



RE-ORIENTATING SUBJECT KNOWLEDGE IN PRIMARY ITE

**NaPTEC Annual Conference 2020: ITE and Beyond
The challenges for the current decade**

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Re-orientating subject knowledge in primary ITE

- Rhetoric of re-imagining our education system, including ITE
- Offering trainees to schools as part of the solution for the current situation.
 - Another responsibility for teachers acting as mentors
 - How can we help?
- Agile response to situations in schools
 - Stripping back unnecessary elements
 - Streamlining partnership documentation as much as possible
- Remembering that partnership needs to be purposeful



Is it relevant to be talking about subject knowledge in primary ITE now?

- Research project which looked at subject knowledge in primary ITE

Subject knowledge in ITE



‘Secure subject knowledge’

- Consistent requirement in successive versions of professional standards for teachers (e.g. DfES, 2002; TDA, 2007; DfE, 2012)

Carter Review of ITT (2015)

- Subject knowledge given a prominent focus
 - All ITE partnerships should ‘rigorously audit, track and systematically improve trainees’ subject knowledge throughout the programme’(p7)
- No distinction made between expectations for primary and secondary teaching, except to acknowledge the challenge of breadth for primary teachers
- Interpretation for primary ITE has been sitting, largely, with providers
- **Cambridge Primary Review of Education:** Alexander (2010) highlighted lack of coherence to the discourse about subject knowledge in teacher education in England in comparison to other European countries.

How is subject knowledge for primary ITE framed within our partnerships?

Intent vs. interpretation?

Knowledge for teaching

Much of the interest in teachers' knowledge stemmed from the seminal work of Shulman (1986, 1987).

- Defined seven knowledge bases for teaching, including **pedagogical content knowledge** (PCK)
- PCK represents 'subject matter *for teaching*' (emphasis in original) as a distinct phenomenon representing 'that special amalgam of content and pedagogy that is uniquely the providence of teachers' (Shulman, 1987: 8).

Shulman's knowledge bases have been re-examined and supplemented.

Some developments:

- **New knowledge bases** identified (e.g. Grimmet and McKinnon, 1992; Grossman, 1995)
- **PCK re-examined** and analysed (e.g. Cochran et al 1993; McNamara, 1991; McEwan and Bull, 1991)
- **Alternative models** of knowledge bases for teaching (e.g. Meredith, 1995, Banks et al, 1996, Ellis, 2007)



Subject knowledge for teaching – a summary

Content knowledge (or subject matter knowledge)

- **substantive** – facts, concepts, key ideas, principles, organising frameworks
- **syntactic** (alternative - **disciplinary** knowledge) – how ideas are generated, gain acceptance and become established within a discipline; critical perspectives; working practices

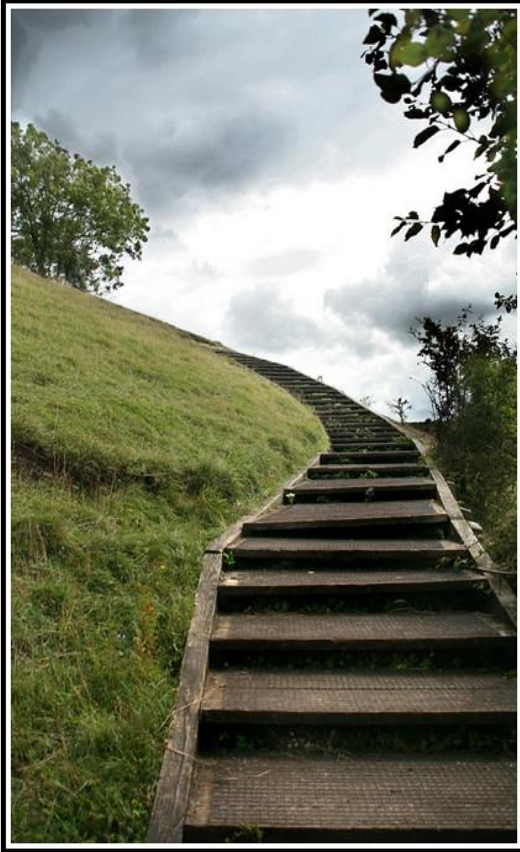
Pedagogical content knowledge

- **representations of the subject matter** - analogies, illustrations, examples, explanations, demonstrations, how to make connections between ideas
- **subject-specific pedagogical research** - children's preconceptions and misconceptions, anticipating complexity, subject-specific teaching approaches

Curriculum knowledge (subject-specific aspects of)

- **Curricula**, teaching materials and resources
- **Critical evaluation** of curricula and materials
- **Lateral and vertical** curriculum knowledge

Challenges for primary subject knowledge



- **Breadth** of curriculum
- Primary trainees often will not have **disciplinary backgrounds** in many of the subjects they teach.
- **Coverage** across primary ITE programmes
- Apply key principles to new areas of the curriculum as they are encountered in practice - **individualised learning**.
- Some forms of knowledge can only be developed through practice so connections to **school experiences** are essential – **highly contextualised**

Why does subject knowledge matter for primary teaching?

- Specialized form of knowledge for teachers - tightly bound to any claim of professional status
- Good generalist teaching skills go a long way but can limit potential
 - effective curriculum sequencing, modelling, explanations
 - **'in-the-moment' responsive teaching**
- **Berliner (2004)**
 - One of the features that discriminated most between expert and non-expert teachers was the teachers' ability for **deep representations of the subject matter**.
 - These features had most impact on younger children.
 - Links closely with **pedagogical content knowledge**





RESEARCH STUDY

*CONCEPTIONS OF SUBJECT KNOWLEDGE IN PRIMARY INITIAL
TEACHER TRAINING: THE PERSPECTIVES OF STUDENT TEACHERS
AND TEACHER EDUCATORS*

Bricolage

- Denzin and Lincoln (2003, p5) - ***'a pieced-together set of representations that are fitted to the specifics of a complex situation'***.
- The process draws on the metaphor of the stitching together of a patchwork quilt by the researcher as ***bricoleur***.
- Takes shape through the use of eclectic tools, methods and techniques in a manner that draws them together in a reconceived interpretation.



Sampling

- Two post-1992 university providers of ITE
- Final year student teachers from B.A. (Hons) Primary Education with QTS programmes
- School mentors
- University tutors
- Approx. 200 participants and 500 documents

Methods

Data collection involved mixed methods - predominantly qualitative

- semi-structured **questionnaires** with student teachers and school mentors
- semi-structured **interviews** (incorporating the production of **visual data**) with student teachers, school mentors and university tutors
- **group interviews** with mentors/university tutors
- **content analysis of relevant documents**

Data analysis used constructivist grounded theory approach (Charmaz 2006) - inductive


Some relevant key findings from the wider study...

No shared understanding of subject knowledge for teaching as a critically distinct concept

Subject knowledge used as an umbrella term representing general teacher knowledge

Some consensus focused around content knowledge and curriculum knowledge linked to narrow ideas about curriculum delivery - mostly in association with **general** pedagogical knowledge

Little attention given to subject-specific pedagogy

 Especially school-based mentors

Student teachers' perceptions re. mentors and subject knowledge

- Subject knowledge was not perceived to be a key concern of school-based mentors - focus on generic pedagogy (aligns with findings of Brown and McNamara (2005)).
- Responsibility for subject knowledge perceived to sit with the individual trainee, rarely developed through co-construction.
- Where school mentors did comment on subject-specific knowledge, it was invariably in the form of flagging up a deficit for the student to **'go away'** and sort out.
 - This phrase was a recurrent theme in relation to subject knowledge matters on school placements in the interviews with both student teachers and school mentors.

Mentors' perceptions: whose responsibility is subject knowledge?

Ideas about their roles in relation to trainees' subject knowledge development:

- *You know if we're trying to get outstanding teachers, we can't deal with subject-based as well as effective ways of teaching and assessing. I would like to see university on the subject knowledge. You take that mantle and we take... right, what do you do with that? (M2)*
- *I think probably school more with...delivery... I may be wrong. I thought my part was more delivery and trying to expose them to different areas of the school. (M10)*
- *I think my responsibility to them is to give them the plans, if we've got them. (M5)*

Mentors' perceptions: whose responsibility is subject knowledge?

Even where the notion of working in partnership was expressed, the data suggested a fairly 'hands-off' approach:

- *If a school highlights a gap then you [the university] would identify it and fill that gap, or be able to give access to something to help them with whatever area they need to access. (M3)*
- *I think the school-based mentor's role there is to flag up and to say, "Do you think you need to do some work?" and communicate that to the university person so that somebody's aware. (M6)*

'Go away...'

The recurring phrase 'go away' was also evident in the mentors' perspectives.

For example:

- *The students themselves, they've got to **go away** and look what the content is and research it and to make sure they're really familiar with it. I suppose the school-based learning is more about them pulling it all together. (M9)*
- *They've got to work... **go away** and do it themselves. [...] They've got to do it; you can only point them in the right direction. (M6)*

Almost always accompanied by an outward facing palm gesture of the hand(s).

How might this be interpreted? Dismissal or self-protection?

Role of context

One mentor summarised insightfully the factors that impact on opportunities for subject knowledge development:

I think it varies widely from school to school depending on the quality of mentoring, time provided by mentors to actually get to know their students and devise a personalised programme for them, quality and availability of subject specialists in agreeing to be observed or meet with students. Time is at such a premium for teachers that it can be hard to engage somebody who does not have direct involvement with the student, as they have so many other demands on their time and energy. (M1)

Assumptions

- Some mentors assumed that the student teachers arrived on their school placement fully equipped with all the subject-specific knowledge that they would require.
- General reluctance to take responsibility for subject-specific training.
- Underlying theme of subject knowledge being located with the university and with the individual student teacher.

Reminder: just focusing on subject knowledge development in the research not mentoring in the fuller context of the role.

Uncomfortable findings

- We know school-based mentors are essential to ITE and also value immensely the work that they do.
- **Edwards and Ogden (1998)** - over twenty years ago found lack of focus on subject-specific knowledge in mentoring and cautioned teacher educators not to take primary teachers' subject matter knowledge for granted. Any change?
- School mentors in the current study identified the challenge of time. They did not report that paperwork was excessive, but there was a lack of certainty about how to complete it and most would have liked more training (akin to Jones and Straker (2006)).

Thinking ethically

“Remember that the root meaning of *datum* is something given, not something collected. Anything your participants give you in the form of interviews, observation opportunities, documents, and so on, should be seen not just as data but as gifts. They are giving the researcher, most often voluntarily, their time, knowledge, experiences, and insights.

Participants sacrifice their privacy so that the researcher can learn *from* them, not ‘about’ them. Respect and honor the people you study, for they are willingly vulnerable for you.”

Saldaña (2015: 81)

Documentary data

- In response to recurrent themes in the interviews with each of the participant groups, some key documents were included in the data set.
- Key drivers for mentors included:
 - Teachers' Standards (S3)
 - Lesson observation analysis feedback forms – the prompts
 - Assessment descriptors against Teachers' standards
- The intertextuality between the three types of documents resembled Atkinson's and Coffey's (2011:90) observation that:

'in literate bureaucratised settings in particular, one may identify a semi-autonomous domain of text and documents that refer primarily to another.'

Teachers' Standard 3

A teacher must:

3. Demonstrate good subject and curriculum knowledge

- have a secure knowledge of the relevant subject(s) and curriculum areas, foster and maintain pupils' interest in the subject, and address misunderstandings;
- demonstrate a critical understanding of developments in the subject and curriculum areas, and promote the value of scholarship;
- demonstrate an understanding of and take responsibility for promoting high standards of literacy, articulacy and the correct use of standard English, whatever the teacher's specialist subject;
- if teaching early reading, demonstrate a clear understanding of systematic synthetic phonics;
- if teaching early mathematics, demonstrate a clear understanding of appropriate teaching strategies.
(DfE, 2011: 11)

***Can be analysed to show a multi-faceted view of subject knowledge incorporating PCK
BUT is open to more generic interpretation.***

Assessment descriptors used by both ITE partnerships for tracking progress against the standards and final grading

- Both ITE partnership used a set of descriptors based on those developed by a working group of providers to support introduction of the revised Teachers' Standards in 2012.
- The majority of school-based mentors expressed some uncertainty about completing documentation
 - Mentor training helped but was hard to retain
 - Most useful support - the assessment descriptors documents
 - Mentors reported relying on the assessment descriptors for completing lesson observations and placement reports.
 - Reassuring and time-saving

Example extract of assessment descriptors

3a) Have a secure knowledge of the relevant subject(s) and curriculum areas, foster and maintain pupils' interest in the subject, and address misunderstandings

Standards	Beginning	Developing	Good	Outstanding
3a) Have a secure knowledge of the relevant subject(s) and curriculum areas, foster and maintain pupils' interest in the subject, and address misunderstandings	<p>Developing understanding and use of subject knowledge in relation to their specific subject area and its place in the wider curriculum</p> <p>Demonstrates developing ability to foster and maintain pupil interest in the subject by delivering effective teaching episodes, supporting learner progression and addressing misunderstandings.</p>	<p>Appropriate subject knowledge in relation to their specific subject area and its place within the wider curriculum.</p> <p>Is able to foster and maintain pupil interest in the subject by delivering effective teaching episodes, supporting learner progression and addressing misunderstandings.</p>	<p>Competent level of subject knowledge related to both their specific subject area and to the wider curriculum.</p> <p>Is able to foster and maintain increasing pupil interest in their subject and the wider curriculum as well as addressing misunderstandings.</p>	<p>Highly confident and competent level of subject knowledge related to their specific subject area and the wider curriculum.</p> <p>Is able to foster maintain increasing pupil interest in the subject by delivering engaging teaching episodes, ensuring progression is made by all learners and addressing misunderstandings.</p>

3b) Demonstrate a critical understanding of developments in the subject and curriculum areas, and promote the value of scholarship

Standards	Beginning	Developing	Good	Outstanding
<p>3b) Demonstrate a critical understanding of developments in the subject and curriculum areas, and promote the value of scholarship</p>	<p>Is developing understanding and shows some awareness of developments and changes in the subject and curriculum area.</p>	<p>Demonstrates awareness of developments and changes in the subject and curriculum area.</p> <p>Promotes scholarship and further study within their subject and curriculum area.</p>	<p>Demonstrates good awareness and critical understanding of developments and changes in both the subject and the curriculum area.</p> <p>Promotes scholarship and further study to all pupils within their given subject and curriculum area.</p>	<p>Demonstrates a high level of awareness and critical understanding of developments in both the subject and curriculum area.</p> <p>Promotes high levels of scholarship and the value of further study to all pupils within their subject and curriculum area.</p>

Content analysis of the assessment descriptors

To summarise:

- Wording of descriptors was orientated **towards** content knowledge and **general** pedagogical knowledge
- Wording was **not** orientated towards **subject-specific** pedagogical content knowledge
- Pattern mirrors the elements of consensus in the findings about conceptualisations of subject knowledge.
- Given that the documents were continually cross-referenced in relation to framing thinking about subject knowledge in mentoring interactions, might they be encouraging a reductionist, simplistic view?
- **Documents appeared to have agency, never intended**

Note:

Content analysis of an alternative set of assessment descriptors produced by NASBTT/UCET (not used by the partnerships) demonstrated an orientation towards pedagogical content knowledge and a fuller concept of content knowledge (substantive and syntactic).

Lesson observation feedback on subject knowledge

Feedback on Teachers' Standard 3 (subject knowledge)

- Both institutions had templates for lesson observations that prompted observers to provide feedback in a specific section on student teacher's subject knowledge in relation to Teachers' Standard 3.
- The sample comprised all lesson observations (n=427) submitted by final year undergraduate student teachers from the two institutions as evidence for Teachers' Standard 3 for the cohorts participating in the research.

Overall breakdown of degree of subject-specificity in feedback comments in relation to TS3

Generic comment	Subject-specific comment	Combination – generic with some subject-specific element	TOTAL
307 (71.9%)	22 (5.1%)	98 (23%)	427

Some key points about content of feedback on TS3

- **More than half (56%) of text re. TS3** – subject and curriculum knowledge – actually referred to **general pedagogical knowledge**. Within this, almost all text (97%) was of a purely general nature.

For example: 'Planning followed the correct structure'; 'Make the 'I can' statement child-friendly'

- **Only 9% of the text re. TS3** contained reference to aspects of **pedagogical content knowledge**.
- Distinct group of comments emerged that indicated a comparative scale of level of subject knowledge (e.g. 'good subject knowledge').
 - 143 comments fell into category - **third most common category** of comment
 - Comments mirrored the wording in the assessment descriptors for grading against the Teachers' Standards.
- Another category emerged where feedback repeated the phrasing of parts of TS3.

For example: 'You fostered and maintained pupils' interest'; 'You promoted scholarship'

Good quality feedback on Teachers' Standard 3

Subject-specific knowledge and pedagogy were occasionally combined in very good quality feedback that had the potential to impact significantly on the student teacher's developing understanding.

'When teaching children about 3-D shapes, the most effective way to do this is for them to see and handle 3-D shapes. During your initial carpet time, you relied on the use of images on the IWB and looking at 3-D shapes as 2-D images can make it difficult when children are trying to visualise 'hidden' sides or corners. Also, take care that your questions are not misleading. For example, during the plenary, you held up a 3-D shape and asked 'Can you see a 2D shape here?' The response from a child was 'no' because she could clearly see that it was a cuboid. However, I think that you were referring to the shape of a face on the cuboid (which was a rectangle). Rather than saying, 'we've got hexagons and rectangles' you need to be making it clear that there are faces that are hexagonal or rectangular.'

Roles

- School mentors had accurate perceptions of the quality assurance role of the university link tutors - perfectly content with arrangements.
- In contrast, the university tutor participants were much less sure about their roles in conducting school visits. Collective complaint - unrealistic amounts of administrative work to complete on each visit.
- Across both institutions, there was a collective sense of de-professionalisation from primary university tutors, all of whom had originally been recruited to provide subject expertise in teacher education, but were performing administrative roles in the context of partnership.
 - Resonates with findings by Ellis and McNicholl (2015: 109)

A clearly articulated view of subject knowledge for primary teaching...?

- None of the mentors could articulate how the institutions portrayed subject knowledge for primary teaching. None believed that they had a clear view of the prevailing ethos.
 - One school mentor asked, with some anxiety, “Should there be one?”
 - Slightly defensively, another mentor asserted, “I assume that my interpretation is fine because no-one’s ever mentioned it when they’ve been out.”

How explicitly do we articulate the complexity of such elements in ITE partnerships?

Implications

- Findings suggest that partnership documents developed agency (Cooren, 2004).
- Useful to examine how documents can drive and fashion episodes of human interaction (Prior, 2008).
- Artefacts of practice – reflect the system and its levers of power/control
- Suggests that we must remember to consider complexities such as epistemological orientation of documents intended for use in collective practice in dynamic contexts.

Questions

- Are some documents and processes actually a distraction from high quality mentoring and coaching?
- How might we resolve the tensions between consistency of practice and professional autonomy?
- How do ITE partnerships articulate complexity? How might we empower teacher educators to utilise their collective expertise in this endeavour?

Why now? Current context

- **New Ofsted inspection framework** for schools and ITT
- **ITT Core Content Framework** (DfE, 2019)

Partnerships will be looking to embed these elements successfully.

Working alongside challenges brought by the pandemic:

- Possibly **reduced opportunities** for trainees to move around schools to observe subject leads
- Streamlining documentation and processes – **care needed**

Opportunities to begin to re-orientate the narrative of subject knowledge for primary teaching within this landscape.

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