



A self-study of a novice science teacher educator learning to conduct post-lesson conferences

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Overview

- 
- (1) A brief introduction about *myself*
 - (2) The self-study – *My learning to conduct post-lesson conferences*
 - (3) Comments & Feedback

(1) Brief Introduction

- Kennedy Chan
- BSc, MPhil (Molecular biology), PGDE (Teaching diploma)
- Biology & Chemistry Secondary School Teachers





What knowledge and expertise do experienced teachers have?



PhD student

How can I become
a better science
teacher?



Experienced
Teachers

Pedagogical
content knowledge
(PCK) development





2014



The University of Hong Kong

- 8 universities in Hong Kong
- 3 of them offer teacher education programmes
 - **The University of Hong Kong**
 - The Chinese University of Hong Kong
 - The Education University of Hong Kong

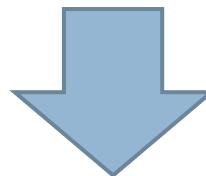


Two routes for certifying teachers to teach science in secondary schools

- 1. Post-graduate Diploma of Education (PGDE)
- 2. Bachelor of Science and Bachelor of Education (BEdBSc)

My journey to become a teacher educator

- PhD students (2011-2014)
 - ▣ Teaching the PGDE major Methods course

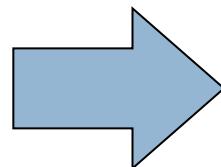


- Lecturer (2014-2015)
 - ▣ 10 courses (4 BEdBSc UG courses, 4 MEd courses (Science Education) and 2 PGDE courses)
 - ▣ More than 70 school visits



PhD student

How can I become
a better science
teacher?



Novice Teacher Educator

How can I become
a better science
teacher educator?

Experienced
Teachers

Student
Teachers

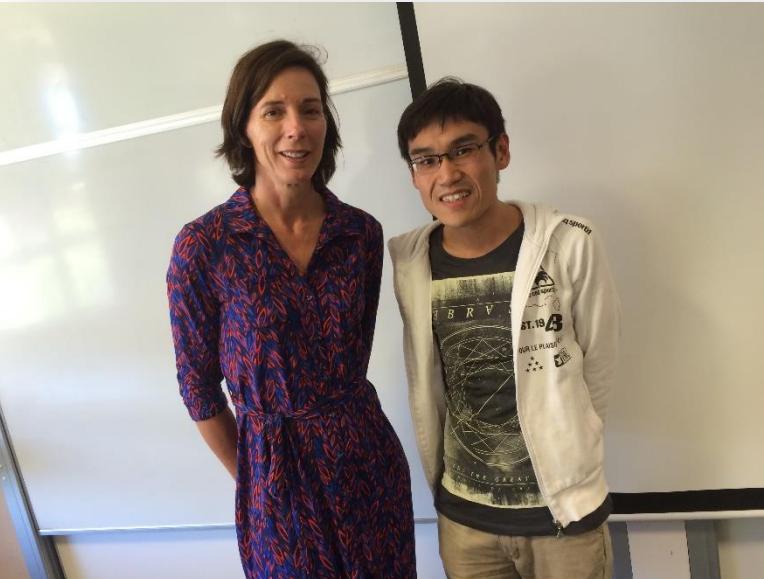
Teacher learning

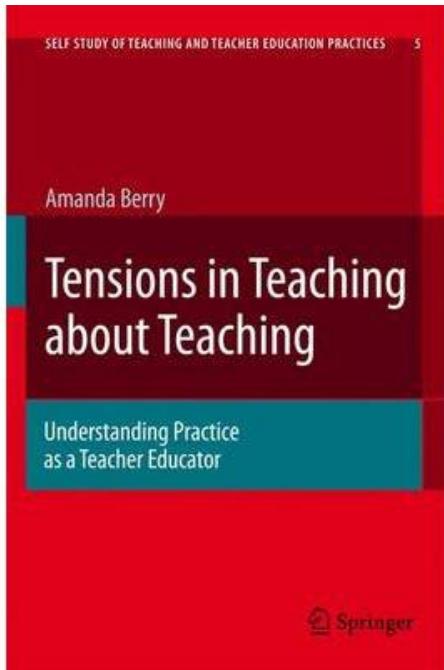
PCK development

The value of self-study in science (teacher) education

Mandi Berry
ICLON, Leiden University
The Netherlands

Waikato University 19/02/2015





Journal of Curriculum Studies

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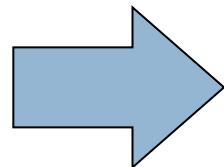
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The state of the art in Self-Study of Teacher Education Practices: a systematic literature review

Eline Vanassche & Geert Kelchtermans
Published online: 19 Jan 2015.

PhD student

How can I become
a better science
teacher?



Novice Teacher Educator

How can I become
a better science
teacher educator?

Experienced
Teachers

Student
Teachers

Teacher learning

PCK development

Teacher
Educators

Own learning and
practices

My journey to become a teacher educator

□ PI

Do student teachers really learn from the post-lesson conferences?

How can I improve myself such that my students learn more from the school visits?

□ Lecturer

- 10 courses (4 BEcSc UG courses, 4 MEd courses (Science Education) and 2 PGDE courses)
- More than **70 school visits**

Background of Research:

Importance of post-lesson conference:

- Student teaching has long been regarded as one of the most important learning experiences of student teachers (Pena & Almaguer, 2007)

- Student teachers may *not* learn productively from the experience unless guidance is given to the student teachers (Borko & Mayfield, 1995; Feiman-Nemser & Buchmann, 1986; Liston & Zeichner, 1999; Soslau, 2012).

- **Post-lesson conference (POC)** plays an important role in helping student teachers make sense of their student teaching experience (Scheeler et al., 2006; Shantz & Ward, 2000; Stones, 1987; Tang & Chow, 2007; Wubbels, Korthagen, & Brekelmans, 1997)
- Tang and Chow (2007) contend that “[s]upervision, in the form of lesson observation and post-observation conference and the communication of constructive feedback in supervisory conferences, is essential to teachers’ professional development” (p. 1006)

- Conducting post-lesson conferences is a ***pedagogically charged event*** in which the university supervisors can support student teachers' reflection and self assessment that would be important in fostering their adaptive expertise, critical thinking of their own practices (Cuenca, 2010).
- However, the supervision of student teachers is often regarded as a '*self-evident*' activity (Zeichner, 2005)

Complex skills in conducting post-lesson conferences (POCs):

- Conducting POCs demands ***pedagogically complex skills and expertise***. It involves at least two important steps
 - the university supervisor needs to be a *keen observer* of classroom environments and interactions.
 - the supervisor is able *translate these observed realities and turn them into formative feedback* (Cuenca, 2010).
- The supervisor also need to be *responsive* to what the student teacher is saying or trying to say, suggesting that conducting the POCs is ***artful*** and ***improvisational*** (Cuenca, 2010).

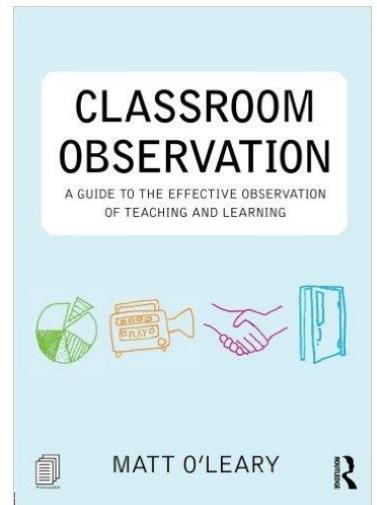
Nature of a productive post-lesson conference

Educative supervision is likened as *instructional conversation* (IC) (Blanton, Berenson, & Norwood, 2001).

Several guidance for educative supervision

- (a) the use of *open-ended questions* for directing student teachers' sense making;
- (b) avoiding *direct, authoritative evaluations* of the student teacher's practice;
- (c) a sustained *focus on student teacher's classroom experiences*; and
- (d) an effort to maintain sensitivity to the student teacher's *zone of proximal development*.

- Post-lesson Conference can be structured as three steps:
 - (1) *Lead-in*
 - asking the participants to self evaluate their performance
 - (2) *Observation evaluation*
 - giving an oral summary of written comments using feedback sandwich
 - (3) *Round-up/closing*
 - discussing follow-up plan



Research on post-lesson conferences:

- Investigation on post-lesson conference conversations has suggested that the conversation is often didactic, prescriptive, fault-finding, and dominated mostly by the supervisor (e.g., Valencia, Martin, Place, & Grossman, 2009; Veal & Rikard, 1998; Waite, 1995; Zeichner & Liston, 1987).
- Arcario (1994) noted the consistency among the post-lesson conversations despite the context.
 - The supervisor generally begins with small talk, then an opening move by the supervisor, followed by an evaluation, justification, and prescription sequence, ending with a closing move.
 - The supervisor controls the conversation and is principally engaged in the analysis and evaluation of the observed lesson, rather than the candidate.

Prior self-studies on conducting post-lesson conferences

- The complexity of conducting post-lesson conference has attracted *beginning teacher educators* to study their own practices systematically.

- The goal is to contribute to the pedagogy of supervision.

It is found that

- Was highly **influenced by their own style** of conducting lessons (Cuenca, 2010)
- **Failed to listen** to what the students are saying and they kept asking fireback questions (Cuenca, 2012)
- Had **difficulty in making accurate judgement** (Baecher, McCormack, Erickson, Young, & Pinnegar, 2012)

- Dinkelman (2012) asserted that, "more careful and coordinated research is needed to help better theorise the pedagogy of supervision, provide rich accounts of its practice" (p. 57).
- "What we are calling attention to is the all too often ignored special knowledge and skill set of a competent supervisor. The student teaching experience/internship is arguably one of the most important, if not the most important, component of a science teacher education program. Its quality should not be left to chance or undermined by a university's lack of attention to supervisory knowledge and skills." (Lederman & Lederman, 2016, p.4)
- "[T]he field is less informed about how and why, field-instructors enact specific practices aimed at supporting desirable outcomes'. It is important to 'know more about how field-instructors develop conferencing practices which support opportunities for teacher-candidate learning during the student teaching practicum' (Soslau, 2015, p.23).

Research Questions:

- What are the ***conferencing practices*** that may ***facilitate*** student teachers' learning from the post-lesson conferences?
 1. What did the student teachers learn from the post-lesson conferences?
 2. What are the conference practices perceived by the student teachers as helpful, or otherwise, to their learning?
 3. What are the challenges encountered by the teacher-researcher when conducting the post-lesson conferences?

Research Approach:

- “Self-study is used in relation to teaching and research practice in order to better understand: oneself; teaching; learning and the development of knowledge about these” (Loughran, 2004, p.9).

- Use ***own experiences*** as a resource for research and ***problematize oneself*** in one’s practice situation with the goal of reframing one’s beliefs and/or practice (Feldman, 2002).

- While the methods of self-study varies, “the common element is the ***reflective, critical examination of the self's involvement*** both in aspects of the study and in the phenomenon under study” (Hamilton & Pinnegar, 1998, p. 240).
- According to Loughran & Northfield (1998), "reflection is a personal process of thinking, refining, reframing, and developing actions. Self-study takes these processes and makes them ***public***, thus leading to another series of processes that need to reside outside of the individual" (p. 15)

Key elements/features of self-study

- Self-Initiated and Focused
- Improvement-Aimed
- Interactive
- Multiple, Primarily Qualitative, Methods

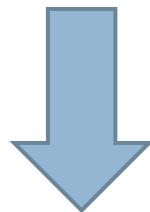
(LaBoskey, 2004)

Design of the study

3-staged study

Stage 1: Analysis of post-lesson conference conversations

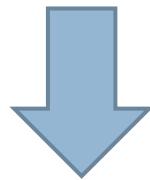
What the STs learnt from the conference



Conferencing practices/skills that facilitated their learning

Stage 2: Implementation of post-lesson conferences

Student teachers' views about the post-lesson conferences



Stage 3: Analysis and discussion with experienced mentors

Experienced mentor teachers' views about the post-lesson conference

Stage 1: Analysis of post-lesson conversations

- Participants: 9 BEdBSc Student Teachers
 - 18 X Audio-taped Post-lesson conferences
 - 18 X Post-lesson Reflection
 - 18 X Open-ended Survey
 - 6 Individual Interviews
- Teacher-researcher:
 - Reflective journal entries; comments from critical friends

Stage 1



My perceived goals of conducting post-lesson
conferences

VS

My students' expectation of the post-lesson
conferences

My goals - post-lesson conference

- Encourage and facilitate student teachers' ***self-reflection*** on their own teaching practices
- Help student teachers' ***construct meaning*** out of their own teaching experience by promoting their reflection on their own practices and beliefs about teaching and learning
- Discuss with student teachers ***alternative course of actions***
- Encourage and facilitate student teachers to generate their ***own feedback*** on their teaching practices
- Help student teachers ***integrate theory and practice***
- Give student teachers ***emotional support*** (e.g., affirm their direction though they may face challenges when enacting reformed based pedagogies)
- Encourage and facilitate student teachers to ***set goals for improvement***

My actions in post-lesson conference

- Listen carefully to the pedagogical decisions of the student teachers and analyze with them their decisions
- Analyze with student teachers the challenges and difficulties they face in their context
- Prompt student teachers to reflect on teaching practices and their beliefs about teaching and learning through discussing with them their actions in the enacted lessons
- Prompt student teachers to consider alternative course of actions through brainstorming and discussion
- Prompt student teachers to integrate theory and practice
- Direct student teachers to set goals for improvement in their future teaching
- Offer suggestions, feedback/feedforward and help whenever appropriate

What do you expect me to do in the post-lesson conference?

- Discuss about my goods/ bads in the lesson. Suggest the ways in how I can improve. (Amy)
- Maybe discuss about how to improve my teaching, what I am not able to notice in the lesson. (Betty)
- Mainly evaluate my lesson. And to provide some suggestions on how to implement the lessons better (Chris)
- It would be great if you can criticize my teaching as detailed as possible I think this can help me to improve my teaching in a more rapid manner. It would be nicer if you can share your way and rationale of teaching as well. (Dennis)
- I hope you can point out the problems in my teaching and give me some useful suggestions for the improvement. (Linda)
- To provide feedback for future improvement. To point out what I expressed unclearly in the lesson to point out if some teaching strategies are probably enacted. (Raymond)
- Suggest improvements and be more supportive since we might lose confidence after teaching. (Tina)
- I hope you can provide some comments or insights in any aspects on our teaching. I hope we can discuss more on “first-impression”. I think it is very important in learning how to start a lesson successfully as it influence your teaching after. (Winnie)
- 1. Ask some questions to let me reflect on some particular aspects of my teaching,
2. Directly pinpoint what I did well and bad.
3. Give me some suggestion (Wallace)

Outline of the POC:

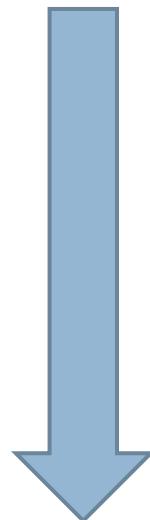
- 1. Inviting the student teachers to share their expectations of the conference
- 2. Stimulating their reflection using *open-ended questions*
- 3. Discussing important aspects I noticed
- 4. Summarizing the conferences

3-staged study

Stage 1: Analysis of post-lesson conference conversations

*What the STs learnt from
the conference*

*Conferencing
practices/skills that
facilitated their learning*



Stage 1:

Individual interviews:

- Their learning from the post-lesson conference ***after 3 months***
 - Episodes remembered from the conferences and the reasons behind
- Their perceptions of the conferencing practices

Open-ended surveys and reflection reports:

- Their learning from the post-lesson conference (1 week after the conference)
- Their perceptions of the conferencing practices

Conference transcripts:

- Nature of the conference talk, how facilitation/conference practices was/were performed in action

RQ 1:

What did the student teachers learn from the post-lesson conferences?

- Six students (2/3 of the cohort) were interviewed 3 months after the post-lesson conferences
- Analysis focused on episodes they could still remember and the reasons why these episodes were memorable to them

ST - Raymond

Interview	Reflection report	Survey	Lesson report
<p>我記得有一個就是你即是曾經給過一些 alternative 的建議，那是有一個你是問了我：你覺得…即是因為我記得我第一次做那個時候呢是做薯仔的實驗，osmosis，用薯仔。這樣你就問我：嘅，要學生 prepare 九個 group 的 potato disc 是不是…即是說有沒有一些比較 effective 的方法呢？那我開始想不到的嘛，然後你就說了：那可不可以我們 prepare 給他呢？那我那時候就想其實都可以的，那例如…但是不過我就覺得是學生做，譬如說有九 group 啦，那學生做三個 group，那另外那六個 group 呢就可以預先 prepare 好，還有 weigh 了，即是磅了，那再給學生，那就可以省回很多時間啦。(Ray) (Timing – effective use of time) (Specific)</p>	<p>I have learnt that the instructions should be given in the right moment. For example, I could ask students to think about why 9 test tubes were given instead of 3 before the distribution of apparatus. This helped students to think and design their experimental set-up. Moreover, the reminder for safety precaution should be given clearly before, but not during, the distribution of materials. The experience reminds me that I have to think carefully on the fine details of my lesson. This helps me to prepare and give instructions in an appropriate moment. (Q.1) I do agree that some unnecessary procedures in a practical work could be trimmed. For example, there might be unnecessary for students to weigh the 9 groups of potato discs. On the other hand, I could ask students to weigh 3 groups of potato discs only. The other 6 groups of potato discs will be prepared and weighed before distributing to students. Then, students could be shown with the experimental set-up that had been prepared before the practical work in form of</p>	<p>There are two extreme feelings in the post-lesson conference. I felt inspiring to realize how some fine details of the lesson could be modified in order to improve the effectiveness. Some strategies shared by the supervisor were somethings I have never thought about. For example, my practical could be more efficient if students were not required to weight 9 groups of potato discs. Some procedures could be prepared by teacher in advance to the practical work. (Survey Q.4)</p> <p>I can recall that it was impressive to know about the alternative ways suggested by the supervisor to improve the practical work. As my teaching plan was a bit over-packed, I had to think about what procedures were needed be trimmed. I found it impressive because I have never thought about this issue. The way suggested was more practical and effective. When I recall my experience now, I really believe that students can hardly learn more when they were asked to weight 9 groups of potato discs instead of 3 groups of potato discs. (Survey Q.7)</p>	<p>Some hands on part can be trimmed or streamlined (e.g., procedures repeated in the practical work e.g., weighing potato discs) to save more time for discussion to achieve the minds on components of the lesson. This would help better achieving the major learning objectives. (III)</p>

- 20 episodes
- These episodes were analysed with respect to
 - (1) Topic
 - (2) Level of specificity of description

- “*We talked about the differences between formative assessment and continuous assessment. I still recalled that I had misconceptions about formative assessment* (Chris, Interview Transcript).” (Assessment; General)
- “*At that time, we were discussing the teaching of the experimental set-ups related to Tropism. I thought that I could cover 3-4 set-ups within 1 lesson. But you thought that only 1-2 set-ups could be covered [within the limited time]. Your rationale is that it is not about ‘teaching’ the set-ups, but the purpose was for students to understand the set-ups conceptually* (Dave, Interview Transcript).” (Lesson structure; Specific)

Focus	General	Specific	Total
Orientations towards science teaching	1	4	5
Topic-specific instructional strategies/representations	0	1	1
General Pedagogy	1	1	2
Lesson structure (sequencing, timing and pacing)	1	3	4
Lesson content	0	1	1
Assessment	3	1	4
Design of curriculum materials (worksheet, PPT, videos)	1	2	3
	7	13	20

Categories	%
Orientations towards science teaching	25
Lesson structure	20
Assessment	20
General pedagogy	10
Curriculum materials	15
Topic-specific instructional strategies/representation	5
Lesson content	5

RQ2:

- **What are the conference practices perceived by the student teachers as helpful, or otherwise, to their learning?**
- Reasons why they could still remember those episodes (Interview Transcript) + Relevant conferencing practices (Interview Transcripts, Open-ended Surveys)
 - ▣ Constant comparative methods (Strauss & Corbin, 1998)

Findings:

- 3 themes emerged from an analysis of the reasons why student teachers found the episodes memorable
 1. The issues discussed were of concern to the student teachers
 2. New and innovative ideas that they were not able to think about were offered
 3. Student teachers were directed to reflect on area for improvement that they did not notice on their own

- **Theme 1:** The issues discussed were of concern to the student teachers
- I like the **sequence of the post-lesson conference**. I was asked to **express my own views first** and then it was followed by supervisor's prompt or comments. This enables the post-lesson conference to be more students-directed. **The areas discussed can focus on issues that I feel eager to learn more.** (Ray, Open-ended Survey)
- My tutor allowed me to **reflect on myself first** and he provided feedback or asked guiding questions **according to what I reflected.** (Amy, Open-ended Survey)

Relevant conferencing practices

- Allowing students to self-reflect first to identify issues that they found meaningful for discussion
- Building on what they found meaningful for discussion

Rather than selecting issues that I am interested in

- **Theme 2:** New and innovative ideas that they were not able to think about were offered
- I am interested in something that I can't think of. As *I was not able to come up with the ideas, suddenly I was given an idea ... It was like a surprising moment or an eureka moment.* (Ray, Interview Transcript)
- I still remember the moment when *I was frustrated after self-evaluating my performance in conducting class activities. As I could not think of some possible ways to improve the implementation of class activity at that moment, I was suggested ways to improve it by my instructors.* (Wallace, Open-ended Survey)

Relevant conferencing practices

- Inviting student teachers to brainstorm ideas about the issues under discussion
- Withholding suggestions and feedback

Rather than telling them what to do and how to do directly to cope with the problems/challenges they face

- ***Theme 3: Student teachers were directed to reflect on area for improvement that they did not notice on their own***
- I was not able to identity those little issues (I need to improve) but after the post-lesson observation and conversation, I was able to realize what I didn't do well. Then I was able to recall these issues. (Chris, Interview Transcript)
- I like how the supervisor *could analyze a particular moment during the class in a very detailed way. Many of the observation from the supervisor were unspotted by me* that helps me to view the same moment at a different perspective. (Winnie, Open-ended Survey)
- The conference helped me to *focus on some particular moments happened in lesson which I would have ignored.* (Tina, Open-ended Survey)

Relevant conferencing practices

- Inviting student teachers to describe what they notice in the lesson
- Prompting reflection on and detailed analysis of
 - Certain moments (e.g., student responses)
 - Student learning

RQ 3:

What are the challenges encountered by the teacher-researcher when conducting the post-lesson conferences?

- My reflection on the conferences (Reflective journal entries)
- Student perceptions of the conferences (Interview Transcripts; Open-ended Surveys)

- I am afraid to say that ***I also felt stressful*** in the post-lesson conference. It was because ***I was asked several times to express more views***. This made me think that I was still not able to touch a point on the weakness of my practice. Actually, it might be difficult to think deeply on the lesson that I just implemented. (Ray, Open-ended Survey)
- Even if you ***continue to ask us questions*** on our how to deal with the problem, we won't be able to express our views. ... Sometimes, we think that we can't think of the possible solutions, ***then we do not really want to discuss***. (Betty, Interview Transcript)

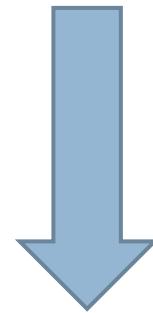
- *I think you can "push" me to think how to improve my lesson, and your suggestions are really helpful, but I would also like to know your overall comment at the end of the conference. What do you think? (Jack, Open-ended survey)*

- Interestingly, I always liked to invite my student teachers to say more as I treasure what they concerned. However, what seemed to them was that they were not able to hit the 'right" things if I was continuously to ask them to say more. (Teacher Journal)
- *Far too easy, I am not understanding enough and am challenging them too much, beyond their comfort zone (????). Am I setting a standard too high? Am I too discouraging? (Teacher Journal)*

Stage 1:

Undergraduate students

Conferencing skills developed



Stage 2:

Post-graduate diploma students

Outline of the POC (Stage 1):

- 1. Inviting the student teachers to share their expectations of the conference
- 2. Stimulating their reflection using *open-ended questions*
- 3. Discussing important aspects I noticed
- 4. Summarizing the conferences

Outline of the POC:

- 1. Inviting the student teachers to share their expectations of the conference
 - Stress on the importance of *listening* to the rationales and the idea of *brainstorming* ideas
- 2. Stimulating their reflection using *open-ended questions*
 - Add comforting moves
- 3. Reviewing the objectives of the lesson
 - Asking students to self-evaluate their achievement of the learning objectives
- 4. Asking STs to *identify areas of concerns* for discussion
- 5. Discussing other aspects I noticed
- 6. Summarizing the conferences

3-staged study

Stage 2: Analysis of post-lesson conference conversations

- Participants: 5 PGDE Student Teachers
 - ▣ 5 X Audio-taped Post-lesson conferences
 - ▣ 5 X Post-lesson Reflection Reports
 - ▣ 5 X Open-ended Survey
- Teacher-researcher:
 - ▣ Reflective journal entries; comments from critical friends

Stage 2:

Survey questionnaire and reflection reports:

- Their learning from the post-lesson conference (1 week after the conference)
- Their perception of the conferencing practices

Conference transcript:

- Nature of the conference talk, how facilitation/conference practices was/were performed in action

Stage 3:

Discussion with experienced mentor

- 1 audio was selected + transcript
- Will be given to mentor teachers to comment on the conferences
- Sharing of views in a *Focus-group meeting*
- Brainstorming how to cope with the challenges encountered during the process

Possible contribution

The findings may possibly add to the pedagogy of supervisions by identifying

- The conference practices that are facilitative to student teacher learning from the conferences
- The challenges associated with enacting the practices

- Questions & Comments
- Suggestions
- Alternative themes for writing articles/perspectives for analyzing the data



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