
Developing an Informed Curriculum for Initial Teacher Education (ITE): Building Student Teachers' Theoretical and Practical Knowledge and Shaping Teacher Identity

Handoyo Puji Widodo

Abstract: Initial teacher education (ITE) programs play a pivotal role not only in helping student teachers build and enhance their theoretical knowledge and practical knowledge but also in assisting them to construct their teacher identity. At present, the ITE program also aims to prepare student teachers for the 21st century profession of teaching. Therefore, it is important to develop an informed curriculum for ITE, which caters to needs of student teachers and those of changing educational needs in tandem. In this plenary paper, I wish to flesh out such four key issues as a need for developing an informed ITE curriculum, domains of theoretical and practical knowledge student teachers need to learn, and role of teacher identity in the ITE program. I conclude by addressing a need for reframing an ITE curriculum in order to meet changing needs for educating and training more qualified teachers in the 21st century education and beyond.

Keywords: Initial teacher education (ITE), Informed Curriculum, Teacher Identity, the 21st century education

Introduction

An initial teacher education (ITE) program plays a role in producing qualified teachers who can take on different roles in educational contexts, such as primary school, secondary school, and college. It is also a venue where student teachers shape their identity (who they are) as professional teachers in the profession of teaching. From a macro curriculum perspective, teachers take on different roles, such as curriculum makers (e.g., re-appropriating a national curriculum), curriculum developers (e.g., designing a new curriculum based on students' needs and a socio-cultural context), curriculum implementers (e.g., implementing what is prescribed in the national curriculum), teacher researchers (e.g., action researchers and narrative inquirers), reflective practitioners (e.g., making sense of their teaching practice), and administrators (e.g., scheduling and coordinating subjects). At a classroom level,

teachers play different leading roles, such as classroom policy makers, lesson designers, managers, leaders, advisors, facilitators, scaffolding providers, and motivators among others. These differing roles challenge ITE-based universities or ITE providers to design sound curricula and offer ITE courses that prepare student teachers to meet changing educational needs. With this in mind, teachers in the 21st century education should have solid understanding of their subject (e.g., English, science, geography, history, sociology). This understanding (e.g., knowledge) can shape teachers' conception of educational planning and policy, educational curriculum, and teaching and learning in particular. In addition, due to the advent of technology, this technology, nowadays, alters how a particular subject is taught and learned. Because education is always changing, it is important for student teachers to understand identity as a professional teacher. Thus, ITE is a complex

enterprise that challenges teacher educators to design theoretically and contextually sound ITE curricula in order to equip pre-service teachers or students teachers with sufficient knowledge so that these teachers can play different roles in micro and macro educational domains. In other words, ITE programs must be geared to adequately prepare student teachers to face the challenges of 21st century classrooms. In this plenary paper, I would like to address four key issues, such as a need for developing an informed ITE curriculum, domains of knowledge student teachers need to gain and develop, and understanding what it means to become a teacher. This paper concludes by discussing a need for reframing an ITE curriculum in order to cater to changing needs for educating and training more qualified teachers in the 21st century education and beyond.

A Need for Developing an Informed ITE Curriculum

A curriculum is a crucial element in initial teacher education (ITE) because it guides how student teachers are educated or trained. As teacher educators, we are challenged to create a teacher-education experience that can prepare student teachers to play differing roles in changing educational contexts. Developing an ITE curriculum does not simply what student teachers are supposed to learn, but it also encompasses what these teachers learn can assist them to play a critical role in shaping education for students and in bringing about change and innovation in educational practices

from the perspectives of curriculum as educational policy, pedagogical curriculum, and assessment. In practice, many educational reforms in ITE have failed to develop an informed ITE curriculum because they did not recognize the need for student teacher learning and teacher professional development as they engage in the profession of teaching.

The word, *informed*, pertains to different meanings, such as *theoretically informed*, *practically informed*, *empirically informed*, *situationally informed*, or *needs informed*. Thus, in this paper, an informed ITE curriculum is defined as a curriculum that fosters development of teachers' theoretical knowledge and practical knowledge as well as teacher identity. Both knowledge and identity are a fundamental component of ITE. By affording student teachers opportunities to gain sufficient knowledge and to build teacher identity, they can develop a sense of the flexibility to design and enact aspects of the curriculum in different ways (e.g., including a local context to the curriculum content and exploring links between different curriculum areas). Drawing on Shulman and Shulman's (2004), the informed ITE curriculum is intended to help student teachers to recognize the following aspects:

- a) **Vision:** Student teachers learn how to pursue a certain vision on their teaching and student learning. This vision is a catalyst for envisioning their pedagogical agendas. With a vision, student teachers

will be able to tackle any pedagogical change, and they will be ready to situate this change into their teaching context. Thus, student teachers should be ready to pursue and fulfill a vision of classrooms and schools that constitute communities of learning.

b) **Motivation:** Student teachers must have the willingness and motivation to invest energy in a certain way of teaching and have persistence to sustain such teaching. They are steadily motivated to fulfill the vision.

c) **Understanding:** Having a vision and motivation to fulfill this vision is not sufficient. Student teachers must understand the theories, concepts, and principles, which foreground their particular pedagogical model or practice. What student teachers believe right or wrong is not an informed ground unless they have particular knowledge that informs their beliefs about teaching and learning or also called pedagogical beliefs. For this reason, student teachers must have solid theoretical and practical knowledge so that we can play different roles as curriculum makers and implementers, for example. In this way, student teachers will have autonomy in their own pedagogical practice.

d) **Practice:** With solid knowledge, a student teacher will be able to engage in more complex pedagogical and organizational

practice. The teacher will be able to transform their visions, motives, and knowledge into the actual pedagogical practice.

e) **Reflection:** Student teachers must be able to reflect on his or her experiences in order to learn from these experiences. They will be more capable as they learn from their own and others' experiences through active reflection in and on their actions and their consequences.

f) **Community.** A student teacher must be able to function as a member of different communities of practice in different contexts of classrooms, a school, and a wider professional network (e.g., a teacher professional development group). These different communities of practice will allow student teachers to engage in different learning communities with students, other teachers, and colleagues. This process of participated engagement in social practice will create diverse personal and professional experiences for student teachers to gain.

Thus, developing an informed ITE curriculum should be aimed at helping student teachers to pursue a particular vision, build and sustain motivation to engage in any educational change or innovation, and have and develop both theoretical and practical knowledge. Additionally, the informed ITE curriculum provides student teachers with opportunities to engage in actual pedagogical practice and

reflection in order to energize their learning. Equally important, student teachers are afforded a chance of engaging in different learning communities of practice so that they can recognize the value of personal and professional engagement in these different communities of practice. In this way, initial teacher education (ITE) plays a role in the continuum of professional learning.

Domains of Knowledge Student Teachers Need to Learn

One of the dimensions of competence, knowledge is a starting point for understanding educational policy and planning, curriculum design and implementation, and educational assessment as a whole. Teacher knowledge pertains to “the totality of a person’s personal practical knowledge gained from formal and informal educational experience” (Xu & Connelly, 2009, p. 221). It is also seen as the knowledge that teachers generate as a result of their experience as teachers. The notion of teacher knowledge is a complex amalgam, which embraces three ways of knowing: ‘knowing what,’ ‘knowing why,’ and ‘knowing how.’ This knowledge is also called teachers’ professional knowledge both gained through formal education and training and continually developed through life experience. Tsui (2009) adds that teacher knowledge encompasses ‘theorising practical knowledge’ and ‘practicalising theoretical knowledge’, that is, making explicit the tacit knowledge gained from experience, and making personal interpretations of formal knowledge through

teachers’ own practice in their specific contexts of work, respectively.

Teacher preparation or ITE courses can help student teachers learn and develop theoretical knowledge and put this knowledge into practice (practical knowledge). There are nine domains of knowledge that teachers should gain and develop. These domains include (1) subject matter content knowledge, (2) pedagogical knowledge, (3) pedagogical content knowledge, (4) knowledge of educational contexts, (5) curriculum knowledge, (6) research knowledge, (7) knowledge of reflection, (8) technological pedagogical content knowledge, and (9) knowledge of disciplinary language. These domains of knowledge can be both theoretical knowledge (knowledge for practice) and practical knowledge (knowledge in practice).

To begin with, subject matter is the core of teacher knowledge. It is technical knowledge key to the profession of teaching. For this reason, student teachers need to have solid subject matter content knowledge. Content knowledge (CK) represents the knowledge of the disciplines (e.g., science, English, and geography). It is what teachers need to know about the subject (e.g., English, mathematics, biology, or geography) if they are responsible for assisting students to learn the subject matter in ways that enable them to see the interplay within and between the various theories and concepts and between that subject matter and their lives in the real world. CK

represents teachers' understanding of the subject matter learned. Shulman (1986) argues that "[t]he teacher need not only understand that something is so, the teacher must further understand why it is so" (p. 9). This suggests that a deep understanding of the subject matter taught or learned at school is essential. CK is varied depending on educational contexts (e.g., primary school, secondary school, and college). For example, English in a primary school will differ from that in a secondary school. The emphasis of biology as a core subject matter in a general secondary school will be different from that in a technical secondary school. This subject matter or content knowledge is further broken down into common content knowledge (e.g., English), specialized content knowledge (e.g., second language acquisition), and knowledge at the subject specific horizon (e.g., social psychological second language acquisition). Therefore, CK building is an essential component of ITE. If a student teacher is to teach English in a primary school, she or he must knowledge such subject matter, which is supposed to be taught or learned in this educational context.

Second, it is important to note that the term, *pedagogy*, refers to teaching and learning as a continuum. Thus, pedagogical knowledge (PK) or knowledge of pedagogy is an informed understanding of how learning and teaching take place and are organized in different educational contexts from such different

perspectives as cognitive, psychological, and social theories of learning and teaching. Student teachers should learn different theories, concepts, and principles of pedagogical practices. This PK enables student teachers to understand how this pedagogical knowledge informs overall educational purposes, values, and aims. This is a generic form of knowledge that is involved in all issues of pedagogical policies and practices. As such, PK requires an understanding of cognitive, psychological, social theories of learning and how these theories can be applied to actual classrooms.

Third, pedagogical content knowledge (PCK) exerts impact on students' opportunities to learn. Because subject matter content knowledge is a prerequisite for PCK, student teachers need to gain strong content knowledge if they are expected to teach well. PCK includes knowledge of how particular topics, principles, strategies and the like in specific subject areas (e.g., English, science, social science) are learned or taught. Teacher educators attempt to link pedagogical knowledge (PK) or knowledge of pedagogy to a specific subject area (e.g., biology, English, or geography). In other words, PCK pertains to the knowledge that student teachers need to develop about how to teach particular content/subject matter (e.g., biology in a primary school or English in a secondary school) in ways that lead to enhanced student

understanding of that content. “PCK implies a transformation of subject-matter knowledge, so that it can be used effectively and flexibly in the interaction between teachers and learners in the classroom” (Kleickmann, Richter, Kunter, Elsner, Besser, Krauss, & Baumert, 2013, p. 92). PCK can be broken down into knowledge of content and students (how students learn particular topics in terms of processes and challenges), knowledge of content and teaching (which instructional decisions to make), and knowledge of pedagogical curriculum (designing a subject-specific curriculum). Thus, PCK is an amalgam of content knowledge (CK) and pedagogical knowledge (PK).

Fourth, drawing on Shulman’s (1987) categories of the knowledge base, knowledge of educational contexts refers to understanding of educational actors (e.g., learners and their characteristics, teachers and their characteristics), social psychology of educational actors and institutions, materials, and wider socio-political contexts. This knowledge also encompasses knowledge of educational ends, purposes, and values, and their philosophical and historical grounds. By gaining knowledge of educational contexts, student teachers will be able to develop educational curricula and design curriculum materials based on particular educational needs. In this way, student teachers will be able to position themselves as agents of change as educational needs continue to evolve.

In what follows, as curriculum makers and developers, student teachers need to know educational curricula as intention (a blueprint of what teaching and learning look like), as experience (sets of learning tasks/activities), and as process (engaging learners in curriculum making, pedagogy, and assessment). Curriculum knowledge means an understanding of how to organize educational practices aimed to reproduce knowledge for a defined or predetermined outcome, developing students’ competencies, and building/enhancing critical reflection. Practically speaking, a curriculum encompasses the purpose (goals, aims), the content, context needs, learning activities/tasks, instructional processes and resources, assessment, evaluation, and reflection. Student teachers should learn to engage in the curriculum design and implementation. This can be done when student teachers do micro-teaching and teaching practicum. During these practices, student teachers learn how to tailor curriculum materials (e.g., competency standards, syllabi, textbooks) to their teaching practices and learn how to critically problematize, challenge, and revise the mandated or official curriculum, which may not be relevant to their teaching practice (Widodo, 2015). To equip student teachers with curriculum knowledge, student teachers should engage in such curriculum practices as classroom-level policy making, needs/context assessment, syllabus design,

lesson planning, materials development, instructional design, classroom management, reflective practice, and program evaluation.

Seventh, as reflective practitioners, student teachers need to gain and develop knowledge of reflection (KR) particularly during the micro-teaching and teaching practicum. Critical reflection is another essential component of initial teacher education (ITE). Reflection is a tool for making connections between theory and practice, integrating teacher beliefs with theory and practice, and reconstructing professional knowledge gained from practical knowledge (Thorsen & DeVore, 2013). Schön (as cited in East, 2014) categorizes into three types of reflective practice: reflection-in-action (the reflection that takes place during a particular lesson, perhaps leading to real-time adjustments in process), reflection-on-action (post hoc reflection after lesson delivery, perhaps leading to subsequent practice modifications), and reflection-for-action (The reflection that allows for the possibility of future change).

Drawing on Hatton & Smith's criteria for different types of reflection, Thorsen and DeVore (2013, p. 94) list four types of reflection:

1. **Descriptive Information:** Simple layperson's description of events, not reflective, no attempt to provide reasons or justification for events.
2. **Descriptive Reflection:** Reflective, not only a description of events but some

attempt to provide reason/justification for events or actions. Reflection is either based on (a) one perspective/factor as rationale or (b) multiple factors and perspectives.

3. **Dialogic Reflection:** A 'stepping back' from the events/actions leading to a different level of mulling about, discourse with self and exploring the experience, events and actions using qualities of judgment, and possible alternatives for explaining and hypothesizing. Such reflection is analytical or/and integrative of factors and perspectives and may recognize inconsistencies in attempting to provide rationales or critiques.
4. **Critical Reflection:** An awareness that actions and events are not only located in and explicable by reference to multiple perspectives but are located in and influenced by multiple historical, and socio-political contexts.

There are also levels of reflection, including:

1. **Reporting and responding:** Students give their opinion or emotional response to a practice experience
2. **Relating:** They reflect on the connections between the reported incident and their own experience, skills, and knowledge.
3. **Reasoning:** Understanding the experience is essential. By discussing a variety of perspectives and seeking support in relevant theory a deeper understanding can be achieved.

4. **Reconstructing:** Questions such as how can I deal with this next time, are elaborated on (Bain, Ballantyne, Mills, & Lester, 2002, p. 147).

To sum up, reflection is a powerful tool for student teachers to become reflective practitioners, which can be built and developed through micro teaching and teaching practicum.

Further, in the ITE program, research knowledge is included because teachers are supposed not only to use research to improve or change their teaching practice but also to engage in doing research. Doing research does not simply seek for a classroom or instructional solution to the existing problem, but this enterprise is a way of doing classroom or instructional innovations. Teacher research also builds on the knowledge of teachers have already gained. Teacher knowledge encourages teachers to plan, act, reflect, and make sense of their classroom life and of other learning enterprises, which take place outside the classroom. With research knowledge, teachers will always base their pedagogical decisions on evidence and experiment with different theories, concepts, and principles of teaching and learning. In this way, teachers are not positioned as consumers of findings reported by theorist researchers who do not engage in the actual pedagogical practices. Engaging in research means practicing different ways of self-reflection and evaluation. Research is a tool for better understanding how students

learn and for making sense of teacher's own teaching practice. Classroom research, action research, discourse studies, and narrative inquiry are examples of teacher research that student teachers can learn during the ITE program.

In the teacher education literature, knowledge of disciplinary language is rarely discussed. From a functional linguistic perspective, each of the disciplines or subject matters has unique disciplinary language. For this reason, every subject teacher must be familiar with knowledge of disciplinary language. The role of disciplinary language in content subjects, such as biology and geography is important in representation, organization, and relationships of biology- or geography-related concepts. Each of the discipline-specific concepts contains disciplinary language that entails specific meanings. Teachers need to be able to construct disciplinary information or ideas (e.g., everyday versus disciplinary conceptions of phenomena and events) and manage and organize the flow of information or ideas. Student teachers should be able to guide their future students to analyze how disciplinary language varies in relation to who is communicating with whom, what they are communicating about, and the modes through which they are interacting (Hodgson-Drysdale, 2014). Thus, student teachers should be taught or learn how the range of linguistic choices communicates disciplinary knowledge.

Last, due to the advent of digital technologies, the use of these technologies in education is inevitable. For this reason, technological knowledge needs to be integrated into the existing model of PCK called technological pedagogical content knowledge (TPCK/TPACK). In the 21st century education, the integration of technology, pedagogy, and content is a must when designing and implementing curriculum, instruction, and assessment. Bracha Kramarski and Tova Michalsky (2015) contend that in reference to TPACK, “the use of technology tools means more than having access to the tool and learning the technical skills to handle it (p. 89).” But, teachers make decisions on “selecting, adapting, and implementing appropriate content, pedagogy, and technology in ways that can significantly add to the value of teaching with technology in the classroom, by using pedagogies that favor student-centered learning” (Kramarski & Michalsky, 2015, p. 89). Benson, Ward, and Liang (2015), further, argue that “[a] connection between technology implementation and pedagogical decisions is essential for teaching and learning that desires to move toward transformation. Using technology specifically to improve learning through intentional pedagogical decisions is the cornerstone for professional development for twenty-first century transformative practice” (p. 16). Thus, by equipping student teachers with TPACK, they would be professional teachers literate in the

use of digital technologies in their own classrooms both face to face and virtually.

Understanding What It Means To Be a Teacher

In practice, teachers have an agentive role as they interpret, evaluate and develop educational policies and practices. With this in mind, ITE not only assists student teachers to learn and develop theoretical and practical knowledge but also helps them understand what it means to be a teacher or who they are and what they are supposed to do in the profession of teaching. In short, learning to become a teacher involves learning different domains of knowledge, skills, and attitudes/values. It also encompasses learning to recognize what it means to become a teacher. Teacher knowledge is closely related to this teacher identity (Izadinia, 2015). Teacher identity is initially shaped through ITE programs. Teacher identity is viewed as a contributing factor in teacher motivation (willingness, persistence, commitment) to pursue and full visions, work satisfaction, and commitment to work of the self in interaction with others in a professional context. In the educational literature, Wenger (1998, p. 5) points out four intrinsic components of learning: (1) **Meaning**—learning as experiencing: an ability to experience one’s life and the surrounding world as meaningful; (2) **Practice**—learning as doing: joint action relying on common (shared) historical and social resources, background systems, and viewpoints; (3) **Community**—learning as

belonging: belonging to a social community in which our activities are recognized as valuable and competent; and (4) **Identity**—learning as becoming (someone): an understanding of how learning, in the context of the community, affects and moulds us. These components of learning play a crucial role in shaping what a student teacher will be as a teacher, what and how she or he will teach, and how she or he will respond to the changing context of teaching (Bullough & Gitlin, 2001, p. 45). With this in mind, one of the overall aims of ITE programs is conceived as the shaping and the development of professional (teacher) identity. This teacher identity is “dependent upon and formed within multiple contexts which bring social, cultural, political, and historical forces to bear upon that formation; (2) it is formed in relationship with others and involves emotions; (3) the identity is shifting, unstable, and multiple; and, (4) it involves the construction and reconstruction of meaning through stories over time” (Rodgers & Scott, 2008, p. 733).

By shaping teacher identity, student teachers can instill in a sense of confidence, power, and agency in playing different roles as such as curriculum makers (e.g., re-contextualizing a prescribed curriculum), curriculum developers (e.g., designing a student-tailored curriculum), curriculum implementers (e.g., implementing the prescribed curriculum), teacher researchers (e.g., engaging in school/classroom research), reflective practitioners (e.g., making sense of

teaching practice), and administrators (e.g., documenting teaching portfolios). Teacher identity formation or construction also builds teacher agency as classroom policy makers, lesson designers, managers/leaders, advisors, facilitators, scaffolding providers, and motivators among others. In other words, teachers as qualified professionals in the educational landscape enact such multiple identities, which always evolve as they continue to engage in the profession of teaching. If a teacher is entrusted to play a new role as a curriculum maker for example, she or he enacts a new identity (what it means to become a curriculum maker), which ascribes to that role. This suggests that teacher identity is a socially complex entity. Student teachers will definitely change their teacher identity as they are involved in different contexts, such as society (e.g., policies on different levels, bilingual program models, research, teacher certification); the community (e.g., parents, outreach services); the school (e.g., administration, the principal, teachers, the curriculum); and the classroom (e.g., students, teaching and assessment practices). Nóvoa (as cited in Pinho & Andrade, 2015, p. 24) adds that “Identity is a place of struggles and conflicts, it is a place for construction of ways of being and acting in the profession. [...] It is a process that requires time. A time to reestablish identities, to accommodate innovations, to assimilate changes’, in which the individuals ‘take ownership of their

personal and professional history.” In other words, in the 21st century education, teachers’ professional identity evolves over time in a dialogue with recent perspectives of education, such as content-centered and intercultural education.

Conclusion:

A Need for Re-appropriating an ITE Curriculum

This plenary paper has discussed four key issues: a need for developing an informed ITE curriculum, domains of theoretical and practical knowledge student teachers need to gain and develop, and understanding what it means to become a teacher in the profession of teaching. It is important to address an agenda for reframing an ITE curriculum in order to meet changing needs for educating and training more qualified teachers in the 21st century education and beyond. Through relevant ITE courses, student teachers need to learn different domains of knowledge: (1) subject matter content knowledge, (2) pedagogical knowledge, (3) pedagogical content knowledge, (4) knowledge of educational contexts, (5) curriculum knowledge, (6) research knowledge, (7) knowledge of reflection, (8) technological pedagogical content knowledge, and (9) knowledge of disciplinary language. In addition to building both theoretical knowledge and practical knowledge, teacher educators need to help student teachers build their teacher identity: What it means to become the 21st century teacher.

An ITE curriculum is always changing as more complex educational needs continue to evolve. It is important to bear in mind that educational change is a fact of teachers' professional lives. Teacher educators will need to innovate and develop their ITE programs to keep pace with social and technological change, and to respond to economic pressures. In this situation, they will need to adopt new professional roles, cultivate their professional identities, and incorporate new insights into their professional practices. To design an informed ITE curriculum, teacher educators need to consider the following components of pedagogical curriculum: (a) course overview and introduction, (b) learning objectives, (c) assessment and evaluation, (d) resources and materials, (e) student teacher engagement, (f) course technology, and (g) accessibility.

In short, the ITE curriculum should prepare student teachers to engage actively in different communities of practices. In response to this, student teachers will need to have solid theoretical and practical knowledge and to build their teacher identity during the ITE program. For this reason, teacher educators should address ever-widening dynamic influences on student teachers, such as home life, supervising teachers, students, teacher education faculty, colleagues, school administrators, teacher education administrators, curriculum, school mission, teacher education mission, community vision,

state and federal educational policies, and cultural–historical expectations of education.

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