Beliefs are filters that guide teachers during instructional and curricular decision-making (Pajares 1992, Prawat 1992). They affect how teachers apply innovations and largely determine how and why teachers adopt new teaching methods (Golombek 1998), and how they adapt to new classroom environments, processes, and goals. Munby (1986) argued that teachers’ beliefs and principles are contextually significant to the implementation of innovations. Cuban (1990) also maintained that educational reforms remain a perennial agenda item since policy-makers ignore the belief factors involved in change.

When using innovative curriculum materials or constructing enriched learning environments, teachers encounter multiple barriers, including their own conflicting beliefs. However, we know that when new curricular experiences do not coincide with teachers’ educational views or expectations, the contradictions that arise can stimulate teachers to reconsider, reinterpret, and reject their prior assumptions and beliefs (King and Kitchener 2004). Thus, during the process of curriculum reform, teachers frequently reconcile differences between their existing beliefs regarding teaching and learning and their beliefs regarding the new materials or curriculum and instructional ideologies (Collopy 2003). However, knowledge is still scanty regarding the way beliefs change (the actual process) and whether dissonance in beliefs excites change, or productive change.

For example, in the context of an analysis of the mechanism of change in epistemological beliefs, Bendixen and Rule (2004) contend that even when individuals have progressed through the mechanism of change and advanced their beliefs, reversion still remains a possibility. Similarly, the conceptual change model of Dole and Sinatra (1998) maintains that even when ‘strong’ conceptual change occurs, individuals may reject an idea after its original acceptance. Given that the strength of a belief is indicated by the person’s subjective probability that he or she will live up to the behaviour associated with the belief, it is important to investigate teachers’ beliefs in the context of classroom experiences. This is a particularly significant issue in light of Gunstone’s (1994) argument that change in educational perspectives is a gradual process and that multiple conceptions co-exist during the transition period. This longitudinal study seeks to shed light on the evolution of teachers’ beliefs in the context of curriculum change, and aims to probe deeper into the issues associated with the emergence of teachers’ beliefs in that context.
二、請閱讀下文後，用自己的話語，摘要文中主要觀點（請勿逐字翻譯），然後評述作者的觀點。（25分）

The following discussion maps an intellectual project that focuses on curriculum as the study of systems of reason. This notion of ‘reason’ goes against the grain. Reason is generally considered a property of the working of the mind (psychology), or as a universal logic determining the truthfulness of statements. Yet there is nothing natural about, for example, ‘seeing’ the child through conceptions of childhood, stages of growth, and development, or to order school subjects such as literacy, science, and art as processes of problem-solving—or as communities of learners.

To focus on systems of reason is to consider the rules and standards that order the practices of curriculum and teaching. These rules and standards are historically produced, and function as cultural theses about how the child is, and should live. To talk about the child as, for example, a ‘problem solver’ or as ‘disadvantaged’ invokes not merely categories to help children become better and more successful. These categories embody particular principles about what is seen, thought about, and acted on in schooling. The ‘political’ of schooling lies here: in the shaping and fashioning of what is (im)possible. The ‘reason’ of schooling embodies a style of comparative thought that differentiates, distinguishes, and divides. If I take the phrase ‘all children can learn’, it embodies inequality in the impulse for equality. The phrase generates a cultural thesis about who are the ‘all children’ that simultaneously differentiates and generates comparative cultural theses about who is not that child. The study of ‘reason’ as the historical event of curriculum studies draws schooling into a conversation with Foucault’s (1991) ‘governmentality’ and Rancière’s (2004) ‘partitioning of sensibilities’.

I outline here five themes for thinking about the intersection of curriculum studies, curriculum history, and curriculum theory. First, I explore ‘reason’ as the ‘political’ of schooling. Second, I discuss the notion of cosmopolitanism as an analytic ‘tool’ to consider the politics of curriculum. Curriculum embodies, I argue, cultural theses that differentiate the child who embodies the cosmopolitan hope of the future from the child feared as threatening that future. The phrase ‘all children can learn’ is an exemplar that simultaneously inscribes a cosmopolitan cultural thesis of the life-long learner with that of the child ‘left behind’ who is different and abjected, or cast out. Third, and ironically, I consider the ‘reason’ of curriculum reforms and educational research as double gestures: the reform impulses for equity embodies and produces inequities and exclusions. Fourth, I examine historically the notion of research as finding ‘useful knowledge’, focusing on the politics of the ‘designing people’ that circulates in US progressive and contemporary urban reforms. Again I raise the issues of hope and fear in theories of schooling and its sciences. Finally, I attend to a curriculum studies that crosses geographical spaces to think about its different commonsenses. The critical engagement with schooling is paradoxically a theory about agency embodying a cautious optimism about change, albeit located in different spaces from that of contemporary policy and curriculum research. I argue, borrowing from Foucault (1991: 75), that the object of research is: The historicizing of what seems self-evident is a practice of resistance and counter-praxis, to borrow from Lather (2007). Making visible the authority of existing systems of reason is a strategy to open to the future the possibilities of alternatives other than those already present.
An issue that has generated many discussions and studies and is closely related to multimedia design and research is the media effects debate. This issue, still largely unresolved today, was whether media in and of itself affects learning. Richard Clark and Robert Kozma were fervent rivals on the two opposite sides of the debate. After reviewing an exhaustive number of meta-analyses and studies carried out from 1921 until the beginning of the 1980s (Lazarsfeld, 1940; Himmelweit, Oppenheim & Vince, 1959) regarding the influence of media on learning, Richard Clark (1983) reached the conclusion that media are mere vehicles that deliver instruction. Clark alleged that media should not be advocated for their ability to increase learning and that it is basically what the teacher does (i.e., the teaching itself), that influences learning. In short, according to Clark, “there are no learning benefits to be gained from employing any specific medium to deliver instruction; regardless of the media used, which can in the end influence only the cost and speed of learning, what actually contributes to a learning improvement is the instructional method that the teacher employs. “ This argument instigated my counteractions (Kozma, 1991; Bagui, 1998; Hede, 2002) among which, one that has made a great impact is Robert Kozma’s article “Learning with media” published in 1991. Kozma argued that “medium and method have an inseparable relationship and that they both therefore are key components for the design of instruction.”

The value of this debate has been challenged by many (Jonassen, Campbell & Davidson, 1994) on the grounds that the question of whether media affects learning is not a fundamental one and that inevitably it leads to a misconception. The point made is that we should not be seeking to determine that one “super-medium, “which will result in effective learning (Jonassen, 1996) and that we cannot expect that our students will achieve significant academic improvement just by coming into contact with that medium (Clark, 1983; Kozma, 1991; Simonsen, Clark, Kulik, Tennyson & Winn, 1987). The problem actually lies in the way we perceive instruction.

For example, if our views were in agreement with Clark’s (i.e. that instruction comprises the medium and the instructional method but that these are two separate entities), then we would most probably reach the same conclusion as Clark, that is, that the media alone is incapable of influencing learning but that what does affect learning is the instructional method. If, on the other hand, we supported the notion that, although on a theoretical level separate, in teaching practice medium and method make up an inseparable unit, then we would be closer to Kozma’s views, that is, that media does undoubtedly influence learning since it constitutes a necessary component of effective instruction (Nathan & Robinson, 2001). It may even be the case that Clark’s and Kozma’s views are not in completed disagreement. In fact their positions may appear to stand in contrast and to lead to an opposition exactly because of the different way they view instruction (Nathan & Robison, 2001). Taking the debate a step further we should also point out that there is a growing
body of evidence that multiple media (multimedia) can lead to poorly designed instruction that hinders learning (Hede, 2002). Undoubtedly media (and most likely multiple media) is capable of facilitating learning but this can only occur if it is selected, designed, and examined on the basis of a number of significant characteristics, some of which we will be analyzed next.

First, according to Kozma’s opinion, instruction should be considered as an integration of media and methods. This viewpoint leads to the need for careful consideration of the media together with the instructional methods adopted when we are designing empirical studies on multimedia learning effectiveness. The simultaneous examination of media and methods will ensure that we do not end up with confounding results as many first generation studies did. As Clark reasoned (1983), evidence regarding media effectiveness will not be valid when experiments allow for changes in other characteristics of multimedia material or systems other than the media (such as the instructional method or content) and yet accredit the learning improvement or obstruction exclusively to the media. Media and instructional methods therefore need to be examined in close association.

Second, according to Kozma and his advocates (Kozma, 1991; Rieber 2000; Nathan & Robinson, 2001; Hede, 2002), the fundamental question is not whether media affects learning but how to take advantage of the various media to make instruction and learning more effective. We must attempt to understand when (in which situations) media facilitates learning, how to design effective media or how (through which instructional methods) to exploit the attributes of media to support the learning goals that we have set to various learning tasks. At the same time we should focus on what kind of content to use with particular learning tasks, instructional methods, and media, and even consider in which cases it is best to avoid the use of media altogether. In fact, Clark appears to be in agreement with this view when he advises researchers to refrain from producing media comparison studies and to focus instead on necessary characteristics of instructional methods and other variables (Clark, 1983). Only the instruction transmitted through the media has the potential and capabilities of influencing learning and not the media itself (Rieber, 2000) but different media have different instructional capabilities and potential for different situations, learning tasks, students, and forms of content knowledge such as narrative, explanation, description, enumeration of facts, and so forth. (Mayer & Moreno, 2003; Lowe, 2003; Scholtz & Bannert, 2003).

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