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Using classroom observations and interviews to explore the implicit beliefs of teachers' that guide their practice in the classroom

Introduction

> The final source of the knowledge base (of teaching) is the least codified of all. It is the wisdom of practice itself, the maxims that guide (or provide reflective rationalization for) the practice of able teachers (Shulman, 1987, p.11)

Despite the fact that research on teacher cognition and thinking is thriving, critics have questioned its findings and its use to teachers and educational research (Clark & Peterson, 1986; Kane et al, 2002). Arguably another viewpoint is required from which to better understand teacher behaviours, a viewpoint that focuses on the way and things which teachers believe (Clark & Yinger, 1977; Clark & Peterson, 1986; Clark & Peterson, 1986; Nespor, 1987; Pajares, 1992; Richards, 1996; Shulman, 19870). This premise is based on the notion that "beliefs are the best indicators of the decisions individuals make throughout their lives" (Pajares, 1992: 307). Interest needs to shift from an emphasis on the relationship between observable teacher behaviours and pupil attainment, to an emphasis on the thinking that precedes teacher actions (Fang, 1996). Many argue that understanding the belief structures of teachers is essential to improving their professional practice and that teachers' beliefs influence their judgments, which in turn, affects their classroom practice and behaviour (Clark & Yinger, 1977; Clark & Peterson, 1986; Clark & Peterson, 1986; Fang, 1996; Kane et al, 2002; Munby, 1982, 1984; Nespor, 1987; Pajares, 1992; Richards, 1996; Shulman, 19870). In this respect, understanding the beliefs of teachers is significant and the research interest surfaced as a result of that.

Overall research aim

The primary purpose of this study is to explore the relationship between teachers' beliefs and classroom practices. I intend to investigate the nature of those beliefs as expressed in teachers' practices. In particular the research will focus on the choices teachers make about how to teach and determine what personal beliefs influence these choices. While teachers have pedagogical and content knowledge about the subjects they teach, they also hold different beliefs about what it means to be

teacher, how to teach and how students learn. Such line of inquiry into teacher cognition is significant, as it will help teachers understand the influence that their beliefs have on the development of their teaching practice. Furthermore, teachers are required to critique and evaluate their practice, a process involving awareness, reflection and judgment.

Literature Review

Teachers' thinking, decision making, planning and implicit beliefs are interwoven facets that impact every day classroom practices. In this research the concept of belief "is used to characterize a teacher's idiosyncratic unity of thought about objects, people, events and their characteristic relationships that affect his/her planning and interactive thoughts and decisions" (Mansour, 2009; 26). This definition captures the essence of beliefs as conceptualized in this research in that they are distinctive to the individual, implicit and have bearing on adopted practices. Understanding teachers' beliefs about their work, role, students and subject matter is necessary, as Clark & Peterson (1986) comment, in order to "make explicit and visible the frames of reference through which individual teachers perceive and process information" (287). As these "frames of reference" are tacit, teachers may not be aware about how their underlying beliefs influence their practice. In spite of the arguments that beliefs have importance influences on the ways people behave, Nespor (1987) argued that

> Little attention has been accorded to the structure and functions of teachers' beliefs
> about their roles, their students, the subject matter areas they teach, and the schools
> they work in. (p. 317)

This is because teachers' though process are internal, not easily measurable and difficult to define with empirical research methods, thus traditional teacher research tends to steer away from such line of research (Bills & Husbands, 2004; Clark & Peterson, 1986; Fang, 1996; Gudmundsdottir, 1990; Kagan, 1990; Kane et al, 2002; Mansour, 2009; Pajares, 1992). Having said that, findings from research into teachers' beliefs appear to have consensus on several issues:

- Beliefs are robust and resistant to change (Fang, 1996; Kagan, 1990; Kane et al, 2002, Richardson, 1996)
- Beliefs act as filters. Beliefs allow in or filter out new information and knowledge that is deemed compatible or incompatible with current beliefs (Clark & Peterson, 1986; Nespor, 1987; Pajares, 1992)
- Beliefs are tacit and implicit and difficult to articulate (Clark & Yinger, 1977; Clark & Peterson, 1986; Nespor, 1987; Pajares, 1992)

Additionally, an examination of the literature surrounding teachers' beliefs has proved to be varied and different researchers have tried to make explicit those beliefs via different approaches. To facilitate the discussion this review will draw attention for the need of research into teacher beliefs to examine teaching within its actual context in order to maintain the integrity of the research (LeCompte, 1978). Attempts to reveal teachers' conceptions of what they teach "should not be limited to an analysis of the teacher's professed views" (Kane et al, 2002; 182). It should also include an examination of the context, the actual practice and the setting that the teaching takes place.

Studies that examined teachers' implicit thinking about their professional role and identity have shown that teachers' professional activities and practices are closely linked to their beliefs about themselves as teachers, particularly their sense of efficacy and the belief that they have an impact on the learning of their students (Beijaard *et al,* 2000; Ben-Peretz *et al,* 2003; Husu & Tirri, 2007). Husu and Tirri (2007) argue that a ''sense of efficacy—the teachers' sense that he or she is making a positive difference in the lives of students'' (p. 394) is one of the most influential predictors of their commitment to teaching. The study by Ben-Peretz *et al.* (2003) for example employed the use of metaphoric pictures to uncover teachers' belief about their role. Sixty teachers were asked to match their images of themselves as teachers with cartoon drawings of other occupations and to comment on their choices as a way for participants to disclose their beliefs concerning their teaching role. Teachers were required to choose one drawing from amongst the seven that

matched to the highest degree their professional self-image. The major finding was that teaching context has an impact on beliefs about their professional self. The research design is certainly creative and the use of images is useful because beliefs are not easy to articulate. Notwithstanding the creativity behind the research design, it is problematic for the authors to assert that the expressed beliefs accurately describe the participants' teaching practice and roles. Some of the images provided had too much of a negative connotation whilst others were extremely comical. It is questionable whether the teachers in the study have actually chosen the image that is the true representation of their beliefs or the image that was "culturally" acceptable or least embarrassing[1]. Furthermore, maintaining the reliability of educational research requires an examination from its actual context (LeCompte, 1978). Yet the findings were based on the assumption that the teachers were accurately reporting their practice in the interviews and the authors fail to observe teachers in actual practice to reaffirm what was said in the interviews.

In higher education, Singer (1996) used a questionnaire to survey 443 full-time faculty members' personal teaching theory. Singer argues, "the pattern of findings also validates an explicit connection between the espoused teaching paradigms of college faculty and the instructional behaviors they use in their teaching practices" (675). Yet there are potential problems with the use of surveys, questionnaires and multiple-choice inventories as data collection method to elicit implicit conceptions and beliefs (Kane et al, 2002). Such studies may also fall prey to a *self-fulfilling prophecy* described as "the false definition of a situation, which in turn engenders behavior that brings the situation into conformity"(Wineburg in ibid; 675). Essentially, when researchers' expectations are built into the research instrument, the probability that the participant will satisfy those expectations cannot be overlooked. The author did acknowledge several limitations in the study, such as, excluding variables such as faculty job satisfaction and student motivation that might account for the differences in teaching paradigms. However, as with the study

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[1] Some of the images were of controlling puppeteer or a funny entertainer for example. For actual drawings please refer to Ben-Pretetz *et al* (2003)

highlighted earlier, Singer did not observe any of the participants and the omission of teacher observations was not acknowledged as problematic. Another study by Fox (1983) asked newly appointed teachers "What do you mean by teaching...what is actually happening?" (151). Based on that Fox developed a conceptual model to explain the four theories of teaching that he identified from the discussions: theories of transfer, traveling, shaping and growing. However, he did not examine how the individual teacher who professed to a certain theory actually taught in the classroom and did not make use of any method to observe those teachers.

Richards (1996) argues that research on teaching benefits from an examination of the *voices of the teachers* themselves. The author sought to explore an insider's perspective on teaching by examining teachers' understanding of teaching by observing the teachers when they conduct their lessons. The observations were followed by conversations with the teachers about how they conducted their lessons. Richards (1996) utilizes the term *maxims,* which he describes as principles that teachers unconsciously refer to as they teach. He suggests "these (maxims) are not always conscious, reflect how teachers view themselves in their teaching contexts, and form the subconscious assumptions on which their teaching practices are based" (ibid; 283). It is reasonable to discuss maxims by replacing the word maxims with beliefs, because maxims as described by Richards (1996) share many characteristics with the term belief in that they are implicit, personal and impact teachers' practice in the classroom. Richards (1996) demonstrated that teachers' perspectives often have a powerful influence on teachers' thinking and actions and may also create resistance to alternatives modes of thought and practice and thus claims that making explicit of teachers' beliefs can also be an ongoing focus of teacher development programs. Nonetheless the research is descriptive and Richards (1996) does not thoroughly explain the process of research by failing to describe how the participants were selected, how the observations were utilized and how the interviews were conducted. Despite the lack of clarity in the research process the author made use of both observations and interviews.

Methodology

It is often argued that in order to understand human behavior and thought, studies ought to embrace research that examines human behavior out of the confines of a positivist methodology (Levy, 2006). In the case of this research an interpretivist methodology will be adopted, to provide a more in-depth understanding the relationship between teacher's beliefs and their practice. In the field of educational research, inquiry into teachers' values and cognition has generally adopted and benefited from qualitative approaches (Clark & Yinger, 1977: Kagan, 1990: Kane et al., 2002: Pajares, 1992: Savenye & Robinson, 2005: Soltis, 1984). This research perceives matters of human understanding to be of an "interpretive construction on the part of the experiencing subject…[where] the world which is constructed is an experiential world, that consists of experiences and makes no claim whatsoever about 'truth' in the sense of correspondence to an ontological reality" (Stephens & Gammack, 1994; 165). Thus the interpretation of the data will not considered in terms of the overarching truth but as momentous and pertaining to the individual teachers themselves.

Sampling

The participants are four secondary school teachers in London. One is an RE teacher, one is a History teacher and two are Modern Foreign Languages teachers and they all work in the same school. They are all considered successful teachers by their colleagues and their teaching experience ranges from two years to more than twenty years in the classroom. One is the head of department and they are all female. The sample size is small but the aim in this research is to collect extensive data about each of the individual studied. Indeed the "intent in qualitative research is not to generalize the information… but to elucidate the particular, the specific" (Creswell, 2013: 157). They were recruited via a teacher friend that I know who works in this school. This is both an opportunistic and purposeful sampling (see Creswell 2013; Dowling and Brown 2010) technique. It is opportunistic as teachers were asked if they were willing to participate and these individuals agreed. On the

other hand it is also purposeful as the only criteria required to carry out this research is that the participants are teachers themselves.

Data Collection

Data will be collected though the use of triangulation of two research methods: observations and face-to-face interviews. Triangulation is significant particularly in the case of research investigating teachers' beliefs and thoughts (Kagan, 1990: Kane et al., 2002: Pajares, 1992). For Kagan (1990), "the use of multi-method approaches appears to be superior, not simply because they allow triangulation of data but because they are more likely to capture the complex, multifaceted aspects of teaching and learning"(459). Similarly, Pajares (1992) makes the assertion that "additional measures... must be included if richer and more accurate inferences are to be made"(327). I intend to watch the teachers while conducting their lessons in the classroom environment. In each case the teachers will be observed over a number of lessons. The observations are useful in that they record actual behavior, rather than simply recalled behavior. My role is that of a non-participant observer acting as an outsider and taking notes without direct involvement with the setting (Creswell, 2013). Fieldnotes will be made based on what is experienced and "a description of the setting is developed through the successive compilation and analysis of fieldnotes" (Dowling and Brown, 2010; 60). Fieldnotes are preferred to a highly structured observation schedule because "using this technique (structured observations) for the collection of data in the classroom misses much of what goes on" (Dowling & Brown, 2010; 60). Following Dowling and Brown's (2010) recommendations, when making the fieldnotes different types of information will be distinguished beforehand by setting up *fieldwork guidelines.* For each lesson observed contextual and environmental details will be recorded such the number of pupils, classroom furniture arrangements, classroom walls and displays and so on. The fieldnotes will also be divided into two columns to include a chronological or descriptive side and a reflective side (ibid). My aim with the observations is to gather rich information about the actions of the teachers that they will later be questioned about. This form of data collection provides more flexibility and is thus

more suitable for what I am trying to achieve from this research. It will provide me with the information that I need for the development of the interview as I intend to question teachers on the pedagogic choices they have made, in order to unearth their implicit beliefs about their practice.

After the observations, the teachers will be interviewed and questioned in relation to the observations. Each interview will be audiotaped and transcribed and prior verbal consent will be sought from the participants (Creswell, 2013: Paul and Downing, 2010). The one-on-one interviews will be semi-structured. Although Dowling and Brown (2010) abstain from using the term semi-structured, the interview will be "constructed a more or less complex typology" combining "structured components with opportunities for open interaction" (79), and the term will be utilized here in order to facilitate the reader's understanding. Initial questions will be generated around my examination of what occurred during the observation. For example I will look at things such as the methods used to present the lesson and engage the pupils; what materials, activities and resources the teacher uses and why did she make use of such methods as opposed to something else. How does the teacher organize those learning activities; does she make use of group work, whole class activities, pair work or are students working individually. I intend to question the rationale behind such organizational choices. I will note down managerial strategies as well by examining how the students are kept on track and what approaches the teachers use to keep the class running smoothly. The contextual and environmental details that I will record in the fieldnotes will also be used to structure my questions, for example why are the tables arranged in a certain way or why is wall space utilized in this manner. The initial questions will be simple and clear "with which they (the interviewees) can easily engage" (ibid; 81). Follow up questions will be aimed at extracting from the interviewees a higher level of thinking and reflecting. This will be achieved via the use of probes to gain further insight and clarification about initial responses (ibid). I will be careful about the probes used, as I want to refrain from imposing my own suggestions. Thus I will ask the respondents to clarify what they mean, in their own words, about any

terminology, ask "why" and also reaffirm what they have said by using the phrase *so what you are saying is... is that correct*. Lastly, I will ensure that questions are not phrased in a judgmental way. I think this is a crucial consideration in this research as to avoid a situation in which the teachers feel that I am criticizing their practice.

 Data Analysis:

Qualitative approaches to data analysis are nuanced, diverse and complex (Holloway & Todres, 2003). Indeed, data analysis is custom-built and not off-the-shelf (Creswell, 2013). Yet, in order to allow others to evaluate this research and compare it to other studies it is imperative to be clear about "how people went about analysis their data, or what assumptions informed their analysis" (Braun & Clarke, 2006: p.80). As with data analysis in most qualitative research, I shall begin by organizing the data generated from the observations and interviews, then coding the data and reducing it to themes, condensing the codes and finally representing the data in a form of discussion (Creswell, 2013). For the observations the analysis process starts "when the analyst begins to notice, and look for, patterns of meanings and issues of potential interest in the data" (Braun & Clarke, 2006: p.86) which takes place as soon as the lessons start. The filednotes include a reflective side that starts the analytical process; it begins with the jotting down of my ideas, thoughts and potential codes. Although a time-consuming process, all interview data will be transcribed to enable greater familiarity with the data and awareness of the interaction (Dowling & Brown, 2010). The transcripts will be detailed enough to capture all verbal and non-verbal utterances (e.g. Coughs, sighs) to retain the information in a manner which remains "true" to its original nature (Braun & Clarke, 2006). Although this research is not based on grounded theory, I will make use of some of the analytical processes used in this approach such as open coding, constant comparison and memos to construct themes and descriptions.

First, key features in the fieldnotes and transcripts will be identified via open coding to develop a "categories of information" (Creswell, 2013; 195). This method of "attaching a label... captures the detail, variation and complexity of the basic

qualitative data" (Kunkwenzu & Reddy, 2008; 134). This stage of the analysis is thorough and rigorous and I will immerse myself in the data through line-by-line analysis and coding the data in as many ways as possible. I will use both *in vivo* codes (the exact words used by the teachers in the interview) and *in vitro* codes (my own expressions) to allow me with "flexibility in deciding on a word, phrase or statement that best fitted the data" (ibid; 139). In the second step, the initial codes generated across fieldnotes and transcripts will be compared for any similarities, differences or emerging patterns to generate categories. These categories, or themes, will consist of several codes aggregated to form a common idea (Creswell, 2013). Finally, constant comparison of the categories for conceptual similarities and differences will continue throughout the process until saturation is reached (Creswell, 2013; Kunkwenzu & Reddy, 2008; Walker & Myrick, 2006). Throughout this process I will also make use of writing memos about the theoretical ideas that emerge during the course of analysis (Kunkwenzu & Reddy, 2008; Walker & Myrick, 2006) both in the fieldnotes and transcripts. Adopting such techniques of grounded theory is useful in this study, as it will enable me to talk about and discuss the four teachers in a consistent and coherent way.

Finally, whatever analytical stance is taken it is vital that an awareness of the local context of the data is considered. Following Rapley (2001) interviews are "inherently social encounters, dependent on the *local interactional contingencies* in which the speaker draws from, and co-construct, broader social norms" (p.303: authors italics). The 'data' obtained emerges from the specific local interactional produced through the talk of both interviewee and interview. Thus when the interview is transcribed and discussed in the research an attempt will be made to include some degree of the interaction that is taking place. Thus the respondents dialogue as well as mine will be included in the discussion to give readers a richer description of the actual interview.

Ethical Considerations

Prior to conducting the study an ethical review will be completed and approval obtained from the committee before the research begins. Furthermore the BERA (2011) guidelines for ethical educational research guidelines will be examined and followed in order to maintain good practice. Consent of participants will be obtained via email detailing the research process, their role, and the data collection and data analysis methods. Importantly the participants will be made aware of their right to withdraw at any time. The interview recordings and any personal data will be secured safely on the computer. It is password protected and I am the only one with access to the computer and it is strictly confidential. The identity of the school and participants will be strictly anonymous.

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