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Mapping curriculum in higher education: Unveiling alignment, complexity, and ideology

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Abstract

In this case study the authors explore how an investigation of curricular sources, curriculum mapping and foundational curriculum ideologies provided insights into teaching and learning and continuous improvement efforts in a university-based teacher education programme. The study is based on three reflective activities: identification of context-specific priorities, comparison with international practices as an external benchmark, and utilization of Schiro's (2013) curriculum ideology inventory as an analytic tool. By investigating the planned, taught, and learned curricula, the study identifies gaps, redundancies, and areas for enhancement. Results from curriculum mapping and the adapted curriculum ideologies inventory underscore the complexity of aligning professional standards, accreditation requirements, and institutional visions. The reflective process fostered transparency, collaboration, and deeper understanding of ideological influences on curriculum design. Insights gained extend to higher education contexts, suggesting that curriculum mapping, coupled with ideological exploration, is a valuable tool for quality assurance and continuous improvement. The findings advocate for integrating student voices and fostering cross-disciplinary collaboration in curriculum development. The processes, results, and adapted ideologies inventory are shared for consideration and use for educators in higher education.

Keywords

curriculum mapping, curriculum ideologies, teacher education, reflective practice, higher education

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Introduction

Disruptive events give rise to both challenges and opportunities. In teacher education, the Covid-19 pandemic revealed the generous response of dedicated educators, both the agility and fragility of teacher education (Liu et al., 2022), and the concurrent need for continuity and reinvention (Rosehart et al., 2022). The return to campus following an abrupt turn to online instruction and lingering reverberations of lockdowns presented an opportunity to analyse and map curriculum of university-based Initial Teacher Education (ITE). In this case study, we explore how an investigation of curricular sources, curriculum mapping, and foundational curriculum ideologies provided insights into teaching and learning and offers a compelling, replicable model for curriculum mapping in higher education.

We sought to investigate if and in what way curricular drift from the planned curriculum had occurred, as programmes pivoted to online instruction and then back again, and whilst staff adapted to new ways of working. We also desired to investigate the ITE curriculum for overall opacity, alignment with our vision and ideological stance regarding the preparation of new teachers, as well as for congruence with requirements of accountability in higher education and teacher education. In a recent consensus report, the National Academy of Education (2024) identified six features of quality in teacher preparation: programme coherence and alignment, curriculum content, instructional methods, clinical experiences, teacher candidate recruitment, selection and support, and faculty recruitment, selection, and support (p. 6). While acknowledging the intertwined nature of these features, this exploration focused on the quality features of curriculum and coherence.

Curriculum mapping is both a planning tool and a process for identifying, designing, monitoring, appraising, and managing the balance and the relationships amongst planned learning outcomes in a programme and the courses that make up a programme of study. Harden (2007) defined curriculum mapping as the process of indexing elements and linking them, as well as incorporating other phenomena such as people and timetable. A curriculum map provides a visual representation which outlines what is taught and shows how and where topics are evident. It is considered to be an effective tool for curriculum development because it can highlight gaps as well as redundancies in the formal curriculum (Alsayed & Omer, 2022). Mapping has been suggested as a method for checking whether a curriculum is delivered as planned and able to accomplish the expected learning outcomes (Harden, 2001; Morehead & LaBeau, 2005; Uchiyama & Radin, 2009) in addition to making learning and teaching more meaningful to students and instructors (Lam & Tsui, 2016) and demonstrating quality to stakeholders. This often includes formal processes in departments, and mapping content to graduate outcomes or to standards of professional bodies.

Reviewing curriculum in this way can also provide occasion and rationale for implementing strategic changes to learning and teaching practice and give agency to programme teams. Positive results have been observed when curriculum mapping has been applied in higher education settings (Eckelmann et al., 2016; Wang, 2015) and specifically in ITE (Perry et al., 2019). One of the greatest affordances noted is the collaborative interaction that it fosters in a culture which can tend towards the individual rather than collective interests (Tierney, 1999). Baecher (2012) noted that collaborative

practices needed to complete mapping are often carried over into greater cross-departmental dialogue, research, and scholarly work, as well as greater job satisfaction.

Interestingly, in a literature review of 37 peer-reviewed studies regarding ITE curriculum, Perry et al. (2019, p. 22) found research with explicit discussions of ITE curriculum difficult to locate, and as a result, other sources of information are often needed (e.g., grey literature and government reports) to build understanding. When studies are available, they predominantly adopted a deficit perspective, emphasizing shortcomings, critiques, and missed opportunities (Perry et al., 2019, p. 6). It is salient to consider conclusions of the review that a shared definition of ITE curriculum does not have wide currency. The inherent variance in visions and fundamental objectives of ITE programmes impedes the formation of consensus on the ideal curriculum structure (Perry et al., 2019). However, some key features associated with successful curriculum design have been identified. These include high-quality clinical placements in schools that bridge the theory-practice gap (Darling-Hammond, 2014), the purposeful integration of inclusivity (Alexiadou & Essex, 2016), and a curriculum informed by research (BERA-RSA, 2014). The review underscores the significant knowledge gaps regarding how ITE curriculum can be effectively designed to equip new teachers with competencies necessary to navigate the complexities and inherent unpredictability of contemporary educational systems (Martin & Dismuke, 2018).

Consequently, in this case we will show how staff with strategic oversight and responsibility of ITE programmes at the University of Glasgow engaged in a reflective curriculum mapping process. The study is based on three reflective activities: identification of context-specific priorities, comparison with international practices as an external benchmark, and utilization of Schiro's (2013) curriculum ideology inventory as an analytic tool. It also includes experience of alignment of quality assurance requirements, as ITE is considered crucial in increasing educational quality in schools (Aspfors & Eklund, 2017). We also elucidate how the process led to greater understanding and transparency in what is taught, but also in competing visions and ideologies which underpin and centre the manifold purposes of university-based teacher education and decisions about achieving those purposes. Finally, we consider how new insights into teaching and learning in higher education can be gained through curriculum mapping and ideological considerations of curricula.

A curriculum for Initial Teacher Education in Scotland

Understanding of the ITE curriculum is gained by exploring the source of the curriculum and the scope of what it includes (Ozga, 2000). The recommended teacher education curriculum in Scotland encompasses the requirements of policymaking groups (McBrien & Brandt, 1997). It is first established by the standards of the General Teaching Council of Scotland (GTCS) as the accrediting body for teacher education (GTCS, 2023). The overall aim of ITE in Scotland is to prepare student teachers to become competent, thoughtful, reflective and innovative practitioners, who are committed to providing high quality learning for every learner (GTCS, 2023). While some fields of study in higher education deal with opacity in course content or sequence (Eckelmann et al., 2016), this is not the case in ITE. The Guidelines for Accreditation of Initial Teacher Education Programmes in Scotland (GTCS, 2023) clearly define content required for professional acceptability of ITE leading to a teaching qualification (p. 8). This includes areas such as educational theory, childhood development, developing positive relationships, legal and statutory

frameworks, and national priorities and pedagogies. Understanding and practices in critical concepts are specifically noted:

- Inclusion;
- additional support needs;
- parental involvement;
- involvement of young people;
- primary and secondary school curriculum (including literacy, numeracy, health and wellbeing, digital and data literacy, skills for learning, life and work, Learning for Sustainability (Scottish Government, n.d.);
- positionality and identity; and
- professional values of social justice, trust and respect, and integrity (GTCS, 2023).

ITE in the Scottish context clearly reflects the professional standards. However, the teacher education curriculum is complicated by its multi-layer nature and interconnectedness of critical educational goals with programmatic, policy, and contextual factors.

A GTCS accredited programme is held to account on graduates' ability to meet the Standard for Provisional Registration (GTCS, 2021) and the provider's ability to evidence this. The standards set out essential abilities of the profession as mandatory competencies of knowledge, skills, and dispositions teachers need to deliver high-quality teaching in schools and therefore further shape the curriculum. Throughout their study in the discipline of education, ITE students apply knowledge, skills, and professional values at appropriate progression levels with increasing sophistication in a cycle of in-university study and school-based classroom experiences. Students are encouraged to apply early knowledge to later course learning outcomes. Critical concepts are presented frequently throughout the programme with deepening layers of complexity and in different simulated and real-life applications. Teacher education is designed in learning cycles of introduction, preparation using approximations of practice, enacting practice in the classroom, and using representations to see and analysing practice (McDonald et al., 2013), thus reflecting features of a spiral curriculum design (Bruner, 1960).

Adding to the curricular layers of ITE is the Self-Evaluation Framework of Education Scotland (2018), the Scottish government's executive education agency (Education Scotland, 2023). On an annual basis, ITE providers self-evaluate according to three key areas: Area 1: Leadership and Enhancement, Area 2: Student Experience, and Area 3: Outcomes. Within Area 2, a critical feature includes the ITE curriculum (see Table 1). While closely aligned with GTCS, the framework further recognises the importance of considering personal strengths and aspirations of teacher candidates themselves within the curriculum. This creates a further source of curricular content - student views.

Table 1. Self-Evaluation Framework for ITE Area 2 – Student Experience of Curriculum (Adapted from Education Scotland, 2018, pp. 10-12)

Students are supported to develop…	• a detailed understanding of their professional responsibilities in relation to literacy, numeracy and health and wellbeing. • a detailed understanding of the curriculum as a whole and the curriculum principles and contexts for learning. • significant strengths in particular curriculum areas, in line with their personal and professional aspirations.
All ITE programmes include the following:	*Knowledge of learners and learning in social contexts; understanding*: • diverse learners; • the impact of social context on learning; • the school as an expression of social policies and values – policy context and national priorities, for example, Getting It Right For Every Child; • the learning process as underpinned by relevant learning theorists; and • child development (cognitive, social, emotional, moral, physical and atypical development). *Knowledge of curriculum:* Purpose; values; construction of teacher; construction of pupil; key ideas and modes of enquiry in curriculum areas; how to develop curriculum matter coherently and sequentially. *Knowledge of teaching:* Pedagogical content knowledge, how to plan to meet the needs of all learners; how to explain and give alternative explanations in different curriculum areas; how to engage (motivation); how to manage a classroom and how to implement learning; how to engage and motivate; how to assess formatively and summatively; how to feedback; how to reflect and evaluate.

In Scotland, universities play a significant role as ITE is delivered only by university-based providers. Foundational is the belief that university-based ITE enhances and strengthens the field of teacher preparation through disciplinary and interdisciplinary reach and advocacy across the academy and the education system, collaborative associations with schools and other educational institutions, and an ethical and reasoned voice within the field (Brooks & McIntyre, 2020). University involvement in ITE is not always the case, as is the circumstance in the USA, England, and beyond (Hoult et al., 2024), where teaching qualifications can be gained outside of higher education institutions through apprenticeship models, employment-based training, and school-centered routes (Anderson et al., 2024; Perry et al., 2019, p. 17). Glazzard & Tate (2024) asserted that in

England this has resulted in an 'anti-intellectual, anti-theoretical and anti-university discourse' (p. 1) which has been detrimental to universities. The merits of university-based ITE continue to be argued and advocated for, such as developing strong teacher identity and critical interrogation skills (Glazzard & Tate, 2024), upholding teaching as a research-based profession (Tillin, 2023), building capacity of new teachers to engage with long standing issues of social inequalities in participation and achievement (Beauchamp et al., 2015), and research reciprocity and knowledge exchange within a strategic social justice agenda (Hoult et al., 2024).

As teacher education in Scotland is sited within universities, ITE curriculum must therefore align with the Quality Assurance Agency (QAA) for Higher Education's requirements and skill progression levels (i.e., Scottish Credit and Qualifications Framework [SCQF] levels). This recognises teacher education itself as an academic discipline in higher education with its own accumulated knowledge base subject to internal and external quality assurance and enhancement protocols. As such, curricula of university based ITE programmes, as well as the way in which they are provided and delivered, must also reflect higher education requirements (QAA Scotland, 2023), thus further adding complexity.

Additionally, there are a wide range of policies and reports relevant to education in Scotland's schools which contribute to the teacher education curriculum, such as policies on pupil wellbeing, rights of the child, workforce development, and national school improvement plans which create an obligatory 'oughtness' for incorporation in curriculum formation. Scotland is undergoing a complex and holistic education reform agenda in response to numerous independent, national, and international reviews, raising critical questions about the government's role in addressing the evolving needs of the teaching profession (Anderson, 2023). As an example, Muir (2022) in the report titled *Putting learners at the centre: Towards a future vision for Scottish education*, recommended that ITE "equip teachers with the necessary skills and expertise in developing their own assessments and conducting internal quality assurance" (p. 75). While there is little doubt that policy and guidance is well meaning, the volume and convolution can create confusion as well as adversely impact on curricular cohesion. This complexity is amplified by the intersecting ambitions of multiple stakeholders and interest groups, each with distinct goals for shaping education policy and its practical application in ITE. Muir (2022) noted that senior leaders in schools must consider 34-40 areas of policy a day, thus a call for simplification and more 'joined up thinking' to minimise the risk of multifarious interpretations (p. 76). This is a complicated and often overwhelming picture for practitioners and teacher educators alike. As Perry et al. (2019) observed, teacher education is more complex than teaching itself, a reality reflected in the diverse curriculum sources in this investigation. The array of facets and sources of the curriculum often makes teacher education more reactive than proactive (Stevens, 2010). Given the extensive source and scope of the curriculum, and the complexity of educational systems in which it exists, it is essential to observe that changes in any of these systems, standards, or policies produce changes in ITE curriculum and challenges curricular organization and coherence.

Mapping an ITE curriculum

We (the authors) thus engaged in recursive reflection, examination, and dialogue about our own ITE curriculum, and through sharing of results, aim to influence curricular quality, design and delivery in ITE programmes. It is also our goal to share a description of

processes for consideration of mapping exercises more widely across other academic disciplines. We first explain the context of the programme, then recount mapping procedures, findings of curriculum content alignment, and share reflections on curricular vision in ITE based on an ideological inventory.

ITE programmes in higher education

At the University of Glasgow School of Education, ITE is delivered either via three routes: the undergraduate route Master of Education (MEduc), and Master in Design and Technology Education (MDTechEd), or the Post-Graduate Diploma in Education (PGDE). These three routes cater to diverse entry routes into ITE and align with the Scottish Government intake targets for ITE to ensure comprehensive preparation for teaching in both primary and secondary education sectors. The MEduc and MDTechEd are 5-year integrated master's programmes preparing students for the teaching profession in the primary (MEduc) or secondary sector (MDTechEd). The entry requirements for these programmes are Scottish National and Higher qualifications or equivalent. The PGDE is a one-year programme that prepares students who have an undergraduate degree for either the primary or secondary sector. All programmes are accredited and re-accredited in a 5/6-year cycle by GTCS. A requirement for reaccreditation is evidencing that the programme has the potential to prepare its graduates to meet the GTCS Standards for Provisional Registration (SPRs).

The MEduc programme, with approximately 600 students, and MDTechEd, with approximately 100 students, consist of four main overarching course strands (i.e., Education in Practice, Curriculum, Electives/ Technology Craft and Education and Society) that thread progressively through each year as part of a spiral curriculum (Bruner, 1960) (see Appendix A). The MDTEchEd programme focuses more on curriculum in years 1 and 2 with the aspects of society featuring more formally in years 3 and 4. To align with QAA SCQF requirements (QAA Scotland, 2023), the four course strands build each year alongside school-based field placements in years 1-4 and a dissertation in the fifth year.

The PGDE programme has approximately 220 students: 120 primary and 100 secondary students. It comprises three 30-credit courses each at SCQF level 11 and one 30-credit school experience course at SCQF Level 10 (see Appendix B). PGDE was the most recently reaccredited programme. In June 2021 it achieved unconditional reaccreditation (i.e. no changes to the planned curriculum, structure or documentation were needed) for a period of up to six years (Boath et al., 2023). The refreshed PGDE programme took inspiration from Korthagen's holistic approach to teacher education (Korthagen, 2004, 2017). It aims to help students to reflect upon their beliefs, values, and positionality towards important issues in education and to build their professional identity as reflective and enquiring teachers.

In preparation for reaccreditation, the planned PGDE curriculum was mapped against the SPRs. The mapping process was carried out by the lecturers leading the PGDE programme and the PGDE courses, by matching the content and intended learning outcomes of each course against the SPRs. The final mapping results were presented in matrix format with the SPRs as row headings and the programme courses as columns. This visual presentation is a common way to present curriculum mapping overviews (Arafeh, 2016). Appendix B includes an extract of the final mapping matrix as an example. Due to the timing of the reaccreditation process, its successful result and smaller number of courses

compared to the MEduc and MDTechEd programmes, the authors focused on reflecting on the PGDE planned curriculum mapping process for this project.

Results of the mapping exercise

The curriculum mapping matrix confirmed that all SPRs (and their bullets and sub-bullets) were addressed in at least one of the PGDE courses, and, more often, in more than one course. The aforementioned critical concepts from accreditation guidelines were broadly referred to in the narrative of course descriptions and rationales yet were not mapped systematically and explicitly in a matrix. For example, the GTCS Guidelines for Accreditation (2019), mention specific examples of additional support needs (e.g., Tourette syndrome, dyspraxia, dyslexia). Our documentation more broadly mentions, in the programme description, that topics of neurodiversity and inclusion are provided through specialist course input, and connections are made to this input in another course to support the development of inclusive pedagogical approaches. It is also worth noting that the accreditation guidelines (GTCS, 2019) used for the PGDE accreditation in 2021 have been updated and replaced by 2022 guidelines (GTCS, 2022), and the list of critical concepts has been slightly modified. A mapping matrix thus seems a useful tool to compare the curriculum offered against the updated guidelines to ensure alignment.

The mapping exercise highlighted that, at the moment, there is no framework or common language to describe the progression within each standard, as we took a binary (i.e., yes/no) approach when producing the mapping matrix: either there was a link to a standard or not. When mapping is performed in this way, it is difficult to show development of student learning within the programme. In addition, we realised that mapping against the standards was a necessary exercise to do for reaccreditation purposes, but that the standards were not useful as a starting point for curriculum design. Designing the curriculum with the aim to 'tick off' the standards might lead to an incoherent curriculum prone to drift over time, when teaching inputs are updated, removed or replaced by staff who may not be aware of the original aims of materials (i.e., to satisfy a particular standard) or who had not yet worked out what enacting the commitments of the School of Education might look like for themselves. The School of Education vision statement describes what we desire to achieve through taught programmes and sets a direction for planning and execution of teaching, scholarship, and research. It reads as follows:

> The School of Education is committed to social justice in education and to education research and practice of the highest quality. We aspire to be a world leader in addressing the contemporary educational issues of our times and to making a difference for society's most vulnerable and educationally disadvantaged.

Having an anchoring vision when designing a curriculum helps keeping the overall design more coherent as there is one overall purpose for the programme, and the curriculum is more robust towards drift, as the general direction of the curriculum holds even if, at a smaller scale, changes are made to some parts of the programme (Eckelmann et al., 2016; Murphy & Torre, 2015).

To endorse the ITE professional qualifications beyond Scotland, in 2024 the School of Education decided to undertake an additional international accreditation process delivered by the Council for Accreditation of Educator Preparation (CAEP)

(https://caepnet.org/). To engage with the process, instead of creating a separate mapping matrix for the CAEP standards we aligned, compared, and cross-walked the GTCS national accreditation standards with the international CAEP standards (2022). Overall, the two sets of standards mapped well against each other with almost no gaps. Most of the variations were around language used to describe the standards and the different contexts of the accreditation documents. A few common themes emerged:

- the importance of engagement in ongoing professional learning, highlighting the significance of commitment to life-long learning as an educator;
- the focus on inquiry, reflection and evaluation of own practice (in the Scottish standards it is under the term of "developing an enquiring stance with the support and knowledge of evidence, literature and research");
- learning for sustainability (wording used in the Scottish standards) and global citizenship (wording used in the international standards);
- the focus on diversity, equity and inclusion – recognizing individual differences in children, and that every child develops at a different pace, and the diversity of children's cultures and communities to promote an inclusive classroom; and
- the value of partnerships and learning communities, i.e. being aware of the community contexts and influences that can impact learners and being able to collaborate with a range of stakeholders to support learning.

Exploring and reflecting on the Scottish standards through comparison with another set of standards, gave transparency to messages and values within the Scottish standards that we would not have to pick up on by looking at the national standards in isolation. For example, expectations of mutually beneficial collaboration with schools, input focused versus outcome focused (i.e., impact on pupil learning), co-construction of processes and assessments, data-based decisions, requirement for continuous improvement, and diversifying the teaching workforce.

Considering curriculum ideologies

To bring a new perspective to bear on the curriculum mapping exercise, this investigation adopted the lens of Schiro's (2013) curriculum theory as a framework from which to connect our work to existing knowledge and explore results and experiences of curriculum mapping. When educators understand their own ideological frameworks and have a range of possibilities to reference, they may be able to more effectively accomplish curriculum and instructional goals (Yaşar & Aslan, 2021).

Schiro (2013) presents four ideologies from which a school curriculum can be examined: Scholar Academic, Social Efficiency, Learner Centered, and Social Reconstruction (p. 2). Ideologies are defined as "a collection of ideas, a comprehensive vision, a way of looking at things, or a worldview that embodies the way a person or a group of people believes the world should be organised or function" (p. 8). These perspectives influence how curriculum is conceptualised and developed as well as the efforts made to deal with questions about it. We utilised this theory as an analytic tool to explore the vision of teacher education curriculum and to further consider the results of comparison with GTCS and CAEP standards.

The focus of the Scholar Academic ideology (Schiro, 2013, p. 4) is on the transmission of established knowledge and academic subjects, placing a strong emphasis on traditional academic disciplines. It seeks to transmit cultural knowledge and promote intellectual development, typically through a structured and content-focused approach to teaching and learning. It often involves standardised testing and rigorous academic standards. Social Efficiency ideology (p. 5) emphasises practical skills and preparation for the demands of the workforce and society. It maintains a focus on teaching skills, competencies, and knowledge that are directly applicable to real-world situations. Pedagogical approaches incorporate hands-on training and experiential learning. In this view curriculum is aligned with the needs of the job market and economic efficiency. In a Learner Centered ideology (pp. 5-6) priority is placed on individual learners' needs and interests. It involves personalised learning, self-directed exploration, and the development of critical thinking and problem-solving skills gained through inquiry-based teaching methods. Teachers act as facilitators, and the curriculum is adapted to accommodate diverse learning preferences. The emphasis of the Social Reconstruction ideology (p. 6) is on social justice, equity, and societal transformation. This curricular approach encourages students to critically examine and challenge the existing social order through project-based learning, critical discussions, and active engagement with societal problems. It aims to empower students to become agents of positive change in their communities and the world.

While these four ideologies represent distinct approaches, educators draw from one or multiple of these ideologies when designing programmes depending on educational goals and beliefs about what students should learn and how they should learn it. We utilised this curriculum theory as a foundation to analyse the ITE curriculum, reflect on how our findings align with our mapping results, purpose, and vision, and explore how our experiences can inform continuous improvement efforts in the space of higher education quality assurance. Educators may better understand the nature of disagreements when they arise and have language to more successfully communicate and negotiate curriculum decisions when ideological stances are considered.

ITE ideologies inventory

To search for new insights, the three authors adapted Schiro's curriculum ideologies inventory (Schiro, 2013, pp. 40-41) as a thought experiment to enquire about practices and reconsider how ITE should be organised and function (see Appendix C). The inventory presents and contrasts an educator's beliefs about instructional purpose, teaching, learning, knowledge, teacher education, and evaluation from Schiro's four ideological positions. First, language of Schiro's inventory was adjusted for the higher education context; 'teacher' was changed to 'teacher educator', and 'children' adjusted to 'students'. Instead of primary and secondary schools, we considered a School of Education, and Part 5 was adapted to consider the time period of teacher preparation instead of childhood. Next, each of the authors individually completed the inventory by ranking the statements in each of the six areas as 'like most', 'like second most', 'like third most', 'dislike the most', noting there is no one right or wrong answer. Subsequently, the results were transferred to the sorting form and then onto graphs.

Ideologies and the ITE Curriculum

Results from the ideologies inventory of the three authors are presented in Figure 1 and Table 2. Figure 1 shows each author's preference towards the four ideologies for each of

the six categories: purpose, teaching, learning, knowledge, teacher education, and evaluation (on the y-axis, 1 represents the most preferred and 4 the least preferred). Table 2 includes the individual and comparative inventory results of the three authors. Responses of 1s and 2s indicated the ideology was favoured, with mostly 3s and 4s meaning the position was not favoured. A graph with a combination of lows and highs in one section indicates mixed feelings about the position. Each author's first and second choices are also given in Table 2.

Figure 1. ITE Curriculum ideologies inventory: Comparative graphs for three authors (y-axis shows the degree of preference: 1=most preferred ideology, 4=least preferred ideology)

Responses point towards an overall vision of ITE curriculum ideology from the position of Learner Centered; it was the most selected stance for the areas of teaching, learning, and evaluation. Social Reconstruction was the second most favoured stance and was indicated as the curriculum ideology for the areas of purpose and knowledge. Regarding what most defines teacher education in the university setting, there was a high degree of variability in positions with no one position favoured. Two curriculum ideological positions were clearly not favoured: Scholar Academic and Social Efficiency.

Table 2. Summary of authors' ideological positions on ITE curriculum

	Author 1	Author 2	Author 3	Section overall position and rating
Purpose	Social Reconstruction Scholar Academic	Social Reconstruction Learner Centered	Social Reconstruction Social Efficiency	Social Reconstruction
Teaching	Social Efficiency Learner Centered	Learner Centered Social Reconstruction	Learner Centered Social Efficiency	Learner Centered
Learning	Learner Centered Social Reconstruction	Learner Centered Social Efficiency	Learner Centered Social Reconstruction	Learner Centered
Knowledge	Social Reconstruction Social Efficiency	Social Reconstruction Social Efficiency	Social Efficiency Social Reconstruction	Social Reconstruction
Teacher education	Social Reconstruction Social Efficiency	Scholar Academic Learner Centered	Social Efficiency Scholar Academic	No Consensus
Evaluation	Social Efficiency Social Reconstruction	Learner Centered Social Reconstruction	Learner Centered Social Efficiency	Learner Centered

When looking at each individual's responses, the Social Reconstruction position was most predominately favoured and the Scholar Academic least favoured. Author 1 favoured the Social Reconstruction and Social Efficiency positions, had mixed feelings about the Learner Centered position, and did not favour the Scholar Academic position. Author 2 favoured the Learner Centered and Social Reconstruction positions, expressed mixed feelings regarding the Social Efficiency position, and did not favour the Scholar Academic position. Author 3 had an overall tendency toward the Social Efficiency and Social Reconstruction positions, had mixed feelings regarding the Learner Centered position, did not favour the Scholar Academic position.

The responses amongst the authors in Figure 1 were also examined for levels of agreement (see Table 3). Inter-rater reliability was calculated using the basic measures of percentage of perfect agreement (i.e., exact ratings) and adjacent pair agreement (i.e., within one rating level). Overall, there was a substantial agreement (80.6%) in ideological positions of areas related to the ITE curriculum as per the adapted inventory.

Table 3. Authors' percent of perfect and adjacent pair agreement regarding curriculum ideologies

	Purpose	Teaching	Learning	Knowledge	Teacher education	Evaluation	Generalised agreement
% of Perfect Pair Agree-ment	25.0	41.7	50.0	66.7	16.7	25.0	37.5
% of Adjacent Pair Agree-ment	75.0	91.7	100.0	100.0	41.7	75.0	80.6

There was a high degree of agreement in the areas of learning (Learner Centered) and knowledge (Social Reconstruction). There were five instances of perfect pair agreement of the three authors on the following ideological positions:

- Purpose – Social Reconstruction for a social justice orientation of a university-based School of Education was highly favoured (rating of 1);
- Teaching – Scholar Academic with a focus of the supervisory role of higher education educators was collectively not favoured (rating of 4);
- Knowledge – Scholar Academic with an emphasis on structured knowledge being of most worth was collectively not favoured (rating of 4);
- Knowledge – Learner Centered with building of knowledge focused on the individual and their own innate nature was mostly not favoured (rating of 3); and
- Learning – Learner Centered through active engagement was highly favoured by all (rating of 1).

There was only fair to moderate agreement in the area of teacher education which was revealed and confirmed in the variation of overall ratings amongst raters and the area of least interrater pair agreement. We acknowledge that the authors' positionality is reflected in their responses to Schiro's inventory questions. The authors have experienced different education systems, as pupils, as teachers, and teacher educators, but they have all worked in Scottish ITE for years, and, therefore, their beliefs have been shaped by the Scottish educational context and its strong focus on social justice (Adams & Burns, 2023).

Discussion

We have chosen to query our overall synthesis of curriculum exploration through the self-evaluation framework model for ITE provided by Education Scotland (2018; 2021). This model is utilised annually as a between-accreditation-cycle opportunity for continuous improvement; it guides us to look inwards, look outwards, and look forwards to identify

areas for development as well as new and emerging priorities. It thus seems a fitting lens to bring insights to our work in teacher education and as a reflective model for application more broadly in other disciplines of higher education.

Looking inwards

Looking inwards involves knowing ourselves through effective evaluation from information gathered and to see if the position we ascribe to occurs in the reality of the curriculum. Two key revelations have emerged. Our examination through Schiro's (2013) curriculum ideologies confirmed a position of Learner Centeredness and Social Reconstruction held by the educational leaders with responsibility for the ITE curriculum (Table 2). There was broad consensus among the three educators for all dimensions except 'Teacher Education' (Table 3). This lack of consensus is not surprising as 'Teacher Education' is viewed as a complex system (Martin & Dismuke, 2018) with multiple stakeholders' perspectives and interests. The dominant ideologies of Learner Centered and Social Reconstruction are aligned with aspects of the University of Glasgow (2021) Teaching and Learning Strategy and the School of Education's commitment to social justice. Social Reconstruction pairs with our School of Education's vision of a teacher education programme which aims to support the educationally disadvantaged. We wondered if this ideology can be enacted more in how we prepare future teachers.

The common themes that emerged from comparison of the GTCS and CAEP standards seem to align with Schiro's Learner Centered (e.g., individual learners' needs and interests are given priority through the focus on enquiry, reflection and evaluation of their own practice) and Social Reconstruction ideology (through learning for sustainability and a focus on diversity, equity and inclusion to examine and challenge the current societal structure), and therefore match the authors' most prevalent curriculum ideologies (see Table 2).

Attention to student centeredness transpires also in the Self-Evaluation Framework of Education Scotland (2018). The framework asserts that ITE providers need to support students to develop according to their own aspirations and to seek and value students' views and utilise them to enhance their ITE programmes. When planning the reaccredited PGDE curriculum students' views were gathered via class representatives. However, we need to explore in more depth what it means to have students as co-creators of curriculum and what their role would be in reviewing and designing the curriculum, as we realised that our aspirational ideology of Student Centeredness might not be reflected in our curriculum and its enactment. Interestingly, even though we ask students to adopt a learner-centered teaching approach, in their classrooms, our own teaching approach in higher education is not as student-centered as we say we would like it to be. The mismatch between what we exhort and what we practise might be due to the fact that in higher education the Scholar Academic ideology is often in conflict with being Learner Centered.

A possible tension in ideology can arise for teacher education programmes located in the higher education sector due to the specific nature of quality assurances processes from professional bodies alongside the demand to meet the standards required for higher education programmes (Dawson & Hubball, 2014, p. 59). The purpose of a university degree is very much Scholar Academic, but, because of their practical and professional nature, the purpose of teacher education programmes aligns towards Social Efficiency, or, in more recent times (with free, high-quality education being considered a universal right

in Scotland) towards Social Reconstruction as evidenced in the School's vision statement. This tension is evident in the multifaced role and identity of teacher educators: university teacher educators hold a teaching qualification and years of experience as classroom teachers but are also required to be researchers and scholars as part of their role in academia. Meeting GTCS standards is also required for teacher educators themselves - they must live and model the standards that make up the very curriculum they teach and maintain their teaching qualifications. The uniqueness of the role of teacher educators and the tensions and challenges it brings are well documented (Boath et al., 2023; Goodwin et al., 2023; Hoult et al., 2024), highlighting a continued need to defend the profession of teacher education. As Anderson et al. (2024) concluded in a recent review of judging student teacher effectiveness, teacher educators are confronted to consider adherence to existing traditions and standardised ways of doing is what is desired, or if it is more necessary for teacher educators to avoid potentially reductive orientations.

Despite these tensions, we contend the advantages that locating teacher education within higher education brings are invaluable for society. Schools need teachers that embody an enquiry stance (Cochran-Smith & Demers, 2010) and, through it, are able to both make sense and critique educational policies and yet adapt and be creative according to the school context or wider societal changes. University programmes, in particular those at master's level or higher, are designed to develop these crucial problem-solving, analytical and critical thinking skills. On the other hand, universities highly benefit from the situated nature of teacher educators' work. UK higher education institutions' research quality is assessed under the Research Excellence Framework (REF) which evaluates, among other dimensions, the impact academic research has on society (UK Research and Innovation (UKRI), 2023). Teacher educators' contribution towards the 'Impact' dimension of research can be substantial, due to the location of their research within schools and the public domain, and with many direct links and influence on public policy and practice.

Looking outwards

The process of looking outwards supports reflection to learn from what happens elsewhere to challenge our own thinking. Engaging with the work of other academics has enabled us to evaluate and challenge our own thinking and practice during the curriculum mapping process. We recognise that teacher education is a complex system involving a range of stakeholders, perspective and interests (Martin & Dismuke, 2018) and that curriculum development is a highly dynamic and multi-layered process (Priestley, 2021). We have used this knowledge to further consider what the potential differences in a vision for ITE curricula could be and the ways that we could "develop and articulate a shared understanding of the purpose of ITE and the pedagogical decisions that inform programmes" (Kennedy et al., 2023, p. 3).

Firstly, drawing upon Schiro's (2013) four curriculum ideologies assisted us in a more focused reflection during the curriculum mapping process. However, we were aware of the need to have a context appropriate framework (Appadurai, 1996) to ensure meaningful and authentic work. Adapting the framework to align more closely with ITE has helped us to reconsider the range of perspectives and how they can cultivate a diverse cohort of educators equipped to navigate the complexities of the modern classroom. This outward perspective has encouraged us as teacher educators to reflect on our own personal/professional ideologies and to critically examine the broader societal contexts in which education operates in preparing future teachers to engage with issues of equity, social justice, and community empowerment. We believe the process of

using the adapted ideology inventory (Appendix C) has been beneficial and is of interest to higher education educators; it provides an adaptable inventory that can be effectively used to frame aims and objectives when embarking on curriculum mapping. Specific terms can be replaced: e.g., 'School of Education' should be replaced with the department, school, or college of interest. We have modelled how the language can be reframed based on standards of the profession and the vision of the programme as well as the methods of achieving the vision.

Also, during this process we have considered the notions of 'developing' and 'shared understanding' more deeply. One notable advantage of curriculum mapping is its capacity to foster collaborative practices within academic communities (Baecher, 2012; Tierney, 1999). However, a lack of accessible Scholarship of Teaching and Learning (SoTL) expertise and the limited amount of time allocated for developing and evaluating learning-centered curriculum practices can impede curriculum reform (Hubball et al., 2012). Therefore, we have endeavoured to take a more comprehensive and integrative approach to curriculum mapping and design —one that not only meets regulatory requirements but also cultivates the intellectual and pedagogical growth. We have achieved this through the mapping of the PGDE programme by reflecting not only the professional and academic standards required but by taking a more philosophical and holistic approach of what we believe as experienced educators is required of future teachers. While professional standards remain a cornerstone of ITE, there has been little research conducted on further and higher education curricula, especially related to ITE (Perry et al., 2019). Interestingly, our experiences within ITE emulate the complexities around curricula experiences of schools (Priestley, 2021), and we believe this likely for other higher education disciplines.

Drawing on the curriculum mapping work in higher education and within ITE, we believe our process for curriculum mapping provides a generalizable model of what is effective when embarking in curriculum mapping in higher education. Returning and reconnecting with a foundational vision, ensuring a shared vocabulary and understanding around learning design, and including students as co-creators could further aid collaboration and sharing of best practices (MacNeil & Beetham, 2022, p. 7). For this process to be effective, educational programmes should consider the unique context of each local site to ensure meaningful and equitable outcomes (Rizvi & Lingard, 2010). It should be noted that cross-departmental dialogue, research, and scholarly work feature within these collaborative practices (Baecher, 2012). This proactive approach of identifying and aligning ideologies with the purpose and vision of our ITE programmes we believe supports socially just practices within educational settings and leverages the collective expertise of the profession to address challenges and adapt to evolving educational needs.

Looking forwards

Looking forward, as we navigate the evolving landscape of education and think towards future goals, two pivotal concepts emerge: moving beyond the planned curriculum, to the taught and the learned curriculum (Glatthorn et al., 2018). As we move forward, we are committed to ensuring that the PGDE programme maintains its excellent standard and continues to achieve an unconditional reaccreditation. To ensure alignment between what is planned and what is actually experienced by learners, we must focus on continuous professional dialogue with colleagues and dissemination of curriculum mapping information. This provides opportunities for "interpretation, mediation, negotiation and translation" of curriculum (Priestley, 2021, p. 1). This process entails not

only crafting thoroughly planned curricula but also establishing robust mechanisms for implementation and monitoring to mitigate curriculum drift.

Building on the successful application of curriculum mapping in the PGDE programme, our aim now is to apply the same systematic curriculum mapping process to the MEduc and MDTechEd programmes. This will ensure alignment across all ITE pathways and provide a cohesive approach to preparing educators for the dynamic needs of the profession. We have found curriculum mapping as a collegiate activity essential in the delivery of the taught curriculum. By equipping educators with comprehensive plans that articulate vision alongside learning objectives, instructional strategies, content and skill development and assessment practices, we empower them to navigate the complexities of curriculum delivery with clarity and purpose. Moreover, fostering a culture of continuous communication ensures that the planned curriculum remains dynamic and responsive to the evolving needs of learners and the educational landscape.

Simultaneously, we might consider the learned curriculum, which manifests through learner outcomes and achievements. Assessments serve as a critical lens through which we gauge the efficacy of our educational endeavours (Eckelman et al., 2016). Looking forward, we anticipate a revision of assessments that strengthens the connection between knowledge acquisition, skills and dispositions (professional values) and its application in real-world contexts (Jenset et al., 2018). This necessitates a careful reconsideration of assessment processes to ensure they authentically capture students' abilities to transfer knowledge, skills, and professional values in diverse educational settings.

As we map our ITE programmes forward, it is imperative to recognise the reciprocal relationship between the taught and learned curricula. According to Marzano et al. (2011), systematically developing teacher expertise requires five conditions to be met: a well-articulated knowledge base for teaching, focused feedback and practice, opportunities to observe and discuss, clear criteria and a plan for success, and recognition of expertise (p. 4). By ensuring these conditions are met and aligning our planning efforts with assessment practices that prioritise progression in real-world application, we can cultivate a dynamic educational ecosystem that fosters deep understanding, critical thinking, and lifelong learning skills.

To further our continuous improvement efforts, it would be interesting to utilise other perspectives on curriculum ideology using alternate classification schemes to interrogate the ITE curriculum. Schiro (2013) put forward nine other theorists whose frameworks could similarly be utilised for enquiry (p. 11); most, however, offered similar positions. Interestingly, Yaşar and Aslan (2021) put forward a similar list of theorists and classifications as Schiro with the addition of two further theoretical options by which to analyse and reflect (i.e., Null, 2016; Ornestein & Hunkins, 2016). It could be beneficial to examine the work of Null (2016) in particular, who included a unique classification of deliberative curriculum. Additionally, the mapping exercises identified the lack of both framework and shared language to describe skill progression within teaching standards; it may therefore be useful to examine the potential to leverage descriptive language of the Scottish Credit and Qualifications Framework for the higher education sector to more clearly articulate progression within the ITE curriculum.

Conclusion

It is important to note that this exploration includes the views of three educational researchers/teacher educators of their own programme at one point in time, which is an essential consideration for applicability of processes and conclusions. At the beginning of the process, clarification of terminology and interpretations were discussed to help us set aside predetermined assumption. Consensual discussions and debriefing conversations occurred to hold one another accountable, thus situating us to serve as each other's 'critical friends' (Herr & Anderson, 2015) throughout the mapping, analysis, inventory, and synthesis phases.

Mapping is often recognised as a key mechanism to identify and drive change. This paper has presented a conceptualization of curriculum ideologies and a curriculum mapping experience as they relate to academic programmes in higher education, and we invite readers to consider this discussion and what it might mean for their own process, practice, and curricula. We are motivated by this work to engage with efforts looking forward to further the discipline of teacher education and continuously enhance our provision of teacher preparation.

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Appendices

Appendix A: MEduc/MDTechEd Programme Structure with Overarching Course Themes

The four main themes for each programme are outlined in the table below. Education in Practice, Curriculum, Education and Society and Electives/ Technology Craft courses are threaded progressively through each year. School experience placements also feature in the first four years of the programmes. The fifth year is a solely academic year at SCQF level 11 and features a Masters level dissertation.

Table A.1. MEduc/MDTechEd Programme Structure

Year 1 (Level 1/ SCQF 7) 120 credits	Education in Practice 1	Curriculum	Options/ Fundamentals of Education 1	Theology in Ed/ WTP/ Technology Craft	School Experience (3 weeks)
Year 2 (Level 2/ SCQF 8) 120 credits	Education in Practice 2	Curriculum	Education & Society 2	Theology in Ed/ What If Technology Craft	School Experience (5 weeks)
Year 3 (Level 3/ SCQF 9) 120 credits	Education in Practice 3	Curriculum	Education & Society 3 /TES	Educational Electives 3 / Technology Craft	School Experience (12 weeks)
Year 4 (Level 4 / SCQF 10) 120 credits	Education in Practice 4	Curriculum	Education & Society 4 /PTDT	Educational Electives 4/ Technology Craft	School Experience (12 weeks)
Year 5 (Level 5 / SCQF 11)		PEDM	Education & Society 5		
120 credits	Dissertation 60 credits				

Appendix B: PGDE structure and extracts of the PGDE curriculum mapping matrix

Figure B.1 shows a schematic drawing of the PGDE structure. The PGDE comprises four courses (30 credits each):

- Becoming a Teacher (BAT)
- Curriculum, Pedagogies and Practice (CPP)
- Research and Enquiry-Led Learning and Teaching (RELLT)
- School Experience (SE)

After two weeks of BAT, all three university courses (BAT, CPP and RELLT) are taught in parallel. The practical SE element of the programme consists of three blocks, of 7 or 6 weeks each, during which the students are in school full time. After each block, the students come back to university for BAT, CPP and RELLT teaching.

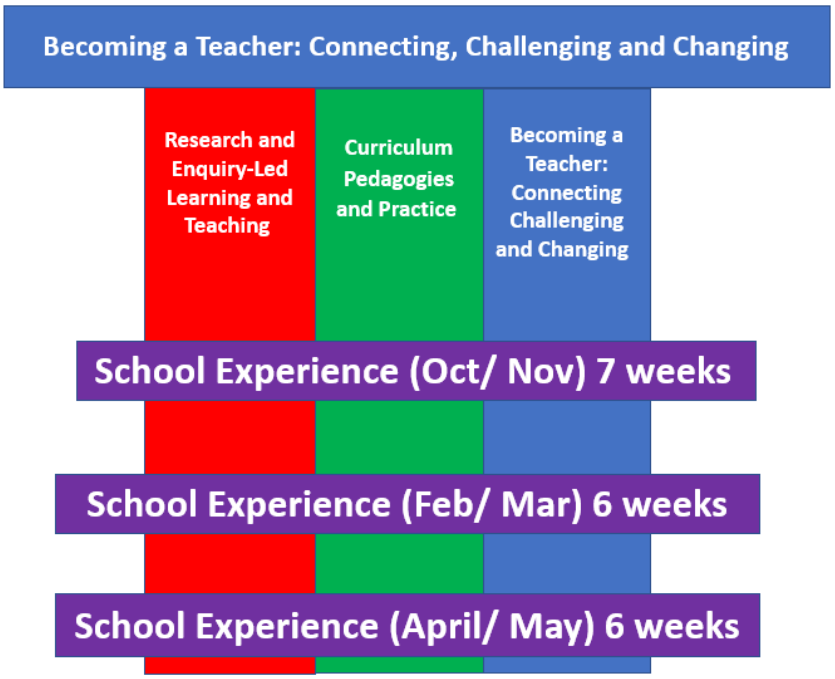

Figure B.1. Schematic drawing of the PGDE structure

Table B.1 shows the mapping matrix for '3. Professional Skills and Abilities' SPRs against each PGDE course (BAT, CPP, RELLT, SE). In Table B.1, a cross indicates that the PGDE course is designed to develop that SPR component (e.g., CPP and SE develop component 3.1.1). Each of the 3.X.X component has further sub-components. These sub-components were also mapped against the curriculum. Table B.2 shows the mapping matrix for the sub-components of SPR 3.1.2, as an example.

Table B.1. Mapping matrix for '3. Professional Skills and Abilities' SPRs

	BAT	CPP	RELLT	SE
3.1 Curriculum and Pedagogy				
3.1.1 Plan effectively to meet learners' needs		X		X
3.1.2 Utilise pedagogical approaches and resources	X	X	X	X
3.1.3 Utilise partnerships for learning and wellbeing	X			X
3.1.4 Employ assessment, evaluate progress, recording and reporting as an integral part of the teaching process to support and enhance learning		X		X
3.2 The Learning Context				
3.2.1 Appropriately organise and manage learning		X		X
3.2.2 Engage learner participation	X			X
3.2.3 Build positive, rights respecting relationships for learning	X	X	X	X
3.3 Professional Learning				
3.3.1 Engage critically with literature, research and policy	X	X	X	X
3.3.2 Engage in reflective practice to develop and advance career-long professional learning and expertise	X	X	X	X

Table B.2. Mapping matrix for SPR 3.1.2 sub-components

	BAT	CPP	RELLT	SE
3.1.2 Utilise pedagogical approaches and resources				
Create meaningful contexts for learners through a range of different learning environments	X	X		X
Employ teaching strategies and resources, including digital approaches, to meet the needs and abilities of every learner		X		X
Use self-evaluation and professional learning to improve practice	X	X	X	X
Use a variety of questioning techniques and a range of digital and traditional approaches to enhance learning and teaching		X		X
Create opportunities for learning to be transformative in terms of challenging assumptions and expanding world views	X	X	X	X

Appendix C: Adaptation of Schiro's (2013) curriculum ideologies inventory to ITE in higher education

Instructions

In each of the following sections you will find found statements with a blank in front of each. Read each statement carefully and then rank the statement from 1 to 4, placing:

- 1 next to the statement that you like most
- 2 next to the statement that you like second most
- 3 next to the statement that you like third most
- 4 next to the statement that you dislike the most

Use each of the numbers (1, 2, 3, and 4) only once in each part of the inventory. Place the numbers on the lines to the left of each statement. This is not a test. There is no one right answer. Take your time.

Part 1

____ Schools of Education should provide students with the ability to perceive problems in society, envision a better society, and act to change society so that there is social justice and a better life for all people.

____ Schools of Education should fulfil the needs of society by efficiently training students as future teachers and constructive members of society.

____ Schools of Education should be communities where the accumulated knowledge of the teaching profession is transmitted to students.

____ Schools of Education should be enjoyable, stimulating, student-centered environments organised around the needs and interests of students as those needs and interests present themselves.

Part 2

____ Instructors should be supervisors of student learning, utilising instructional strategies that will optimise student learning.

____ Instructors should be partners to students, using the environment within which the student lives to help the student learn.

____ Instructors should be aids to students, helping them learn by presenting them with experiences from which they can make meaning.

____ Instructors should be knowledgeable people, transmitting that which is known to those who do not know it.

Part 3

____ Learning best proceeds when the student is presented with the appropriate stimulus materials and positive reinforcement.

____ Learning best proceeds when the instructor clearly and accurately presents to the student that knowledge which the student is to acquire.

____ Learning best takes place when students are motivated to actively engage in experiences that allow them to create their own knowledge and understanding of the world in which they live.

____ Learning best occurs when a student confronts a real social crisis and participates in the construction of a solution to that crisis.

Part 4

____ The knowledge of most worth is the structured knowledge and ways of thinking that have come to be valued by the profession over time.

____ The knowledge of most worth is the personal meaning of oneself and of one's world that comes from one's direct experience in the world and one's personal response to such experience.

____ The knowledge of most worth is the specific skills and capabilities for action that allow an individual to live a constructive life.

____ The knowledge of most worth is a set of social ideals, a commitment to those ideals, and an understanding of how to implement those ideals.

Part 5

____ Initial teacher education is essentially a time of learning in preparation for school responsibilities, when one will be a constructive, contributing member of the profession.

____ Initial teacher education is essentially a period of intellectual development highlighted by growing reasoning ability and capacities that results in ever greater absorption of professional knowledge.

____ Teacher education is essentially a time when students unfold according to their own innate natures, needs, and timelines. The focus is on students as they are during preparation rather than as they might be as qualified teachers.

____ Teacher preparation is essentially a time for practice in and preparation for acting upon society to improve both oneself and the nature of society.

Part 6

____ Evaluation should objectively indicate to others whether or not students can or cannot perform specific skills. Its purpose is to certify students' competence to perform specific tasks.

____ Evaluation should continuously diagnose students' needs and growth so that further growth can be promoted by appropriate adjustments. It is primarily for the student's benefit, not for comparing students with each other or measuring them against a predetermined standard.

____ Evaluation should be a subjective comparison of students' performance with their capabilities. Its purpose is to indicate to both the students and others the extent to which they are living up to the capabilities.

____ Evaluation should objectively determine the amount of knowledge students have acquired. It allows students to be ranked from those with the greatest intellectual gain to those with the least.