITE providers when courses are reviewed across a five-year accreditation cycle.

The TEMAG report also concluded that ‘Initial teacher education providers are not rigorously or consistently assessing the classroom readiness of their pre-service teachers against the Professional Standards’ (p. ix). Accordingly, a key recommendation was to introduce a culminating teaching performance assessment (TPA) intended to provide more robust summative evidence of professional competence. Subsequently, published standards and procedures (Australian Institute for Teaching and School Leadership [AITSL], 2015) require that all PSTs successfully complete an endorsed TPA. The TPA must cover the breadth of teaching practices to ensure classroom readiness of the PSTs as demonstrated in their final year professional experience and prior to graduation. The Graduate Teacher Performance Assessment (GTPA®) is the assessment tool developed by Australian Catholic University and was trialled in a consortium of thirteen Australian ITE providers across seven Australian states and territories in 2017. The GTPA was endorsed by AITSL in January 2018 and is currently implemented in a collective of twenty Australian higher education institutions. The performance tasks in the GTPA link together PSTs’ ability to plan lessons drawing upon relevant data sources, engage students through purposeful teaching, assess students’ learning, and reflect on their performance and next steps. The GTPA then incorporates as the last of its five assessable practices, a focus upon the evaluative abilities of PSTs to appraise the impact of their teaching on students’ learning (Australian Catholic University, 2019).

This paper offers a qualitative review of what happens when an ITE impact agenda and related TPA requirements come together in the contextualised reality of classroom teaching. Specifically, the paper explores how a sample of high-performing PSTs from one Australian ITE institution, as a member of the GTPA Collective (Wyatt-Smith, 2018), appraised the impact of their teaching in the context of the disciplinary area of Humanities and Social Sciences [HASS] across the age range from Prep to Year 10. The paper explores how the notion of impact is being translated and enacted by PSTs and how they communicate the sense that they make of their impact upon students’ learning through their GTPA.

The Complexities of Assessing ‘Impact’

There are critics who would argue, both ethically and practically, that the endeavour of seeking to capture the ‘impact’ of PSTs’ work is conceptually flawed. Not surprisingly, the notion of assessing impact in ITE through PSTs’ work in schools with learners, has been the focus of significant recent problematisation and critique (See, for example, Brett et al., 2018; Diez, 2010; Ell et al., 2019; Nuttall et al., 2017). Dictionary definitions shed little light: ‘Impact’ is defined as ‘a force with which one thing hits another or with which two objects collide’ (Collins Dictionary, 2020), which is an unusual way of conceiving of the product of student and teacher interactions! Critics have observed that ‘the metaphor of ‘impact’ belongs to a crude and behaviourist theory of education as transmission, and forceful transmission at that’ (McKnight & Whitburn, 2018, p. 42). Critical theorists present philosophical and educational purpose concerns. Impact initiatives might be viewed as one more example of the creep of a culture of neo-liberal accountability and performativity in educational contexts (Ball, 2003; Fitzgerald & Knipe, 2016). Arguably, an unfair onus is placed upon the individual teacher as the primary agent for raising student achievement – reflective of a neo-liberal discourse framed globally by management consultancy agent McKinsey Education (Mourshed, Chijikoke, & Barber, 2010). Achieving cognitive impact will undoubtedly be more difficult in more socio-economically (and behaviourally) challenging school circumstances. The context and quality of school support matters (Ronfeldt, 2015). Moreover, PSTs’ impact across a professional experience depends upon placement, system,

school, supervising teacher, learner, disciplinary area and many other day-to-day variables. In practice, the pursuit of overly precise and neat appraisals of impact arguably represents a chimera. Burn and Mutton (2015) noted in an international literature review that research seeking to isolate the relationship between an ITE programme and school student learning outcomes was ‘both limited and problematic’ (p. 227). TPAs can certainly be viewed as an additional tool of surveillance over the work of teachers and the independent role of universities in preparing PSTs.

This paper has sympathy with several of these critiques and yet also recognises that it is not unreasonable to seek greater precision around measuring the effectiveness of PSTs’ teaching. A forensic focus upon reviewing the impact of teaching interventions across sustained periods of professional experience may bring with it a stronger emphasis on thinking about students’ learning and progress (Guha et al., 2017). Although analysing the relationship between teacher education and student learning is ‘fraught with difficulty’ (Grossman, 2008, p. 21), a focus on the process may be beneficial for all stakeholders. It is indisputable that enhanced student learning in the service of a good education should be the ultimate aim of the education enterprise of which teacher education is a part (Cochran-Smith et al., 2016) and that graduate teachers should be able to enter the profession with the required competencies, skills and professional dispositions to positively impact on student learning through their teaching (Goe, Bell, & Little, 2008). It is also a fair criticism of ITE providers that previous processes deployed to assess whether graduating PSTs are meeting the specified Standards (AITSL, 2011) have not always been robust. They have tended to rely upon the endorsement of supervising teachers, many with a stronger orientation towards teaching ‘inputs’ – such as planning, classroom and behaviour management, presence, relationships and teaching performance – rather than to learning ‘outputs’ (Brett et al., 2018). Coupled with the passing of university assignments which may only loosely connect to the practice requirements of the teaching standards, assessment of a PST’s classroom readiness has been, until now, unreliably documented (notwithstanding isolated examples of innovation around portfolios of evidence (Kertesz, 2016; Morrison, Masters & Quentin-Baxter, 2018)).

Much thinking about impact in Australia has drawn upon the work of Professor John Hattie, Chair of the AITSL Board (2014–present). In his book, *Visible Learning* (2012), drawing upon meta-analysis of over 50,000 studies measuring factors influencing student achievement, Hattie called upon teachers to become agents of change, to set achievable, challenging goals appropriate to the knowledge level and capabilities of all class members, focusing on outcomes rather than possessing an input orientation. The aim is to support individual and collective student learning progress, and to achieve explicitly articulated outcomes that are clearly visible not only to the teacher but also to the students and built upon a foundation of data and evidence. Hattie’s model teacher then engages regularly and iteratively in the task of supporting students in their learning, generating enthusiastic classroom learners, whose progress and growth over time is mutually recognisable by teachers and students alike (Hattie, Fisher, & Frey, 2016). This is a pedagogically progressive, albeit still elusive, vision of impact. This paper sees impact consciousness (Kertesz & Brett, 2019) as linked to, but extending beyond, notions of visible learning and clinical practice, with teachers seeing themselves as possessing creative and professional agency and as perpetual action researchers into the effectiveness of their teaching interventions.

Some critics, however, have seen Hattie’s model of teaching as overly clinical (for example, Eacott, 2017). For Rømer (2019), the use of ‘the term “evaluation” dominates even the most intimate pedagogical processes and relationships’ (p. 588) and may be perceived to remove the human experience from the teaching and learning experience. Rømer further argues that ‘what a discipline is, and what content is, is left hovering in the dark’ (p. 589) and

marginalised in Hattie's schema. In the United States the most widely adopted pre-service teacher performance assessment the edTPA, with take up from more than 800 providers across 41 states, is a subject-specific assessment with different versions across 27 different teaching fields and 15 different rubrics (Goldhaber, Cowan & Theobald, 2017; Sato, 2014). In contrast the GTPA is not a subject-specific assessment of teacher candidates. There is one rubric for all teachers whatever their stage of teaching or disciplinary area. Another influential view of the impact agenda is to see it as one more manifestation of the 'learnification' of education (Biesta, 2010, 2015). Whitburn and McKnight (2017) similarly argue that Hattie's model assumes a scientific and behaviourist theory of learning, rather than understandings of teaching and learning as 'not always visible, not always quantifiable, that it can be elusive, messy, unpredictable and not always desired' (p. 41). The language of measurement may serve to minimise the lived experience of impact for PSTs and potentially de-value the local, social and contextual.

This paper does not prosecute a for or against argument in relation to the assessment of 'impact', although it is sceptical of approaches that might claim a spurious exactitude in the impact space. Rather it explores what sense PSTs are making of 'impact' across different programs and phases of schooling in the context of their GTPA. How are they articulating their impact claims? Do the PSTs appraisals of the difference that they think that they were making in classrooms contain important pedagogical insights about impact? Were there any significant absences in the PSTs narratives of impact? And, finally, how might the summative evidence of PST GTPA submissions be deployed formatively by ITE providers to better support sophisticated accounts of impact?

Methodology

The research approach adopted for this study was guided by an interpretivist paradigm (Smith, 2008). Interpretive inquiries assume that people (in this case PSTs) create and associate their own subjective and intersubjective meanings as they interact with the world around them, in this case the world of a final professional experience placement and the imperative of completing a structured TPA. Inductive thematic analysis was used to analyse the data (the PSTs' GTPA submissions) (Braun & Clarke, 2006). The principles of a data-driven inductive approach are laid out in Boyatzis (1998), where he notes that the data are extracted from the 'words and syntax of the raw information' and through this process 'perspectives inherent in the information can be brought forward and recognised' (p. 30). The thematic analysis was conducted according to the following six phases: 1) Familiarisation; 2) Coding; 3) Finding themes; 4) Reviewing themes; 5) Defining themes; and 6) Reporting (Boyatzis, 1998). The following findings combine the final four steps of inductive thematic analysis. The results are reported using school, student and PST pseudonyms to maintain the anonymity of all participants.

The source of the data for this study was a database of final professional experience GTPA assessments undertaken by University of Tasmania (UTAS) PSTs and available for review utilising the digital workbook PebblePad (n=305). De-identified data and sample collection were approved by the Human Research Ethics Committee at Australian Catholic University (review number 2017-101H). Pre-service teachers submitting their completed GTPAs through UTAS do so by agreeing that their GTPA assessment submissions may be used for research purposes and that the submission will be de-identified and remain confidential. From these approved submissions the researchers firstly identified a sub-set of PSTs who had undertaken their GTPA submissions with a Humanities and Social Sciences disciplinary focus (n=33) (the majority of students selected either English or Maths as their

GTPA subject focus, so PSTs who chose a HASS focus represented only 10.8% of the total 2019 PST cohort). We then identified a smaller sub-set of HASS-focused submissions which had been assessed as being 'above' GTPA expectations or in the 'highest performance' category of submissions (it should be noted that this is an internal assessment arrived at to support cross-institutional moderation – the GTPA results reported to students are simply Pass/Fail) From this sample, nine GTPA submissions were purposively selected for detailed analysis. The sample draws upon the work of PSTs from four teaching programmes: Bachelor of Education (Primary); Master of Teaching (Secondary and Primary) and Bachelor of Education (Early Childhood).

The PSTs are asked to appraise the effectiveness and impact of their teaching within one of the five sections of the GTPA. Within the GTPA framework the PSTs draw upon their collected data and evidence and specific appraisal of selected scenarios from whole class, small group and individual learning episodes to analyse their perceived impact upon students' learning, with a particular concentration upon three focus students. High performing PSTs analysed student learning data and pedagogical decision-making in some depth and then went on to discuss their planning and realisation of differentiating for individual learners and how their teaching interventions had contributed to students' learning progress. They include and cross-reference artefacts and theoretical references as evidence to support their appraisals of impact.

Consistent with a qualitative approach, the sample students' GTPA submissions were coded thematically (Creswell, 2014). In seeking text that referenced impact, in addition to explicit references to the word *impact* itself, words and phrases such as *learning*, *effective*, *achievement*, *attainment*, *developing* and *development*, *improvement*, *assessment*, *evaluation*, *data*, *student feedback* and *making a difference* were particular nodes for review.

Findings

Snapshots of Impact

1. Mandy presented examples of Prep/Year 1 students' increasingly sophisticated use of the language of time, similarity and difference and change over time in their responses to toys, games, schooling and mail past and present as evidence of the impact of her teaching. Evidence sources such as audio files revealed the spontaneous language used by the children in interviewing and Post Office play contexts. Some students wrote and addressed postcards and sent them to their families noting interesting facts they remembered from discussing school life in the past, and also wrote about observations when they looked at old black and white photographs. Students also demonstrated verbal story telling skills and used vocabulary that Mandy had embedded into the unit to evidence their understanding.
2. Holly's unit of work was based on the Preparatory HASS content descriptor of how artefacts, oral histories, digital media and museums can tell stories of the past. The unit revolved around a discussion-rich 'sharing roster' whereby each week, students shared an object or a 'story' from home, focusing on a specific theme. Family involvement was encouraged. The themes then became the 'seed' for further inquiry. A verbal summative assessment task undertaken at the end of the unit centred upon the question "How do you know what happened in the past?" This enabled Holly to reflect upon the progress of her focus students. However, Holly devoted most of her discussion of her impact across the placement to an extended analysis of her efforts to promote self-regulated learning and independence. Through encouraging a variety of

- personalised self-improvement strategies, Holly ‘soon noticed a significant improvement in the quality and quantity of work being presented’.
3. Carol assessed her Year 3 students’ responses to the inquiry question ‘How has our school community changed or remained the same over time?’ The evidence of the impact of her teaching was analysed in relation to the assessment of student portfolios that were integrated into the teaching and learning processes. Students interpreted photographs, maps, and the changing nature of the school grounds. They completed graphic organisers, analysed primary and secondary historical sources, planned and carried out interviews and showed how they were making connections between past, current and future learning. She recognised in her unit design that she wanted to ascertain: ‘How will I know if students have achieved the learning identified in the unit plan? What will I accept as evidence of student understanding and their ability to use their learning in new situations?’ The learning sequence attracted the praise of the school leadership team and Carol was asked to contribute samples of students’ work to a whole-school learning journey display.
 4. Robin saw her impact with her Year 5 students as in building their confidence in responding to an environmental challenge and developing their geographical conceptual understanding. She provided a high degree of scaffolding for both research and groupwork tasks and also designed a ‘word slam’ activity where students brainstormed possible solutions to environmental challenges. Providing a structured template directed the students’ focus and allowed them to work more independently. Previously lower attaining students produced content-related material unprompted and demonstrated at-standard responses to assessment tasks. Students began to understand Geography as a study of interconnections between people and places. Robin also exemplified her impact at a more personal and relational level, working closely with a normally disengaged and challenging trauma-affected student to enhance both her sense of belonging in the group and the creation of an at-standard assessment artefact of a quality well in advance of previously assessed work.
 5. Jane delineated her impact in the context of teaching a Year 7 unit relating to Ancient Australian history and culture with a specific focus upon Lake Mungo Man and the Dreamtime stories. She wrote that ‘The impact of my teaching can be measured in a number of ways, linked to the different types of assessment I implemented as well as my ongoing reflection and my supervising teacher’s observations of the class and my teaching’. A baseline diagnostic assessment task showed that the students had little prior knowledge of Ancient Australia. After students completed a summative assessment task at the end of the unit, students completed a reflection sheet, which enabled them to give Jane feedback on her teaching. The student responses affirmed that they mostly had a good grasp of connecting the past and the present as illustrated in their reflections (which Jane included in her submission). Three focus students each moved up a grade in relation to their previous attainment against the History achievement standard. Jane referenced specific features of the students’ work which developed good historical inferential thinking. She talked separately about impact in the context of the support that she provided to a high-functioning student diagnosed with Autism Spectrum Disorder and her capacity to engage students’ in their learning.
 6. Helen gauged her impact with a Year 10 class studying the History theme of popular culture to be around her success in teaching about the generation gap which emerged between teenagers and their parents in the 1960s, linked to popular music and fashion. Video clips, photographs and role play tasks brought the topic to life for students. In a formal examination undertaken by students at the end of the unit a number of students – including her three focus students – attained above their normal level of

- achievement on questions linked to this topic. Helen also referenced impact in relation to the students' affective and cognitive engagement, which she evidenced via student completion of self-assessed exit passes.
7. Sally ascribed her impact in working with a lower performing Year 9 group, on a combined History and English unit linked to the First World War, to the deployment of a wide array of direct teaching approaches, modelling and her provision of multiple formative assessment opportunities generating regular feedback to students. In one assessment task the students were required to produce journal entries for a specified soldier, and to write between two to five empathetic entries from the soldier's perspective. The summative assessment task centred around a summary of the unit as a whole, and involved students selecting an area of the First World War they had learnt about and presenting a PowerPoint on this to their peers. There was a general increase in student achievement for both assessments compared to previous marks. The greatest improvement in marks was for the Journal task, and this included the two focus students who were 'At Standard' attaining a mark 'Above Standard'.
 8. John sought to develop his Year 9 students' capacity to understand First World War propaganda in a combined History and English unit. Across three assessment tasks the students analysed texts and used evidence from texts to create their own interpretations. They also undertook an empathetic piece of writing drawing upon the experiences of soldiers at Gallipoli. John concluded through close analysis of target students' work that the group mostly demonstrated a sound understanding of the visual, textual and underlying messages of First World War posters. He saw cognitive development in a subsequent summative assessment task, where students were required to apply their knowledge in order to construct their own propaganda posters. In his impact text, John provided a detailed account of scaffolded support provided to a low performing student which did not work in the first instance. However, he persisted, offered a resubmission opportunity following additional support and guidance, and the student crafted a response that indicated to John that he had developed an understanding of the text.
 9. Rosa articulated her impact through contrasting her Year 10 students' responses to baseline diagnostic activities undertaken early in her popular culture unit with the attainment of her three target students in an end of unit summative assessment activity. A normally lower performing student 'demonstrated quite an extensive understanding of not only artists, but also different genres and their impact on society'. Rosa also shared deep analysis of the impact of an 'in the moment' whole-class teaching decision around the interpretation of an image of The Beatles. She conducted ongoing formative assessment through class discussion and feedback on students' work on their assessment tasks in class time, as well as feedback on practice exams. Other evidence of impact was collected through conversation with students whilst their work was in progress.

These snapshots show that there are multitude of pathways open to PSTs in appraising the nature of their impact upon students' learning within their GTPA submissions. The PSTs identified and evaluated a range of foundational enablers that they saw as contributing to and underpinning their successful impact, including: relationships, rapport and positive class management (Jane); student engagement and the provision of clear learning goals (Rosa); effective questioning and differentiation (Carol); rich task design, student choice of focus and explicit affective engagement strategies (Helen); 'teacher mood and presentation would impact students' feelings of security' (Robin); task modelling and practice opportunities (Sally); developing assessment strategies consistent with (and aligned to) students' experiences and capacities (John); sensory learning (Mandy) and; ongoing and specific

feedback and opportunities for self-assessment (Holly). High-performing PSTs recognised the interplay of multiple variables in appraising impact in nuanced ways.

How Is Impact Translated and Enacted by Pre-Service Teachers in their GTPAS?

Understandably, given that the PSTs were responding to the same task, within a common set of instructions and assessment criteria and with consistent guidance from a unit co-ordinator, the high-performing PST appraisals of their impact featured common themes. They were not only data-informed in that they delineated some baseline prior achievement and then analysed the quality of student responses to a summative assessment task following a sequence of teaching, but they were also open to generating their own qualitative data as to their impact. Student feedback and reflections, self-assessed exit passes, varied types of formative assessment, informal student observations and supervising teacher notes and feedback all became part of a rich mix of additional qualitative impact data. The PST responses shared a sense of deep understanding of the learning needs of individual students. They did not define growth solely or simplistically as getting to the next level but were also guided by the language of development outlined in discipline-specific achievement standards in assessing the quality of students' responses to tasks. All of the PSTs were compliant with the specific directions of the task to consider impact through two scenarios, one whole class, and another small-group or individual. Beyond these parameters of similarity, what is evident in all the submissions is the variety and range of the PST articulations explaining how they felt that their teaching was impactful.

The GTPA task was successful in providing a framework for assessors to make a judgement as to the PSTs' impact-consciousness. Four out of nine of the PSTs included references to Hattie's 'Visible Learning' in their submissions. Carol was the most explicit in noting that: 'Adopting several visible thinking teaching strategies supported my students in their learning journey. Visible Learning Strategies - Clear learning intentions 'We are learning to' (WALT) and success criteria 'What I'm looking for' (WILF) were created for each learning activity so that students knew what they were learning and what was needed in the task to make them successful (Hattie, 2012)'. She 'displayed a success criteria collaborative poster for the whole-class as a guide' and implemented 'peer assessments to help clarify assessment criteria'. Nevertheless, all of the PSTs' assignments used assessment for learning or visible learning practices constantly to monitor student progress and to help inform future activities and learning. Jane's placement school was systematically implementing assessment for learning approaches across the school, deploying learning intentions and success criteria for all units and lessons (William, 2011). Holly noted that: 'Throughout the unit of work, I made features of quality visible for learners by modelling my expectations and engaging students in discussion about what makes for a good response'. John commented that 'Students were provided with a rubric so that they were able to understand from the beginning of the learning sequence the expectations for success for each standard of learning'. John also noted that he provided the students with 'specific scaffolding for what was expected from them'. The PSTs each delineated a relationship between their planned assessment strategies, implemented assessment practices and overall evaluation of their impact.

There were a variety of examples shared where teaching and learning decisions took unpredicted and opportunistic changes of directions which contributed to enhancing the impact of PSTs' work with students. For example, Holly reflected that 'During my first lesson, I had planned for small group activities based on artefacts I had collected, however the direction of my lesson changed significantly, with students becoming fixated on an old

telephone. This in the moment teaching and modification of the lesson remained consistent with the unit learning outcome as students asked questions and hypothesised why telephones changed over time'. Robin wrote that 'As I was displaying the image to the class (a 1964 image of the Beatles), I made an in-the-moment teaching decision to discuss it as a full class...I wanted my lower achieving students, whose source analysis skills were not as developed as [that of] some of the higher achieving students to have the opportunity to hear and learn from the processes other students utilised to analyse the images...What resulted from this in-the-moment decision was a beautiful discourse on the differences between two contrasting images of the group'. Sometimes, changes to modes of assessment were also made flexibly and responsively to student progress. Sally noted for example that 'One major change to the unit was to the original culminating summative assessment, which was to be a well-scaffolded essay piece, and was changed to a multimodal PowerPoint presentation. The new assessment task was designed to be multimodal, with verbal and visual representations of information, reflecting an understanding that mixed modality learning is optimal'. The capacity to modify teaching strategies allowed these high performing PSTs to increase their impact on student learning.

Additional evidence of impact appeared throughout the PSTs' GTPA submissions. For example, the positive impact of a planned extension activity was captured in Helen's annotations on her students' work. She reflected on the effectiveness of an extension task in her annotations and included this as evidence in her GTPA submission. 'Cognitive commentaries' were another source for capturing the impact and effectiveness of individual assessment tasks and student responses. For example, Holly wrote of one of her focus students: 'In both work samples, the student provided between five and seven separate ways in which we know about the past. On the whole, student has made generalisations, however she relates some ideas to self. Student did not require any prompting or probing questions to provide their response'. Student evaluatory feedback was another auxiliary source of impact evidence. Helen received comments from one student that 'I appreciated having a layout of what we were doing each lesson. Every lesson was definitely engaging and your energy was very mellow'. Early childhood teachers Mandy and Holly were particularly creative in capturing contemporaneous written, drawn and spoken records of their Prep/Year 1 students' verbal ideas and talk during play. Within the assessment section of her GTPA submission Mandy included videos of students (off-camera) talking about a Venn Diagram that they had completed about past and present games and responding to teacher questioning. She also submitted a 'Prep Class Record Form' as a tool that she found effective in helping to monitor student progress. It is clear that 'impact' is multifaceted and holistic and it was often demonstrated within the PSTs' analysis of other key practices of teaching.

Sustained efforts by some of the PSTs to impact the learning of challenging students were particularly impressive. Robin's work with Year 5 student Maddie was a notable example. Maddie rarely spoke to teachers and peers. She had a learning plan that responded to her indigeneity and identified neuro-diverse needs. Maddie was identified as working below the standard for Year 5. Maddie's performance had not yet reached the achievement standard and was thought to be a consequence of trauma and disengagement. Robin explained how she 'used Connor's Pain model of behaviour management and Roger's unconditional positive regard to inform my planning'.... 'I understood that I would need to communicate to Maddie that her contribution and presence were valued. I referred to strategies of trauma-informed practice (TIP) to plan assessment tasks that responded to Maddie's anxiety and neurological needs (Australian Childhood Foundation, 2010)'. My decision to use a portfolio provided Maddie with multiple opportunities to represent her knowledge. I understood that children affected by trauma have reduced working memory, and a portfolio allowed me to revisit key concepts with Maddie. Maddie's confidence developed through the learning cycle.

During a small group activity, Maddie began to ask me questions and make jokes. An in-the-moment teaching decision I made was to encourage conversation even though it did not relate to the activity (Driessen et.al, 2019). 'I had been able to use TIP to establish myself as a safe person. Using unconditional positive regard and speaking about Maddie positively as a learner impacted her work though her progression from disengaged to producing an at-standard assessment artefact'. The GTPA provides scope to define and justify how teaching decisions progressed student learning in ways beyond academic progress. Connecting the theory and practice to their lived experience of student engagement and student teacher connections gave depth to the quality and nature of PSTs interpretation of impact.

Several of the students wrote thoughtfully about factors that had constrained their impact. For Helen the limitations included access to student data ('it was against school policy to give me access to the NAPLAN results and other standardised test results') and time ('only five 100 minute lessons to cover a whole learning sequence, complete a summative assessment and prepare for an exam'). For other PSTs it was the challenge of the unexpected. For example, Robin had planned for students to write an email to the local City Council in their final lesson. 'My enacted delivery of the lesson aligned with my initial planning, however, the recent hatching of the class chickens distracted students and made it difficult for them to focus on learning. The students' levels of restlessness were increased by having a relief teacher'. Robin noted that 'This interruption impacted my ability to collect evidence for assessment and impacted the students' feelings of security and preparedness to learn'. Carol recalled a placement day where 'we had to perform in assembly, the computer lab wasn't available as scheduled for inquiry research, each student was required to complete a portrait for the school fair fundraiser and our whole-school was participating in an outdoor education day'. The messy reality of teachers' work is reflected in the submissions. To expect impact to show itself as something neat and precise is unrealistic.

There were multiple examples of these high performing PSTs proving highly adept at analysing their impact through resort to theory and apposite referencing. Encouragingly these often included specialist journal articles rather than generic texts. For example, Carol reflected that she 'observed a positive impact of learning in the outdoor environment through students' positive behaviour, the connections they made in identifying similarities and differences, social skills and overall enjoyment and engagement with the learning activity (Marchant et al., 2019)'. Sally observed that 'Multimodal tasks and methods were used to try to maximise the learning of students who often struggled with learning, and who were therefore also often disengaged (Darrington & Dousay, 2015)'. Rosa commented that, 'I ensured that I linked the content back to students' lived experiences and prior knowledge (Van Straaten, Wilschut, & Oostdam, 2016) and that the summative assessment task was designed to allow students autonomy over their work by encouraging them to choose their own topic and era based on their strengths and interests (Parker, Novak, & Bartell, 2017)'. PSTs consistently underpinned their pedagogical thinking with recent and relevant academic literature, inspiring confidence in their capacity to link theory to practice.

The GTPA submissions are rightly required to be entirely the work of individual PSTs. While noting this aspect of the assessment of competence and professional preparedness, the preservice teachers' reflections provide a salutary reminder that professional collaboration is a highly valued aspect of teaching. They provide an opening for considering how the impact of a teacher's practice can be an outcome of collaboration. The importance of supervising teachers [STs] in supporting pedagogical decision-making in the classroom was often explicitly acknowledged. Holly wrote, for example, that 'Due to inexperience in a less structured student led inquiry, I initially found teaching this unit quite challenging. My ST provided a lot of support'. Jane noted that, she had 'daily discussions with my ST concerning students' emotional and social wellbeing, additional needs, and any

personal life circumstances that may affect their engagement with school'. She saw this information as 'invaluable, as it gave me clear indications of students' levels, their personal needs and how I could differentiate my teaching for individual students'. Helen referenced her STs on several occasions in her submission. They gave her access to past work samples of students in History which assisted in the planning process and the selection of three focus students; provided additional background on individual students; advised on planned approaches to differentiation and; provided feedback on her rubric construction.

Recommendations: What might ITE Providers do to Help PSTs see and Articulate their Impact Upon Student Learning Even More Discerningly?

The qualitative evidence not only from our small sample of PSTs but also across the submissions of thousands of graduating teachers across the GTPA Collective is that the form of summative assessment that the PSTs are undertaking constitutes an authentic and valid mechanism to assess key features of the teaching cycle (See Adie and Wyatt-Smith, 2020). There was purposeful, engaging and worthwhile HASS education learning taking place in all of the examples of PST practice. PSTs could be rewarded for their professional thinking about impact in a variety of different contexts and scales. The evidencing of impact can be age, discipline, individual student and placement contingent. Moreover, high-performing PSTs conveyed convincing impact narratives when impact was not only front of mind as they completed the 'appraising impact' section of their GTPA, but also had a presence through all of the other four practices of the GTPA. Impact was planned for with appropriate foundations in relevant quantitative and qualitative data; it flowed into teaching strategies, for example the explicit sharing of learning purposes and in planning for ongoing feedback to students; it was central to conclusions drawn about the effectiveness of assessment strategies and; it was something to reflect upon. This study supports the approach of GTPA assessors in their assessment of impact as holistic and conscious of PST thinking about impact across the entire teaching cycle and not limited to discussion and review in one section of their GTPA submission..

Nevertheless, of the five practices, the 'Appraising Impact' practice had the least amount of prior research evidence to support its framing. Precedent TPA documents from both the United States (such as the Performance Assessment for California Teachers) and Australia (such as Deakin University's Authentic Teacher Assessment) each assessed PSTs' planning, instruction, assessment and reflection (Mayer, 2015, pp. 6-13) but did not incorporate specific reference to impact. The potential of the GTPA lies in it being both a summative assessment and a source of information to be used for formative purposes feeding back into ITE institutions commitment to continual program improvement. There is scope for higher education institutions to think about how they might better support future PSTs undertaking their GTPA, specifically in relation to how they might be supported to respond with even more focus as they appraise their impact.

Qualitative review of the GTPA submissions and the PST accounts of their impact has indicated a number of inclusions and insights for ITE providers deriving from the strengths of the PST responses. For example, it was encouraging to see in outstanding appraisals of impact, opportunistic departures from initial plans and a well-evidenced sense that impact could be relational, affective or attitudinal as well as cognitive. The assessment rubric for the GTPA allows for flexibility and nuance in the assessment of impact with a degree of sophistication beyond pre- and post-testing practices. Relational, affective or attitudinal impact by the high-performing PSTs was evidenced through the submission of some form of qualitative data and was not solely asserted quantitatively or anecdotally. To varying degrees,

high-performing PSTs each outlined approaches that mirrored features drawn from an application of 'Visible Teaching' principles and practice. Specifically, this was evident through the sharing of learning purposes and the range of other related assessment for learning practices; the attention paid to differentiation and to various forms of formative and ongoing feedback provided to students and; the backward-design of planning from culminating summative assessment tasks. For stronger students, these principles provided a flexible framework within which creative teacher decision-making or changes of emphasis could occur. Exceptional submissions were sophisticated and non-linear in their appraisal and subscribed to 'the responsible uncertainty of pedagogy' (Sellar, 2009) and the active embrace of opportunities to welcome 'moments of surprise as different ideas, problems, questions, and perspectives emerge through the educational conversation' (O'Donnell, 2013, p. 268).

Other recommendations arising from qualitative review of the PSTs' work aligned with the guidance with which they were provided by both the GTPA tool and teacher education tutors, but nevertheless served as a reminder of key messages to underline with future cohorts of students. Impact is certainly data-informed and usually encompasses some form of quantitative measure of progress, however PSTs need to be conscious that their own and school-based data practices are still evolving. PSTs, building upon guidance received across their ITE programs and with the support of their supervising teachers, would be well-advised to revisit recent research literature for its advice on thoughtful applications of teacher data literacy (e.g. Cowie & Cooper, 2016; Wyatt-Smith et al., 2017). We will encourage our PSTs, with the support of their supervising teachers, to continue to generate a range of different sources of qualitative data through which they might assess different elements of their impact. The use of exit cards; student surveys; video evidence; annotated lessons; supervising teacher notes; cognitive commentaries on students' work; and notes from assessment moderation meetings as micro-level evidence of (and/or commentary upon) impact, was encouraging. Additional qualitative sources of impact might be sought from peers, parents or school principals. High-performing PSTs cross-referenced explicitly to samples of students' work or attainment, particularly focus students, in commenting upon progression in aspects of students' learning. It was rare, however, that *specific* features of students' work were analysed as demonstrative of impact and this might be something that PSTs be encouraged to undertake more forensically. It was rare that PSTs focused their intentions regarding impact upon the development of 'soft skills', processes or dispositions. However, when they did so the results could be impressive, such as Holly's systematic focus upon helping her Prep/Year 1 students self-regulate and self-assess or Sally and John's focus with their Year 9 students upon the development of historical empathy. Marilyn Cochran-Smith has questioned some of the facets of ITE effectiveness agendas around 'cultures of evidence', highlighting the absence of cultural understandings and nuances in many approaches to gather and use evidence (Cochran-Smith, 2009). The PSTs in this sample did not explore areas such as multi-perspectivity, intercultural understanding (Martin & Pirrhai-Illich, 2016), sustainability, social justice (Francis, Mills, & Lupton, 2017) or active citizenship – all of which come under the umbrella of HASS education and are threaded through some ITE programs. Some PSTs may wish to reflect upon the equity and attitudinal impacts that can be achieved by teachers in their work with students. Some educational outcomes are harder to assess in relation to notions of impact, but that does not make them any less important.

A final set of thoughts related to the PSTs' reflections upon their impact in a particular disciplinary context. High-performing students, who could certainly demonstrate that they had worked purposefully, engagingly and effectively with students, rarely reflected upon the specific pedagogical content knowledge (PCK) that they had deployed or upon how their teaching had achieved discipline-specific progression. Disciplinary content – and the pedagogical significance of subjects was not a feature of Hattie's visible learning meta-analysis

research (Terhart, 2011, p. 431). Yet we know that these things matter – Hattie himself acknowledges that ‘Expert teachers can identify the most important ways in which to represent the subject that they teach’ (Hattie, 2012, p.28). PSTs’ application of subject-specific pedagogical knowledge is directly associated with successful teaching (e.g. Darling-Hammond, 2006; Darling-Hammond & Bransford, 2005). Reminding PSTs that PCK is likely to be a factor in assessing their overall effectiveness and impact, may enrich both their reflection and appraisal of impact within their GTPA submissions. In appraising the impact of their work PSTs might be encouraged to revisit relevant disciplinary PCK and progression literature to seek greater precision identifying what it was that students were getting better at, be it a specific aspect of conceptual understanding or a particular disciplinary skill. For the areas of History, Geography and Civics and Citizenship education explored in these PSTs’ HASS GTPA submissions, there was a range of disciplinary assessment research linked to progression which might have been called upon (for example, Cooper, 2015; Harris, Burn, & Woolley, 2014; Jerome, 2010; Larsen et al., 2018). Moreover, none of the high-performing PSTs articulated a view that impact might be complex or contested (Diez, 2010; Sellar, 2009). And yet in the context of HASS education, whether one is talking about History, Geography or Civics and Citizenship, notions of assessment and progression are often difficult to pinpoint. GTPA co-ordinators and tutors might encourage PSTs to articulate an intelligent provisional uncertainty about students’ progression and an appreciation that assessment of progress is holistic and requires a drawing upon multiple sources of evidence beyond one individual unit of work over one period of professional experience.

Conclusion

The high-performing PSTs varied responses in their GTPA submissions appraising their impact demonstrate that its adjudication is multi-layered, situated in many different institutional, pedagogical and relational contexts, and not constrained to just one place. They write about and analyse impact with subtlety, finessing clinical evaluatory assessments with ‘imagination and judgement’ (Romer, 2019, p. 594) and particular disciplinary and individual student learning needs are communicated as mattering. The high-performing PSTs’ work underlines that assessing the impact of individual PSTs upon students’ learning is significantly more complicated than purely exploring a linear relationship between beginning teacher inputs and their students’ learning outputs.

Gert Biesta, in a critique of overly-technocratic notions of teachers effecting ‘impact’, noted that ‘it is meaningless to talk about effective teaching or effective schooling; the question that always needs to be asked is “Effective for what?” (Biesta, 2010, p. 34). He opposed simplistic representations of teaching as intervention thereby effecting learning with causal predictability. There was no evidence from the PSTs work analysed here, however, that the GTPA prevents PSTs ‘from asking the key educational questions of content, purpose and relationships’ (Biesta, 2015, p. 76). In the GTPA submissions of PSTs analysed in this study, there was a sense of teacher agency, flexibility in responding to individual students’ learning needs and creativity in recognising teaching moments. The ongoing challenge for PSTs in their GTPA submissions, supported by teacher education programs progressively across their programs, is to link their reflections on students’ progression in relation to the particular learning ambitions of a unit to relevant PCK and sophisticated disciplinary assessment practices. John Hattie issued an exhortation to teachers to ‘Know thy impact’ (Hattie, 2012, p.ix). Following Biesta, it will be fruitful for PSTs to continue to ask themselves ‘Impact to what end?’ and appreciate the many variables and complexities that flow from this question. The impact agenda remains in its infancy – for ITE providers, teacher educators, TPA

assessors, PSTs and school-based supervising teachers – and will benefit from more sharing of perspectives across university–school partnerships.

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