[1]Unwarranted Certainties in Education: The Role of the Foundations in Preparing New Teachers

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Abstract: Much *has been written about teacher attrition after the first few years of teaching (Karsenti & Collin, 2013) and many have blamed this trend on the inadequate preparation of beginning teachers for the 'uncertainties' of teaching (Floden & Clark, 1988). While this may be true, we think that 'certainties' (Kahneman, 2011), particularly those that are unwarranted, pose just as great a threat to teacher preparation, satisfaction and retention. In our paper, we present a typology of different types of certainties and uncertainties in education focusing specifically on 'unwarranted certainties'. Next, we compare and contrast myths, bandwagons, and moral panics as three types of unwarranted certainties. Finally, we turn our attention to the foundations disciplines and discuss why we think they are critical in developing the habits of mind necessary for challenging unexamined assumptions, taken for granted beliefs, and unsupported theories that underpin much of what we do as teachers.*

Keywords: teacher preparation; certainties and uncertainties; foundations of education

Introduction

It has been well documented that learning how to cope with the 'uncertainties' of education is a major concern of prospective and beginning teachers (Helsing, 2007; Schuck & Buchanan, 2012). Given the increasing diversity of students in classrooms, the increasing call for accountability, and the increasing demands of parents and the general public alike, it is no surprise that many teachers leave the profession within the first five years (Karsenti & Collin, 2013). However, in our preoccupation with the relationship between these kinds of uncertainties and teacher attrition, we think that far too little attention has been paid to the 'certainties' of education that are not always warranted or even supported by evidence. Unwarranted certainties include 'myths', our unexamined assumptions about teaching and learning, 'bandwagons', our unjustifiable faith in educational panaceas, and 'moral panics', our unsupported fears about threats to the well-being of society. In this paper, we explore the notion of certainties and uncertainties in preparing new teachers. To begin, we present a typology that illustrates different types of certainties and uncertainties with a particular focus on 'unwarranted certainties'. Next, we compare and contrast myths, bandwagons, and moral panics as examples of unwarranted certainties and provide an example of each. Then we turn our attention to the foundation disciplines, their current status in teacher education programs, and a discussion of why we think they are so critical in helping new teachers develop the habits of mind needed to challenge the unexamined assumptions, taken for granted beliefs, and unsupported theories that we all have as teachers.

The authors wish to acknowledge that they have the formal permission from Oxford University Press (OUP) to publish this paper in the Proceedings of the 58th ICET World Assembly and that this paper is based on a forthcoming book with OUP entitled, *Case Studies in Educational Foundations: Canadian Perspectives*

Warranted and unwarranted certainties

Hot button issues that spark public debate in newspapers, blogs, and television shows, remind us that education is rarely the subject of 'good news'. Indeed, if we are to believe what we read and hear in the media, schools are generally failing, they are full of unruly students, they are run by corrupt school officials, and they are rife with questionable sexual behaviour on the part of both teachers and students. Although such exaggerated and often false media reports may result in staff room jokes, the long-term effects of such stories on the teaching profession are no laughing matter. Often repeated media narratives become taken-for-granted 'truths' that can be extremely damaging to the level of support that teachers and schools receive from parents and members of their communities.

Unfortunately, as Kahneman (2011) points out, research in cognitive psychology has shown that people are extremely quick to adopt taken-for-granted truths as certainties and are likely to do so, based on surprisingly little evidence. These unwarranted certainties that result in myths, bandwagons, and moral panics are often immune to reasoned arguments or disconfirming research. In this paper, we provide a deeper look into some of the unwarranted certainties in education and demonstrate how readers can draw on the rich traditions of the history, philosophy, and sociology of education to avoid succumbing to faulty first impressions or being blinded by long-held beliefs and unexamined assumptions. We argue that the essential questions posed by the foundations of education can help beginning teachers to recognize the validity of certainties that are warranted and to question those that are not.

We are aware that the pursuit of certainties and the fear of uncertainties can consume new teachers and can continue to create tensions and frustrations long after teachers have gained experience in the classroom. As Floden and Clark (1988, p. 505) point out, 'Teaching is evidently and inevitably uncertain.' The list of uncertainties that face beginning teachers is much too long to provide here but they include such concerns as: whether or not they have sufficient knowledge and experience to teach the subject matter they are asked to teach, how they will be able manage their classrooms and accommodate diversity, whether or not they are teaching what is most worthwhile to prepare their students for the future, and whether or not they are assessing their students fairly.

To date, we are unsure whether beginning teachers are debilitated by such uncertainties or are motivated to grow professionally as a result of them (Edwards, Gilroy, & Hartley, 2002; Floden & Buchmann, 1993; Floden & Clark, 1988; Schuck & Buchanan, 2012; Shulman, 2005). However, Helsing (2007, p.1329) suggests that "schools can and should do much more to minimize uncertainty while teachers learn how to reflect successfully on the uncertainties that remain." She also argues that teacher education programs need to address the messiness of teaching explicitly, because otherwise, "teachers will continue to feel that the uncertainties they experience are anomalous, indications that they are not teaching well, or are aspects of the job that should and will vanish with time and increased expertise and experience" (p. 1330). Along with Lampert (1985;1986), we have made a similar case elsewhere that teacher education programs need to be less concerned with problem solving and more concerned with helping prospective teachers work through dilemmas that are less amenable to quick fixes of any kind (Mandzuk & Hasinoff, 2010).

It turns out that feelings of inadequacy are common among the unacceptably large percentage of teachers who leave the profession within the first five years after graduating (Karsenti & Collin, 2013). Although this exodus has been blamed, in part, on feeling unprepared for the uncertainties mentioned above, we think that *certainties*, which on one level can be considered to be the major goal of teacher education programs, have been overlooked in the discussion about teacher attrition.

We believe that greater attention should be paid to certainties in education such as myths, bandwagons, and moral panics because they are based on unexamined assumptions, taken-for-granted beliefs, and unsupported theories. To understand these types of certainties and how they compare to uncertainties, we refer the reader to Figure 1 below.

Figure1. Certainties and uncertainties and their causes

	Uncertainties	**Certainties**
Warranted	A. *What we do not know or what is yet unknowable* CAUSES: • insufficient evidence • anecdotal evidence • lack of relevant knowledge or skills	B. *What we know from supporting evidence* CAUSES: • peer-reviewed empirical research • evidence-based conclusions • verifiable facts
Unwarranted	C. *What we are unable or unwilling to know* CAUSES: • anxiety • cynicism • confusion	D. *What we know without supporting evidence* CAUSES**:** • unexamined assumptions - **myths** • unjustifiable faith in panaceas - **bandwagons** • unsupported fears about society - **moral panics**

Warranted uncertainties, as summarized in quadrant A. occur when we confront unknowns like how to maintain high academic standards and attend to issues of equity in the classroom or when we try to learn something new such as learning to speak a new language or learning to use a new computer program. *Warranted certainties*, depicted in quadrant B. arise when we can verify what we know, like the answer to a Math equation, the name of the capital cities in Europe, or the effects of specific descriptive feedback on achievement. *Unwarranted uncertainties*, listed in quadrant C. occur when we are unwilling or unable to know something such as when we reject new ideas simply because they are new or when we refuse to learn a new technological device because we become so overwhelmed. *Unwarranted certainties*, found in quadrant D. arise when what we think we know is based on our own assumptions, theories, and beliefs and is not supported by evidence.

To be fair, addressing our own unwarranted assumptions, theories, and beliefs is neither easy nor intuitive. Indeed, as teachers, we often cling tenaciously to what we think *works* and try to increase its predictability by establishing and maintaining routines around it rather than

experiencing the discomfort and unpleasantness of uncertainty (Floden & Buchmann, 1993; Floden & Clark, 1988). Furthermore, our uncertainties and doubts can make us feel inadequate, especially when we compare ourselves to our own teachers, who we may remember as being very competent regardless of what their actual abilities may have been (Lortie, 1975).

As it turns out, many of the strategies that have been suggested for coping with uncertainties, such as teacher collaboration and reflective practice (Helsing, 2007) are also useful for dealing with unwarranted certainties. However, coping strategies may not be sufficient because unwarranted certainties lurk beneath the surface of our consciousness and are therefore, much more difficult to disrupt. Given that they are unconscious and highly resistant barriers to critical thinking, we believe that unwarranted certainties, such as myths, bandwagons, and moral panics present unique challenges to new teachers.

Myths, bandwagons, and moral panics

As we have suggested, the myths, bandwagons, and moral panics that pervade education are socially constructed, often unconscious certainties that tend to resist disconfirming evidence. Since we tend to look for confirmation rather than refutation of what we already know, our assumptions, theories, and taken-for-granted beliefs can become significant barriers to critical thinking without us even realizing it (Kahneman, 2011). This tendency may explain, in part, the large number of seemingly illogical or loosely-coupled policies and practices that persist in education.

Whether something is labelled as a myth, bandwagon, or moral panic depends on a variety of factors, including our subjective and personal perceptions, the public and media interest that it generates, and the degree to which the issue or event is considered to be a threat to society. The Venn diagram in Figure 2 summarizes the main attributes of myths, bandwagons, and moral panics and highlights both their similarities and differences. As the diagram illustrates, *myths* consist of assumptions about teaching and learning which are the least susceptible to change of the three types of certainties. While myths are largely unconscious, most enduring and pervasive, bandwagons and moral panics tend to be short-lived and arguably more emotionally gripping. Like bandwagons, myths are mainly disseminated through word-of-mouth, including stories, anecdotes and testimonials which reinforce conformity and what Janis (1982) refers to as ‘groupthink’.

One common myth that pervades education is the myth of the normal child. The details vary, but when teachers are asked to describe a normal child, they typically portray a young person who bears a remarkable resemblance to the majority of teachers, that is, White, able-bodied, and native English speakers (Ulluci, 2007). Students who live in poverty, who come from non-English speaking homes, unfamiliar ethnic backgrounds, or have physical and mental capacities that differ from our conception of normalcy are sometimes seen as less desirable and more importantly, someone *else’s* problem. Teachers have come to expect that any student who does not fit the profile of the normal child will be appropriately labelled, treated by specialized staff (often in segregated spaces) until their issues are resolved or at least manageable thereby *earning* them a place in the regular classroom.

Whether we will admit it or not, the myth of the normal child affects how teachers perceive their students. Within the first weeks of school (or even earlier), teachers judge how close students are to being normal and make assumptions about their ability to achieve. In addition to information gleaned from their colleagues, teachers' perceptions are bolstered by myths that certain student characteristics, such as body build, gender, race, ethnicity, given name, attractiveness, dialect, and socio-economic level correlate with achievement (Tauber, 1998).

We believe that the myth of the normal child represents the kinds of myths that new teachers should question and challenge. In this age of increasing student diversity, we challenge them to question the notion of 'normal' and we caution them about making assumptions about ability based on the characteristics listed above. As we will show later, being exposed to the historical, philosophical, and sociological foundations of education can help new teachers develop the habits of mind that will enable them to recognize such myths when they encounter them and challenge some of their underlying assumptions.

Bandwagons are often driven by gurus or experts who attract followers through their charisma and/or ideologies. They are quite susceptible to change and often recur over time. Bandwagons in education, especially those which cost money, tend to be implemented from the top down, usually without consulting those who are expected to implement them. Consequently, bandwagons may elicit cynicism rather rejuvenation, as one rolls through right after the other. Like moral panics, bandwagons tend to be rooted in myths and are time sensitive, over-generalized solutions that have a relatively short shelf life.

One common bandwagon is that of single sex education. Single-sex schools have remained a constant feature of the educational landscape of private school systems in Canada and the United States. However, they are found less frequently in Canadian public school systems and until recently, they were explicitly excluded from public school districts in the United States by federal law. In the 80s, single-sex classrooms began to appear in some Canadian public jurisdictions (e.g., Ontario and Manitoba), partly in response to the under-representation of girls in so-called gateway Math and Science courses that allow entry into high-paying professions. More recently, the increase in the number of single-sex classrooms has been driven by concerns about the under-performance of boys (Demers, 2007).

Summaries of the academic literature on single-sex education (Department for Children School and Families, 2009; Thompson & Ungerleider, 2004) suggest that there is little evidence to support the movement to single-sex classes and schools. Recent research (Ivinson & Murphy, 2007; Jackson, 2002; Salomone, 2006; Sullivan, 2010; Warrington & Younger, 2001) points to some advantages for females and disadvantaged minority boys but these effects are extremely difficult to replicate over time or to disentangle from other factors, such as social class and prior achievement.

Perhaps of greater concern, as Halpren et al. (2011) point out, is that 'there is evidence that sex segregation increases gender stereotyping and legitimizes institutional sexism.' Given that other types of separation, such as racial segregation, facilitate prejudice and perpetuate racist attitudes, this may not be a surprising conclusion and warrants further examination. Segregated

arrangements are ‘harmful because they provide an artificial world in which gender differences are reified as legitimate bases for disparate treatment, and males and females are both left unprepared to negotiate egalitarian relationships’. In fact, they point out that research on state-sponsored single-sex programs in California found that pedagogy that was purportedly designed to accommodate the so-called inherent differences between the sexes actually reinforced rather than broke down traditional gender stereotypes. Proponents, on the other hand, argue that ‘coeducational education has not eradicated sexism or broken down the silos of virility (considered a male attribute) and sensitivity (an attribute traditionally associated with women)’ and that it may be time to reassess the benefits of single-sex education (Demers, 2007, p.2).

We believe that bandwagons such as single-sex education represent the kind of unwarranted certainties that new teachers should question and challenge. We caution new teachers not to make assumptions about how their male and female students learn best. As we will show later, being exposed to the historical, philosophical, and sociological foundations of education can help new teachers recognize potential bandwagons such as single-sex education when they encounter them and ask for the empirical evidence underpinning such panaceas.

In contrast to the other unwarranted certainties, *moral panics* consist of exaggerated fears that surface suddenly and with a great sense of urgency. They are the most susceptible to change of the three and are often perceived to present a sense of imminent threat to society which can be blamed on identified groups or ideas which Cohen (1972) refers to as ‘folk devils’. Fears are amplified by the media and ‘moral entrepreneurs’ campaign for policies or laws to remove these co-called ‘threats’ to society. Like myths, moral panics over such things as youth culture, new technologies, and even new policies protecting the rights of LGBTQ students, fuel stereotypes, reinforce generalizations, entrench personal and collective biases, and establish cultural norms.

One example of a moral panic involves social media, cell phones, and violent video games. According to Thurlow (2007, p. 219), at the same time as youth are being cast as folk devils they are also being portrayed as ‘arch-consumers or tragic victims of technology’ in need of protection. To capture the prevalence of moral panics involving technology and youth, Marwick (2008, p.5) coined the word, ‘technopanics*’.* She characterizes these as focusing on new media forms which pathologizeyoung people’s use of computer mediated technologies, focusing attention on hacking, file-sharing, or playing violent video games. Technopanics are attempts to modify or regulate young people’s behaviour, either by controlling their access or making restrictions that limit the freedom of the creators or producers of media products.

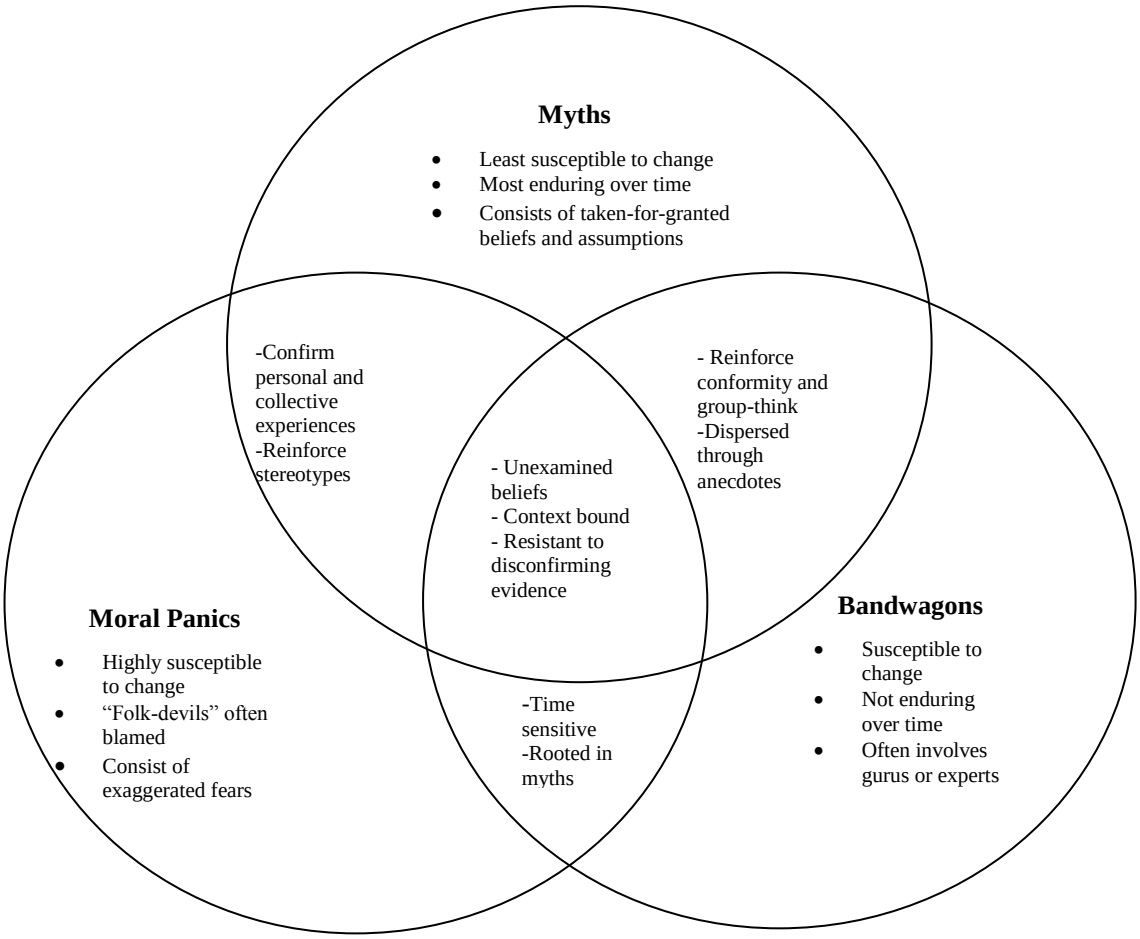
Technopanics are not new. Wartella and Jennings (2000) point out that exaggerated concerns about the impact of technology on youth were evident in the 1920s concerning movies, in the 1930s about radio, in the 1940s about comic books, and in the 1950s about rock ‘n’ roll and television. As they suggest,

> With the introduction of each new wave of innovation in mass media throughout the twentieth century—film, radio, television—debates on the effects of new technology have recurred, especially with regard to the effect on young people. Each new media technology brought with it great promise for social and educational benefits, and great concern for children’s exposure to inappropriate and harmful content. (p.31)

Lynn (2010, p. 4) argues that these fears have led to ‘a perpetual state of moral panic regarding the impact of technologies on the development of youths since the early twentieth century.’

We believe that moral panics such as those that involve social media, cell phones, and violent video games represent unwarranted certainties that new teachers should question and challenge and we caution them not to make assumptions about the effect of new technologies on the dynamics in the classroom and on student learning. As we will show later, developing the habits of mind inherent in the historical, philosophical and sociological foundations of education will help new teachers to recognize moral panics when they see them and to question the fears to the well-being of society and the intense media coverage that they often involve.

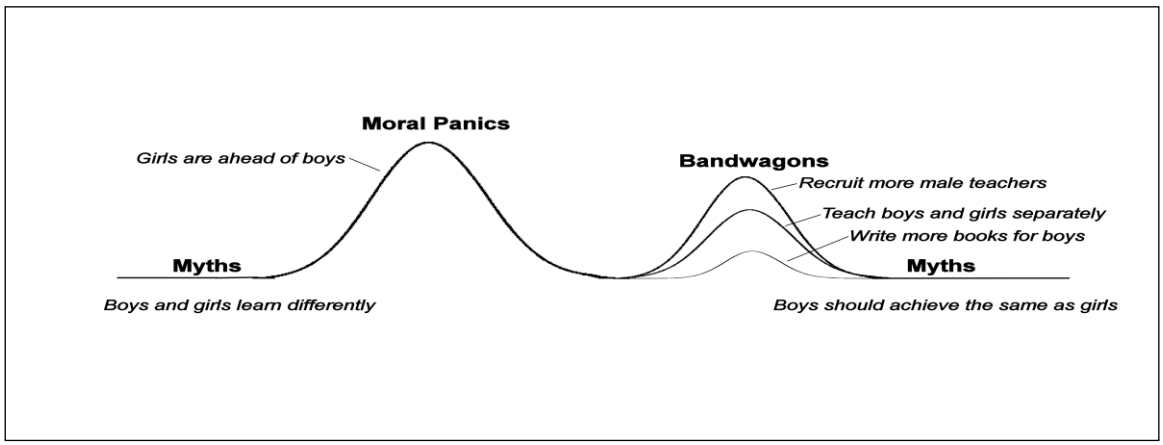
Figure 2. Comparison of myths, bandwagons, and moral panics



It is important to note that the boundaries between myths, bandwagons, and moral panics can vary and can even overlap at times, depending on the context. This overlap occurs, in part, because these barriers to critical thinking are often causally related to one another. As the example in Figure 3 illustrates, a taken-for-granted myth, such as *boys and girls learn differently* (Gurian & Henley, 2001) can fuel an alarm or moral panic, such as the overblown ‘boy crisis’. The substance of this moral panic is that boys are losing ground academically as a consequence of what some like Sommers (2000) believe to be ‘a war on boys’ and undue attention paid to

girls' ways of knowing. Once a moral panic like this takes root, a number of bandwagons may be launched in response. In this example, the responses include policies to recruit more male teachers, arrangements to teach boys and girls in single-sex classrooms, and calls for more books to be written with male protagonists and male-friendly themes (Weaver-Hightower, 2003). Often moral panics and bandwagons result in the cultivation of a new myth or a modification of an existing myth. To continue the same example, the slightly altered myth becomes *boys should achieve the same as girls.* By sharing this example, we do not wish to imply that unwarranted certainties are always or necessarily related or sequential, but rather that when we examine these more deeply, we can find meaningful connections and can become more aware of our unexamined beliefs.

Figure 3. Interdependence of myths, bandwagons, and moral panics



Rather than denying that we are unsusceptible to unwarranted certainties (after all, we are all experts on educational matters because we have all been students), we think that, as we have argued with the uncertain dilemmas of teaching (Mandzuk & Hasinoff, 2010), it is far better to acknowledge that they exist and to address them head on in systematic and explicit ways. To do so, we think we should be turning to the rich traditions of educational thought and methods of inquiry that are found in the foundations disciplines – history, philosophy, and sociology.

The Foundations of Education

Why do foundations of education matter? We believe that the question is a timely and relevant one because foundations courses are either quietly disappearing from university syllabi or are increasingly relegated to the margins of teacher education. Although much has been written about the importance of the foundations of education in preparing new teachers (Butin, 2004; Christou & Bullock, 2013; deMarrais, 2013; Kerr, Mandzuk, & Raptis, 2011), there are increasing pressures to restructure teacher education to be more technical and rational (Hare and Portelli, 2003) or in other words, to concentrate more exclusively on matters related to curriculum and instruction. As a consequence, some universities and colleges have drastically reduced or even eliminated foundations courses altogether from their teacher education programs.

We believe that this trend is short-sighted since teacher candidates need to situate their learning in the roots of educational thought in order to understand and deal with both the inevitable uncertainties and unwarranted certainties of education. In arguing that teacher education programs need to revive the foundations of education and attend more closely to taken-for-granted certainties, Liston, Whitcomb, and Borko (2009) conclude,

> What ails teacher education today is that it tends to offer programs fuelled by a quest for certainty and motivated by a misplaced sense of efficacy and power. We need to understand that the wisdom of practice is much messier than the certainties we provide, much more provisional than the prescriptions we offer, and filled with a degree of human and educational tension that cannot be ignored (p. 110).

We argue that the history, philosophy, and sociology of education raise questions that often go unaddressed and provide new teachers with a specialized language and the habits of mind which enable them to converse clearly and meaningfully about both the uncertain and certain aspects of their practice. Perhaps more importantly, the rich traditions of these disciplines expose new teachers to the kinds of critical conversations and intractable dilemmas that can engage them in "substantive inquiry, intellectual debate, and deep reflection" (Butin, 2004, p.1). In fact, the foundations disciplines not only focus our attention on what should be the aims of education, but they also provide,

> ...a conceptual lens through which to view teaching and learning, a beginning understanding of schools and school systems, as examples of social structures, an awareness of the racial, ethnic, and socio-economic disparities that exist in society and in schools, and an opportunity to critique current educational practices and the gap that exists between what we *say* we do and what we *actually* do in schools (Kerr, Mandzuk, & Raptis, 2011, p.123).

Although, history, philosophy, and sociology are often perceived as being separate and disconnected from the rest of teacher education, we agree with Shulman (1990, p. 304) that they "must be seen as an integral part of the connective tissue that gives shape and meaning to the education of teachers - as the framework for connecting and integrating the knowledge acquired in the liberal arts and sciences with the practice of pedagogy."

History of education

Foundations scholars make the connection between theory and practice explicit by posing specific kinds of questions that bring unwarranted certainties to the surface and encourage beginning teachers to interrogate what they think they already know. By becoming 'historically-minded" (Osborne, 2001), beginning teachers can take an active approach to questioning their own and their collective past and gain a deeper understanding of it. Apart from learning from specific past events, an awareness of history enables beginning teachers to situate their own experiences, to distil their teaching strategies while broadening their 'conceptual scope' and establishing a 'range of possibilities for action' (Greene, 1973, p. 181). In other words, learning how to interrogate historical contexts through historical inquiry effectively counters an increasing trend for trying to find the elusive one 'right way' to teach (Liston, Witcomb, & Borko, 2009). In this light, posing essential historically-minded questions, such as the following, provides at least a partial antidote for this type of one-dimensional thinking:

- Is the source trustworthy and is the evidence reliable?

- How does knowing the context inform our understanding of the events?
- Are the claims supported by reasoned argument and evidence?
- What might be a counter-claim and can it be better supported?
- Can we corroborate the account?

In addition, historically-minded questions, such as these, enable beginning teachers to situate myths, bandwagons, and moral panics more effectively. Given that many of these current barriers to critical thinking are variations of themes from the past, those who examine sources carefully, check the claims and the context in which they are made, and withhold judgement until evidence can be corroborated, are developing habits of mind that are essential for effective teaching.

Philosophy of education

As Forrest, Hare, and Kerr (in press) state, "to the casual observer, philosophical inquiry can seem like an ordinary conversation." In a conversation, contradiction is not an impediment. It is common for us to answer 'Fine' when asked 'How are you?' and in the next breath, list off a series of complaints which contradict the opening statement. Whereas a conversation may go this way and that without any particular purpose beyond a pleasurable exchange, the dialectical process has direction, however difficult and circuitous. When difficulties arise over, say, the definition of a term, the pleasant banter of conversation ceases. Such conceptual difficulty is the core of philosophical inquiry; it leads to deeper questioning that uncovers assumptions or contradictory claims.

Forrest, Hare and Kerr (in press) argue that contradiction flourishes in our age of instantaneous, mass-mediated information; the spirit of contention has become a form of entertainment. When sound-bites dominate substance and trash-talk undermines reasoned discussion, dispute reigns in a dialogical fight to the finish. Winning matters more than good reasoning, and often the winner is the loudest and most persistent in spite or even *because* of flawed reasoning. We need to recognize the difference between discussion and disputation and, as educators, intervene when the former degenerates into the latter.

Whether one is dealing with contradictions, discussing what knowledge is of most worth, or trying to determine what ethic is exemplified by a complex cartoon character like Homer Simpson (Irwin, Conrad, & Skoble, 2001), philosophical inquiry provides beginning teachers with access to the thinker's universal toolkit. Perhaps the most practical tools to be found inside are essential philosophically-minded questions such as the following:

- Which assumptions might be questionable?
- What underlying beliefs should be exposed?
- Are the arguments and counter-arguments logical?
- What relevant conclusion(s) can be drawn?
- What other evidence might I need?

Questions such as these help beginning teachers examine their beliefs and practices, use their own sense of judgment, and adopt an open-minded outlook when faced with dilemmas of practice, new innovations, and claims to 'cure the ills' of the typical classroom. In doing so, they are more likely to reject false or specious arguments, develop increasing skill in making logical

and relevant inferences, and imagine the implications of their conclusions. In other words, teachers with these habits of mind will be less likely to succumb to the myths, bandwagons, and moral panics that pervade education.

Sociology of Education

We think that teacher candidates need to look for evidence to understand social relationships and structures. In the poem, *Under Which Lyre*, written in 1946, W.H. Auden (Mendelson, 1976) cautions, "Thou shalt not sit/ With statisticians nor commit/ A social science" and some, like Canada's Prime Minister, Stephen Harper, apparently agree with the poet's satirical advice. However, if we are to expose the pervasive myths, bandwagons, and moral panics that create invisible barriers to critical thinking, we need to continually 'commit sociology'. We need to ask important sociologically-minded questions such as the following:

- How do social structures, such as schools, both enable and inhibit learning?
- How do social norms, roles, and identities affect teaching and learning?
- In what ways do factors such as gender, socio-economic status, and ethnicity limit or expand educational opportunities?
- What is the role of human, social, and financial capital in education?
- How can we prevent or at least minimize the marginalization and alienation of certain sub-groups in our schools?

Beginning teachers who develop the habit of systematically interrogating their practice from a sociological perspective are more likely to develop a sophisticated understanding of their experiences. Sociological perspectives expose societal fault lines and can serve as a springboard to complex debates about the very nature of schools and their role in society. Furthermore, teachers who apply sociologically-minded questions to their educational experiences will be better able to develop strategies for managing the dilemmas that often arise from the myths, bandwagons, and moral panics that characterize much of teaching and learning in the 21st century.

Conclusion

According to Beadie (1996) the most important contribution of the foundations disciplines, beyond helping beginning teachers to recognize teaching dilemmas when they are faced with them, may lie in helping them to develop the habits of mind that will enable them to identify and understand the values that often conflict in educational contexts. There are often no pat answers and so seeking ready-made solutions to problems simply doesn't make sense and is not a good use of a new teacher's time. (Mandzuk & Hasinoff, 2010). We think that if beginning teachers are exposed to the foundations disciplines, they will be more likely to recognize unwarranted certainties when they are faced with them; furthermore, we think that they will also be less likely to let their assumptions about teaching and learning go unexamined, less likely to place their faith in educational panaceas, and more likely to resist unsupported fears about threats to the well-being of society.

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