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**DRAFT**

**Constructivism and Pedagogical Reform in China: Issues and Challenges**

**Charlene Tan**

**Abstract**

This article critically discusses the constructivist ideas, assumptions and practices that underpin the current pedagogical reform in China. It is argued that the acceptance of constructivist views and logics for the reform has generated key challenges for Chinese educators with respect to teaching, learning and assessment in China. The challenges are the perceived incompatibility with the traditional transmission approach in China, the undermining of content mastery, and conflict with the preferred assessment modes in China. The result is an uneasy co-existence of constructivist ideas, assumptions and practices with traditional beliefs and logics in Chinese schools.

**Keywords:**

**constructivism; China; pedagogical reform; teaching and learning; traditional teaching**

**Introduction**

Following the call by Deng Xiaoping to “gear education to the needs of modernisation, the world and the future”, Mainland China has been embarking on a series of pedagogical reform for the past few decades (Xu & Mei, 2009). A discernible trend about the various educational reform initiatives is a tendency to borrow educational thoughts, with their accompanying presuppositions and practices, from elsewhere, especially from ‘the West’ (Tan & Chua, 2015). One such educational thought is constructivism. This article critically discusses the adoption of constructivist ideas, assumptions and practices, as well as the key issues and challenges such an adoption engendered for Chinese educators in primary and secondary (junior and senior) schools in China.

The first section of this article discusses the educational thought of constructivism, followed by an introduction to the current pedagogical reform in China. The next section examines the implementation of constructivist ideas, assumptions and practices in China. In terms of methodology, this study adopts a hermeneutic/interpretive perspective that seeks to offer insights and improve understanding on a given specific phenomenon for study (Crossley, 2009). The research data for this article are based on literature review and document analysis. Database searches were conducted in an iterative manner between 2013 and 2015 to retrieve a total of 174 documents, research articles and newspaper reports published in Mandarin that are related to ‘new curriculum reform’ (*xin kegai*), ‘pedagogical reform’ (*jiaogai*) and ‘constructivism’ (*jiangou zhuyi*) in China. The data were then coded for analysis according to key thematic categories and major themes on the issues and challenges with the implementation of constructivism in China.

## Constructivism

Constructivism as an educational theory has gained traction in the global arena. The constructivist learning theories that underscore the student's role in the learning process have replaced the behaviourist learning theories – the latter focussing on the teacher's role as transmitter of knowledge – that dominated teaching and learning in much of the 20<sup>th</sup> century (Hackmann, 2004). Baeten et al. (2010) assert, “The past decennia, a wide range of new teaching methods came up due to the influence of the constructivist learning theory” (p. 245). The popularity of constructivism is in turn linked to its association with student-centred and self-directed education. Barraket (2005) observes that “student, or learner, centred approaches to teaching have emerged from changing understandings of the nature of learning and, in particular, from the body of learning theory known as constructivism” (p. 65). Linking constructivism to self-directed learning, Simons (2000) avers that “a constructivistic theory of self-direction in learning should take into account that self-directed learning is a social-interactive, contextual, constructive, self-regulated and reflective process” (p. 3). Constructivism, student-centredness and self-directed learning converge on emphasising student responsibility and activity in learning rather than content or what the teachers are doing (Caffarella, 1993; Cannon & Newble, 2000; Mayer, 2004).

Constructivism, as a theory that underpins student-centred and self-directed approaches, is perceived to be salutary in fostering 21<sup>st</sup> century competencies such as autonomous learning, independent thinking and innovation (Barraket, 2005; Harkema & Schout, 2008; Baeten et al., 2010; Struyven, Dochy & Janssens, 2010; 21<sup>st</sup> Century Schools, 2010; Fahnoe & Mishra, 2013; Guglielmino, 2014; Tan, 2015a; Tan, Chua & Goh, 2015). In a knowledge-based economy, constructivism, especially social constructivism, is regarded as essential for human beings to generate ‘useful’ knowledge for economic growth and democratisation (Fuller et al., 2012). The inclination to adopt constructivist theories and practices reflects an international trend towards more student-centred and self-directed approaches to teaching, as observed by Altbach, Reisberg and Rumbley (2009):

Until fairly recently, teaching meant “covering” a body of *declarative* knowledge – that is, knowledge that could be “declared” in books or in lectures – while assessment measured how well students received that knowledge based on their ability to regurgitate it on examinations. Less thought was given to *functional* knowledge—that is, knowing how to apply theory to practical situations. ... Although under researched in a global context, today an emerging dialogue focuses on the need for more student-centered approaches to teaching, the “inputs,” and more meaningful assessments regarding student learning, the “outputs.” (p. 113, italics in the original).

Despite the prevalence of constructivist theories and practices in many countries, there is insufficient empirical evidence to attest to its effectiveness. Struyven, Dochy and Janssens (2010) report, “Although it is generally assumed that constructivist teaching practices promoting deep approaches to learning, such as student-activating teaching methods, are (far-reaching) examples of, and associate (more or better) with conceptual change/student-focused practices than direct instruction through lectures (De Corte 1996; Prosser and Trigwell 1999), these assumptions are not supported by empirical evidence” (p. 59). How about the case of China? Before we analyse the pedagogical reform and the influences of constructivism approaches in China, it is instructive to examine the tenets of constructivism.

Constructivism generally rejects the view that a learner acquires knowledge passively by merely receiving it from an objective world and external reality (Lowenthal & Muth,

2008). Instead, it holds that knowledge is gained when the learner takes the lead in knowledge-constructing activities. But beyond that general description, constructivism is a multi-faced term that defies a single definition, origin, manifestation and outcome (Phillips, 1995; Fosnot, 1996; Prawat, 1996; Hausfather, 2001; Sjøberg, 2007; Lowenthal & Muth, 2008). Rather than denoting a definite state of affairs, constructivism is best understood as comprising a continuum with diverse and overlapping views of ‘reality’, ‘knowledge’, ‘teaching’ and ‘learning’ etc. The plural and complex nature of constructivism has led some scholars such as Grandy (1998) and Bickhard (1998) to prefer the term ‘constructisms’. Due to space constraint, I shall focus only on constructivism as a theory of learning since this is directly relevant to our discussion on pedagogical reform in China.

Constructivism as a theory of knowing presupposes that there is no fixed body of truths from the real world that are discovered by scholars, contained in textbooks, mastered by teachers, and subsequently transmitted to the learners. To put it simply, knowledge is ‘made’ than ‘discovered’ (Phillips, 1995). Given that learners need to construct the knowledge for themselves (either individually or collectively), they learn best, as the argument goes, under student-centred and self-directed approaches, tools and environments. Such approaches, tools and environments encourage learners to take ownership of their learning by creating their own worldviews and generating multiple interpretations of reality (Jonassen, 1991). The constructivist teaching approaches imply that teachers should not hinder the students’ construction of knowledge by telling them that they are wrong, what concepts to construct, or how to construct them (Von Glasersfeld, 1995)).

The extent of external assistance a learner should obtain depends on whether one subscribes to *individual/personal constructivism* or *social constructivism*. As explained by Liu and Matthews (2005), the former originates from Piaget’s work and focuses on the individual interpretation of perceptual experiences of the external world as well as personal construction of knowledge. In contrast, social constructivism, underpinned by the work of Vygotsky, highlights the social interpretation of perceptual experiences of the external world, and the sociopolitical construction of knowledge. Individual/personal constructivism therefore underscores independent learning as it sees the construction of meaning as primarily residing in an individual rather than in groups, whereas the reverse is true for social constructivism (Lowenthal & Muth, 2008).

In terms of assessment, a constructivist teacher typically does not look for one ‘right’ answer but focuses more on the diverse interpretations constructed by the learners. Assessment modes preferred by constructivists include “measuring the extent of active participation, conceptual novelty and creativity, concept mapping, and meaning compatibility between the teacher and the student on the one hand and among students themselves on the other, a task made especially difficult because of the indeterminacy of linguistic communication” (Irzik, 2001, p. 169). But the exact nature of assessment depends, among other factors, on the type of constructivism the teacher subscribes to. Here it is helpful to distinguish ‘radical constructivism’ from other variants of constructivism. According to von Glasersfeld (1984, 1989) who champions ‘radical constructivism’, knowledge cannot and need not be ‘true’ in the sense that it is the objective representation of an observer-independent world (i.e., it matches ontological reality). In other words, the function of cognition, being adaptive, serves the organisation of the experiential world and not the discovery of ontological reality. As he puts it, “the results of our cognitive efforts have the purpose of helping us cope in the world of experience, rather than the traditional goal of furnishing an ‘objective’ representation of a world as it might ‘exist’ apart from us and our experience” (von Glasersfeld, 1991, pp. xiv-xv). With respect to assessment, radical constructivists contend that an evaluation of one’s acquisition of reality is not possible since no objective reality is uniformly interpretable by all learners. But less radical constructivists

would advocate an evaluation process that promotes self-analysis and accommodates a wider variety of response options ([Jonassen, 1991](#); also see Scriven, 1983).

## **Pedagogical Reform and Constructivism in China**

China's pedagogical reform is part of an ambitious nation-wide education reform (also known as 'new curriculum reform'; *xin kegai*) in China. The aim and content of the education reform are elucidated in a 2001 document titled *Outline of the Curriculum Reform for Basic Education (Trial)* (MOE, 2001). Noting that the existing curriculum for basic education is "unable to meet the demands of the times", the Ministry of Education (MOE) aims to promote 'quality-oriented education' (*suzhi jiaoyu*) through reforming its curriculum system, structure and content. The reference to 'quality-oriented education' is significant as it is contrasted with the traditional 'exam-oriented education' (*yingshi jiaoyu*) where the priority is academic success in high-stakes exams through knowledge transmission, didactic teaching, content mastery and copious practice. Aspiring to meet the demands of a knowledge economy, the reform in China aims to develop "all-rounded students" who are "imbued with a spirit of innovation, practical ability, and equipped with the foundational knowledge, ability and methods to engage in lifelong learning" (MOE, 2001, p. 1). Since the announcement of the curriculum reform in 2001, a flurry of policy initiatives have been rolled out across all primary and secondary (junior and senior) schools in China that cover school management system, curriculum content, pedagogy, assessment, teacher training etc. (Tan & Chua, 2015; for a detailed discussion of the reform in Shanghai, see [Tan, 2013](#)). Given the wide scope of the new curriculum reform in China, this article shall limit its study to pedagogical reform, i.e., changes affecting teaching as propagated in the new curriculum reform.

The overriding objective of the pedagogical reform is to "shift from an over-emphasis on passive learning, rote-memorisation and mechanical training to one that promotes students' active participation, independent inquiry, practical ability, problem-solving skills and teamwork" (MOE, 2011, p. 1). Teachers are expected to go beyond knowledge transmission ('knowledge and skills') to ensure that their 'process and methods' used in teaching promote holistic development, and that their students are instilled with the desired 'sentiments, attitudes and values'. Together, these three dimensions form the 'three dimensions of study target' in the assessment of teaching quality for teachers. Teachers should also focus on nurturing students' independence and autonomy, guiding them to question, investigate, inquire, and learn through practice, and fostering their active and individualised learning under the teacher's guidance. At the same time, teachers should respect students' character, pay attention to their individual differences, satisfy their different learning needs, construct an educational environment that facilitates their active participation, stimulate their enthusiasm for learning, and develop their positive attitude towards knowledge mastery and application, and their ability to do so. The assumption is for teachers to transit from 'traditional teaching' to 'modern' teaching, as explained by Wang (2009):

Traditional teaching is more or less a kind of knowledge inculcation with students becoming the passive receivers of knowledge and teachers becoming the carriers of knowledge. This requires teachers to utilise certain life situations to set up questions and perplexity for students to conduct independent enquiries, and thus changing the ways of students learning. Moreover, students can conduct their independent enquiries on a cooperative basis, so that they can help and support each other to achieve common learning objectives (p. 41).

To support the transition, the following pedagogical approaches have been recommended by MOE to teachers: introduce life situations into classroom teaching so that students can relate their own experience to the teaching texts; introduce activity-based learning in the classroom so that students can learn by doing; carry out ‘student-dominant learning models’ such as inquiry-based and cooperative learning; and combine the transmission of knowledge with the transmission of cultures, values, and ideas (Wang, 2009). Throughout the implementation of the pedagogical reform, the government has provided various forms of training and resources for schools. These include teacher training workshops, conferences, field visits, and on-site evaluations for the experimentation of new national curriculum criteria, operation mechanisms, student assessment, teacher assessment, and teachers’ professional development (for more details, see Wang, 2009; Peng & Zong, 2012).

Although the official documents did not identify any specific underpinning pedagogical theory for the pedagogical reform, Chinese scholars and educators have generally concurred that a dominant learning theory that undergirds the reform is constructivism (e.g. see Guo, 2010; Zhang, 2010; Lin, 2011; He & Ma, 2011; Pi & Wu, 2011; Shu, 2012). Chinese scholars and educators link constructivism to the on-going pedagogical reform goal of advocating ‘quality-oriented education’ in general and ‘student-centred’ and ‘self-directed’ approaches in particular. For example, Zhang (2010) maintains that the pedagogical reform has infused the everyday discourse of teachers and researchers with constructivist ideas, perspectives and conclusions. Referring to the revised Chinese language syllabus, Zhang points out that the instructional objective is no longer on transmitting the systematic and complete knowledge of the language. Instead, the learning goal is to the ‘constructivist’ ideals of independent learning and application of the language in real life; students rather than teachers are now the ‘masters of learning’, and teachers should see themselves as facilitators and guide. In the same vein, Wang (2008) observes that constructivism has created a major impact on China’s reform, as evident in the stress on the exploration and application of knowledge in real life, encouraging students to proactively solve inter-disciplinary problems, expecting teachers to promote interaction and cooperative learning, and highlighting the need for formative assessment (Ren, 2008).

Constructivism is often discussed and lauded as an alternative to the traditional transmission approach that is prevalent in China. The transmission approach has been criticised, rightly or wrongly, for being didacticist, teacher-oriented and content-centred that encourage passive learning and rote memorisation (Irzik, 2001; He, 2008; Pei, 2008; Wu & Qian, 2008). Describing such an approach as one where the teacher is an “inert conduit” to deliver “rote skills and static textbook information”, Campoy (2005) adds that “science will be taught from textbooks, delivered by authority experts, and memorised by students” and that “history is told from one dominant perspective, and language is taught as a set of grammar and spelling rules to be duplicated unflinchingly in student writing” (p. 43). Constructivism is increasingly seen as a ‘modern’ option (in contrast to the transmission approach that is perceived to be ‘traditional’ and antiquated) to engage the learners through active participation and situated learning (Phillips, 1995).

Reflecting such a sentiment is Zhong (2005) who asserts that teachers cannot rely on mere transmission of knowledge and should instead depend on the students to construct their own knowledge. Arguing along the same line is Shu (2012) who advocates constructivism as a form of student-centred and self-directed education to promote the students’ autonomous inquiry, discovery and construction of knowledge. Against the backdrop of the pedagogical reform, teachers in China are expected to design and select learning materials, tools, strategies and environments to encourage their students to form, articulate, discuss, interrogate and modify (if necessary) their beliefs.



## Key Challenges on the Implementation of Constructivism in China

The acceptance of constructivist ideas, assumptions and practices for the pedagogical reform in China has generated three main challenges for Chinese educators. These challenges stem primarily from the incompatibility between constructivism and the traditional views on the nature of knowledge, teaching, learning and assessment.

First, some Chinese educators have contended that *constructivism is incompatible with the transmission approach* that is traditionally regarded as ‘good’ teaching in China. Constructivism, as noted earlier, is perceived to go hand-in-hand with ‘student-centred’ and self-directed pedagogies that purportedly support ‘quality-oriented education’, such as group work and class activities that promote active student participation. It is taken, in official and everyday discourses, to be antithetical to ‘teacher-centred’ and ‘teacher-directed’ pedagogies under the ‘exam-oriented education’, of which the transmission approach is perceived to belong to.

However, a number of Chinese scholars and educators have defended the transmission approach as ‘good’ teaching, and concomitantly questioned the efficacy of constructivist pedagogies. Supporting the transmission approach, Lin (2011) argues that “the teaching process cannot be totally student-centred” as the teacher still needs to promote student learning by transmitting knowledge, assisting, guiding and assessing the students (p. 53). Agreeing with him is Cha (2011) who asserts that castigating the transmission approach by allowing students to be independent will often result in indulgence that is detrimental to the child’s growth. Shu (2012) adds that students would not be able to construct anything if they do not first learn the foundational knowledge from the teacher. It is useful to note that empirical research has shown that didacticist and teacher-centred pedagogies have been effective in promoting learning in general and China in particular ([Biggs, 1998](#); [Jin and Cortazzi, 199](#), both cited in [Liu & Matthews, 2005](#)).

Such a view finds resonance from scholars outside of China who are similarly critical of the anti-transmission approach that is assumed by some constructivists. For example, [Rowlands and Carson \(2001\)](#) maintain that meaningful cognitive responses from the learner are possible only after they have received sufficient instruction from their teacher (also see [Grandy, 2001](#); [Irzik, 2001](#)). Others have also pointed out that acquiring knowledge from a teacher does not necessarily prevent one from becoming a constructivist, learner-centred and self-directed person. [Grow \(1991\)](#), for example, notes that “highly self-directed learners sometimes choose highly directive teachers” (p. 128). Empirical research also shows that the quality of learning outcomes depends not just on the students’ construction of knowledge but also on the teacher playing an integral part in clarifying goals, shaping learning activities, and assessing learning outcomes ([Abd-El-Fattah, 2010](#)).

It should be pointed out constructivism as an educational thought is not necessarily antagonistic towards the transmission approach. Constructivism is compatible with any pedagogy that aids the learner’s construction of knowledge. Elaborating on this point, [Hausfather \(2006\)](#) suggests that the lecture method which relies on knowledge transmission promotes constructivism when the teacher skilfully links the content to the students’ prior experiences. Recommending a combination of pedagogies such as teacher presentation and group-work, [Taber \(2011\)](#) stresses the importance of the teacher’s continual role in monitoring the students’ learning (also see [Fox, 2001](#)).

[Taber \(2011\)](#)’s point finds resonance in a number of Chinese scholars who call for a judicious combination of the transmission approach and ‘constructivist’ teaching methods such as inquiry method and small group discussion ([Lin, 2011](#); [Zhou, 2013](#)). According to them, the transmission approach should be used in conjunction with ‘student-centred’ and

self-directed methods such as individual project and group work that engage the students and foster active class participation. One such educator is Zhou (2013) who reasons as follows:

The emphasis on students' autonomy, cooperation, and inquiry does not entail a neglect of the teacher's guidance. On the contrary, I think this poses greater expectations on a teacher's guidance. Only when the teacher's professional standard has improved can they have deeper understanding of the ideology of the curriculum reform. They can then be confident enough to 'let go' and not indulge in giving lectures. They can then effectively organise activities to promote students' cooperation and inquiry, and give better and substantial guidance and coaching to the students, so as to foster the classroom's high efficiency (p. 20)

The second challenge is the charge that constructivism has *undermined content mastery* in China (e.g. see Cheng, 2004; He, 2008; Wang, 2004, 2008; He & Ma, 2012; Pi & Wu, 2011). Education in China has a long history of expecting and succeeding in helping learners to firmly grasp the foundational knowledge of any discipline or trade. The 'master-disciple' relationship, found in the Confucian tradition as well as in Chinese martial arts, is built on the assumption that a 'good' disciple is one who works hard to learn and perfect the knowledge and skills imparted by one's master/teacher. The 'knowledge and skills' are not constructed by the disciple, nor do they reside within him or her. Rather, in accordance with an objectivist view of knowledge, the Chinese traditionally view knowledge as existing in an objective world and external reality. The mandate of teachers and students is to obtain 'objective knowledge' found in nature and discovered by experts over the millennia. This objectivist belief and logic privileged in China is potentially incompatible with the dominant constructivist claim that knowledge is subjective (individually constructed) or inter-subjective (socially constructed).

A related challenge is epistemological relativism that holds that any truth is as good as other since there exists no absolute truth. Phillips (2005) draws our attention to the problems generated by constructivist epistemology of "treating the justification of our knowledge as being entirely a matter of sociopolitical processes or consensus" and "jettisoning of any substantial rational justification or warrant at all (as is arguably the case with the radical constructivists)" (pp. 11-12). Epistemological relativism may result in theories and ultimately knowledge being determined not by scientific criteria such as empirical evidence, but by negotiation, rhetoric, propaganda, power and interest (also see [Matthews, 1994](#); [Liu & Matthews, 2005](#); [Boghossian 2006](#)). Cautioning against the undermining of content mastery, He (2008) charges that constructivism's promotion of subjective knowledge is "very dangerous" as "this will result in a great decline in the quality of basic education, and even the entire education" (p. 407). Wang (2004) contends that the adoption of constructivism in China will usher in a pervasive 'contempt of knowledge' in the country. Xing (2011) who is a science professor in China argues that the 'anti-scientific view' of constructivism, such as viewing scientific knowledge as relative truth and scientific theories as mere mental constructs of scientists will easily lead to a tendency to neglect the foundation of knowledge as well as an attitude of extremism and laissez-faire in teaching.

The third challenge arising from the acceptance of constructivist ideas, assumptions and practices concerns the *conflict between constructivist assessment modes and those privileged in China*. Wu and Qian (2008) observe that the alternative assessment models recommended by constructivism are incompatible with the unchanged high-stakes exam system in China (also see Ke, 2005). The constructivist assessment modes that emphasise formative, authentic and 'many possible answers' assessment collides with the assessment landscape in China that values 'knowledge' found in summative, written and 'only one



answer' exams. The pedagogical reform that aims to shift teaching from an 'exam-oriented education' to a 'quality-oriented education' faces great obstacles in an exam-centric culture in China. An over-whelming majority of educators, students and parents in China still see academic success in high-stakes exams, especially the *gaokao* (national college entrance exam), as the most importance educational goal. Consequently, 'good' teaching is defined as helping the students give the 'correct' answer(s) found in the textbooks and tested in high-stakes exams. Such a view of teaching conflicts with von Glasersfeld (1987, 1989)'s recommendation that the teacher should not judge the students' interpretations that deviate from the teacher's as 'errors' but as opportunities that reveal how the students are organising their experiential world at that developmental point.

To be sure, teachers in China are not averse to their students forming, reflecting and articulating their mental representations. The teachers may be open to their students actively constructing beliefs as part of the pedagogical reform initiative. They may even encourage and accept their students' construction of beliefs as 'knowledge' in some cases. But the majority of Chinese teachers are unlikely to accept all of the students' mental representations as 'knowledge'. In the case of non-examined courses, programmes and activities that are not part of the high-stakes exam, the teachers are likely to welcome and accept a range of interpretations constructed by the students and even admit them as 'knowledge'. Students taking a modern dance course, for example, may be free to choreograph and articulate their own 'knowledge' on what they like about the dance movements. But the students' construction of beliefs are accepted as 'knowledge' for exam subjects such as Chinese language and mathematics *only if* these beliefs are aligned with the teaching materials and exam answers. It is therefore extremely challenging for educators, students and parents to embrace the constructivist view and assumption that all interpretations constructed individually or socially are 'knowledge', as long as high-stakes exams remain summative and pen-and-paper in format. I have argued elsewhere that the Chinese views on the nature and transmission of knowledge as well as 'good' teaching and learning have deep cultural and epistemological roots in the Confucian pedagogic culture (Tan, 2015b). The cultural influence on education in China explains and justifies why textual transmission, didactic approach, knowledge reproduction and content mastery are the preferred pedagogies in China (ibid., also see Tan, 2013; Tan & Chua, 2015).

## Conclusions

This article has discussed how the acceptance of constructivist theory has engendered the challenges of the perceived incompatibility with the traditional transmission approach in China, the undermining of content mastery, and conflict with the preferred assessment modes in China. The China example illustrates how the implementation of a borrowed educational thought has resulted in issues and challenges that characterise the complex and controversial nature of reform in reality. A major implication of our exploration of the issues and challenges engendered by constructivism in China is a need for researchers and educators to consider the cultural appropriateness of constructivism and other 'student-centred' and self-directed approaches across socio-cultural contexts. Underneath policy convergence is divergence in policy outcomes due to different local factors and conditions.

It is instructive that some researchers have already noted some key concerns associated with constructivism, student-centred and self-directed approaches. For example, the concern with the downplaying of knowledge is not confined to China. Young (2008, 2009), for instance, draws our attention to what he calls the "emptying of content" in European schools and advocates "bringing knowledge back in". In like fashion, other scholars such as Brookfield (1985), Garrison (1997) and O'Donnell (1999) have also

critiqued the view that effective learning is one that exalts the learner's autonomy, independence, and isolation. Instead, they advocate a collective perspective of self-directed learning that emphasises the inter-dependence of learners in a community.

It is interesting to note that the categorisation of constructivism into individual/personal and social parallels the division of self-directed learning into the 'individual' and 'collective'. According to Kerka (1999), the former emphasises the autonomous and independent individual who chooses to learn for personal growth, while the latter underscores the social construction of knowledge and the social context of learning. One's position with respect to the school of thought would affect the extent to which one values the role and contribution of the individual in planning, carrying out, and evaluating one's learning experiences. A culturally appropriate model of constructivism for China, it may be argued, is the collective school of thought on self-directed learning. As averred by Brookfield (1985), successful self-directed learners "appear to be highly aware of context in the sense that they place their learning within a social setting in which the advice, information, and skill modeling provided by other learners are crucial conditions for successful learning" (p. 9). Concurring with Brookfield is Garrison (1997) who argues for the merits of a collaborative learning model where the individual takes responsibility for constructing meaning while including the participation of others in confirming worthwhile knowledge, thereby making the learning outcomes "personally meaningful and socially worthwhile" (p. 19). Such a collaborative model has the potential of supporting the desire and endeavour of Chinese educators to combine the transmission approach of teaching with students' self-directed learning.

In view of the challenges endangered by the introduction of constructivism in China, policymakers and educators need to interrogate the dominant conceptions of and presuppositions for constructivism as well as student-centred and self-directed approaches. Rather than accepting constructivist theory and practices unconditionally, policymakers, academics and educators should critique the epistemological and cultural assumptions and explore alternative and hybrid conceptions that are culturally sensitive and socially appropriate.

## References

- [21<sup>st</sup> Century Schools. 2010. Constructivism.](http://www.21stcenturyschools.com/constructivism.htm)
- <http://www.21stcenturyschools.com/constructivism.htm>
- [Abd-El-Fattah, S. M. 2010. "Garrison's Model of Self-Directed Learning: Preliminary Validation and Relationship to Academic Achievement." \*The Spanish Journal of Psychology\* 13 \(2\): 586-596.](#)
- [Altbach, P. G., Reisberg, L., and Rumbley, L. E. 2009. \*Trends in Global Higher Education: Tracking an Academic Revolution\*. Paris: Unesco.](#)
- [Baeten M., Kyndt, E., Struyven, K., and Dochy. F. 2010. "Using Student-Centred Learning Environments to Stimulate Deep Approaches to Learning: Factors Encouraging or Discouraging their Effectiveness." \*Educational Research Review\* 5 \(3\): 243–260.](#)
- [Barraket, J. 2005. "Teaching Research Method using a Student-Centred Approach? Critical reflections on Practice." \*Journal of University Teaching & Learning Practice\* 2 \(2\): 65-74.](#)
- [Bickhard, M. H. 1998. "Constructivisms and Relativisms: A Shopper's Guide." In \*Constructivism in Science Education: A Philosophical Examination\*, edited by M. R. Matthews, 99-112. Dordrecht: Springer.](#)

- Biggs, J. 1998. "Learning from the Confucian Heritage: So Size doesn't Matter?" *International Journal of Educational Research* 29: 723-738.
- Boghossian P. 2006. *Fear of Knowledge: Against Relativism and Constructivism*. Oxford: Oxford University Press.
- Brookfield, S. 1985. "Self-Directed Learning: A Critical Review of Research." *New Directions for Adult and Continuing Education* 1985 (25): 5-16.
- Caffarella, R. S. 1993. "Self-Directed learning." *New Directions for Adult and Continuing Education* 1993 (57): 25-35.
- Campoy, R. 2005. *Case Study Analysis in the Classroom: Becoming a Reflective Teacher*. Thousand Oaks, C.A.: Sage Publications.
- Cannon, R., and Newble, D. 2000. *A Handbook for Teachers in Universities and Colleges. A Guide to Improving Teaching Methods* (4th ed.). London: Kogan Page.
- Cha, Y. 2011. *Shinian kecheng gaige de lilun fenxi* [A Theoretical Analysis of Ten Years of New Curriculum Reform]. <http://se.risechina.org/yjzy/hwjyjc/201111/3378.html>
- Cheng, S. 2004. *Di san zhi yanjing kan kegai - zhongxiaoxue kegai sinian de huigu yu fansi* [Looking at the curriculum reform from the third eye: Retrospection and introspection of four years of primary and secondary curriculum reform]. <http://tieba.baidu.com/p/160006840>
- Crossley, M. 2009. "Rethinking Context in Comparative Education." In *International handbook of comparative education*, edited by R. Cowen, and A. M. Kazamias, 1173-1187. Dordrecht: Springer.
- De Corte, E. 2000. "Marrying Theory Building and the Improvement of School Practice: A Permanent Challenge for Instructional Psychology." *Learning and Instruction* 10 (3): 249-66.
- Fahnoe, C., and Mishra, P. 2013. "Do 21st Century Learning Environments Support Self-Directed Learning? Middle School Students' Response to an Intentionally Designed Learning Environment." In *Proceedings of Society for Information Technology & Teacher Education International Conference 2013*, edited by R. McBride, and M. Searson, 3131-3139. Chesapeake, VA: Association for the Advancement of Computing in Education (AACE).
- Fosnot, C., Ed. 1996. *Constructivism: Theory, Perspectives, and Practice*. New York: Teachers College Press.
- Fox, R. 2001. "Constructivism Examined." *Oxford Review of Education* 27 (1): 23-35.
- Fuller, A., Unwin, L., Felstead, A., Jewson, N., and Kakavelakis, K. 2012. "Creating and Using Knowledge: An Analysis of the Differentiated Nature of Workplace Learning Environments." In *The Knowledge Economy and Lifelong Learning: A Critical Reader*, edited by D. W. Livingstone, and D. Guile, 191-206. Rotterdam: Sense Publishers.
- Garrison, D. R. 1997. "Self-Directed Learning: Toward a Comprehensive Model." *Adult Education Quarterly* 48 (1): 18-33.
- Goodman, N. 1984. *Of Mind and Other Matters*. Cambridge, MA: Harvard University Press.
- Grandy, R. E. 1998. "Constructivisms and Objectivity: Disentangling Metaphysics from Pedagogy." In *Constructivism in Science Education: A Philosophical Examination*, edited by M. R. Matthews, 113-124. Dordrecht: Springer.
- Grow, G. O. 1991. "Teaching Learners to be Self-Directed." *Adult Education Quarterly* 41 (3): 125-149.
- Gu, Q. 2005. "The Perception Gap in Cross-Cultural Training: An Investigation of British Council English Language Teaching Projects in China." *International Journal of Educational Development* 25: 287-304.

- Guglielmino, L. 2014. *Guglielmino: Self-Directed Learning for the 21st Century – What Research Says*. <http://www.p21.org/news-events/p21blog/1472-bellanca-and-guglielmino-the-self-directed-pathway-to-deeper-learning>
- Guo, H. 2010. “Xin kegai yu ‘chuan xinxi zou laolu’.” [New Curriculum Reform and ‘Wearing New Shoes to Walk on the Old Road’] *Kecheng Jiaocai, Jiaofa*, 1. <http://www.edu.cn/focus/5853.html>
- Hackmann, D. G. 2004. “Constructivism and Block Scheduling: Making the Connection.” *Phi Delta Kappan* 85 (9): 697-702.
- Harkema, S. J. M., and Schout, H. 2008. “Incorporating Student-Centred Learning in Innovation and Entrepreneurship Education.” *European Journal of Education* 43 (4): 513-526.
- Hausfather, S. 2001. “Where’s the Content? The Role of Content in Constructivist Teacher Education.” *Educational Horizons Fall*: 15-19.
- He, K. 2008. “Guanyu jian’gou zhuyi de jiaoyu sixiang yu zhexue jichu – dui jian’gou zhuyi de fansi.” [Regarding the Educational Thought of Constructivism and Philosophical Foundation – Reflections on Constructivism]. In *Jian’gou zhuyi jiaoyu yanjiu* [Educational Research on Constructivism], edited by W. Gao, B. Xu, and G. Wu, 402-410. Beijing: Jiaoyu Kexue Chubanshe.
- He, X., and Ma, S. 2012. “Xinshiji woguo jichu jiaoyu kecheng neirong biange fansi.” [Reflection on the curriculum content reform for Chinese basic education in the new century]. *Dangdai Jiaoyu Yu Wenhua* 4 (1): 47-53.
- Irzik, G. 2001. “Back to Basics: A Philosophical Critique of Constructivism.” *Studies in Philosophy and Education* 20: 157-175.
- Jin, L. X., and Cortazzi, M. 1998. “Dimensions of Dialogue: Large Classes in China.” *International Journal of Educational Research* 29: 739-761.
- Jonassen, D. H. 1991. “Objectivism versus Constructivism: Do We Need a New Philosophical Paradigm?” *Educational Technology Research and Development* 39 (3): 5-14.
- Ke, S. 2005. “Jichu jiaoyu xinkegai shishi de zhangai: zhongmei bijiao fenxi.” [Hindrances to the implementation of the new curriculum reform for basic education: A comparative study of China and the United States]. *Xiandai Jiaoyu Luncong* 6: 28-32.
- Lin, Z. 2011. “Jiyu chuantong jiaoxueguan yu jiangou zhuyi jiaoxueguan zhenghe de jiaoxue jihua.” [A teaching design that integrates traditional teaching with constructivist teaching] *Nanjing Gongcheng Xueyuan Xuebao (Shehui Kexue Ban)* 11 (3): 52-55.
- Liu, C. H., and Matthews, R. 2005. “Vygotsky’s Philosophy: Constructivism and its Criticisms Examined.” *International Education Journal* 6 (3): 386-399.
- Lowenthal, P., and Muth, R. 2008. “Constructivism.” In *Encyclopedia of the Social and Cultural Foundations of Education*, edited by E. F. Provenzo, Jr. Thousand Oaks, CA: Sage Publications.
- Matthews, M. 1994. “Discontent with Constructivism.” *Studies in Science Education* 24: 165-172.
- Mayer, R. 2004. “Should there be a Three-Strikes Rule against Pure Discovery Learning? The Case for Guided Methods of Instruction.” *American Psychologist* 59 (1): 14–19.
- Ministry of Education [MOE] 2001. *Jichu jiaoyu kecheng gaige gangyao (shixing)* [Outline of the curriculum reform for basic education (trial)]. [http://www.edu.cn/HomePage/zhong\\_guo\\_jiao\\_yu/jiao\\_yu\\_yan\\_jiu/ji\\_chu/ji\\_chu\\_zhu\\_an\\_ti/ji\\_chu\\_ke\\_gai/](http://www.edu.cn/HomePage/zhong_guo_jiao_yu/jiao_yu_yan_jiu/ji_chu/ji_chu_zhu_an_ti/ji_chu_ke_gai/)
- Pei, X. 2008. “Zaitan jiangou zhuyi yu kexue jiaoyu.” [Re-inquiring into constructivism and science education] In *Jiangou Zhuyi Jiaoyu Yanjiu* [Educational research on

- constructivism], edited by W. Gao, B. Xu, & G. Wu, 427-437. Beijing: Jiaoyu Kexue Chubanshe.
- Peng, G., and Zong, M. 2012. "Jichu jiaoyu kecheng gaige de shidai Beijing" [The contemporary background of basic educational curriculum reform] In *Zhongguo jichu jiaoyu kecheng gaige tuijin yanjiu* [Research on the implementation of curriculum reform for basic education in China], edited by J. Yang, 1-18. Nanjing: Jiangsu Jiaoyu Chubanshe.
- Phillips, D. C. 1995. "The Good, the Bad, and the Ugly: The Many Faces of Constructivism." *Educational Researcher* 24 (7): 5-12.
- Pi, L., and Wu, H. 2011. "Liangzhong quxiang de jiaoxuelun yu youxiao jiaoxue yanjiu." [Two orientations on teaching and research on effective teaching] *Jiaoyu Yanjiu* 5: 25-30.
- Prawat, R. S. 1996. "Constructivisms, Modern and Postmodern." *Educational Psychologist* 31 (3/4): 215-225.
- Prosser, M., and K. Trigwell. 1999. *Understanding Learning and Teaching. The Experience in Higher Education*. Buckingham: The Society for Research into Higher Education.
- Ren, Y. 2008. "Jiangou zhuyi jiaoyu sixiang yanjiu zhong xuyao zhuyi de wenti." [Issues that require attention in the research on the educational thought of constructivism] In *Jiangou zhuyi jiaoyu yanjiu* [Educational research on constructivism], edited by W. Gao, B. Xu, and G. Wu, 396-401. Beijing: Jiaoyu Kexue Chubanshe.
- Rowlands, S., and Carson, R. 2001. "The Contradictions in the Constructivist Discourse." *Philosophy of Mathematics Education Newsletter* 14. <http://www.ex.ac.uk/~PErnest/pome14/rowlands.htm>
- Scriven, M. 1983. *Evaluation Models: Viewpoints on Educational and Human Services Evaluation*. Boston: Kluwer-Nijhof.
- Shu, W. 2012. *Liangge kecheng gaige redian wenti de tanxi*. [An Analysis of Two Hot Issues in Curriculum Reform]. <http://www.hnmyyz.com/jytd/ShowArticle.asp?ArticleID=311>
- Simons, P. R. J. 2000. *Towards a Constructivistic Theory of Self-Directed Learning*. <http://dspace.library.uu.nl/handle/1874/6994>
- Sjøberg, S. 2007. *Constructivism and Learning*. [http://folk.uio.no/sveinsj/Constructivism\\_and\\_learning\\_Sjoberg.pdf](http://folk.uio.no/sveinsj/Constructivism_and_learning_Sjoberg.pdf)
- Struyven, K., Dochy, F., and Janssens, S. 2010. 'Teach as you Preach: The Effects of Student-Centred versus Lecture-Based Teaching on Student Teachers' Approaches to Teaching. *European Journal of Teacher Education* 33 (1): 43-64.
- Taber, K. S. 201. "Constructivism as Educational Theory: Contingency in Learning, and Optimally Guided Instruction." In *Educational Theory*, edited by J. Hassaskhah, 39-61. New York: Nova Science Publishers.
- Tan, C., and Chua, C. S. K. 2015. "Education Policy Borrowing in China: Has the West Wind Overpowered the East Wind?" *Compare: A Journal of Comparative and International Education* 45 (5): 686-704.
- Tan, C. 2013. *Learning from Shanghai: Lessons on Achieving Educational Success*. Dordrecht: Springer.
- Tan, C. 2015b. "Beyond 'Either-Or' Thinking: John Dewey and Confucius on the Subject Matter and the Learner." *Pedagogy, Culture and Society*. Advanced online publication. doi:10.1080/14681366.2015.1083046.
- Tan, C. (2015b). Education policy borrowing and cultural scripts for teaching in China. *Comparative Education*, 51(2), 196-211.



- Tan, C., Chua, C.S.K., and Goh, O. 2015. "Rethinking the Framework for 21st-Century Education: Toward a Communitarian Conception." *The Educational Forum* 79 (3): 307-320.
- von Glasersfeld, E. 1984. "Radical Constructivism." In *The Invented Reality*, edited by P. Watzlawick, 17-40. Cambridge, MA: Harvard University Press
- Von Glasersfeld, E. 1987. "Learning as a Constructive Activity." In *Problems of Representation in the Teaching and Learning of Mathematics*, edited by C. Janvier, 3-17. Hillsdale, N.J.: Lawrence Erlbaum.
- von Glasersfeld, E. 1989. "Constructivism in Education." In *The international Encyclopedia of Education*, Supplement Vol.1., edited by T. Husen, and T. N. Postlethwaite, 162–163. Oxford/New York: Pergamon Press.
- von Glasersfeld, E. 1991. "Introduction." In *Radical Constructivism in Mathematics Education*, edited by E. von Glasersfeld, xiii-xx. Dordrecht, The Netherlands: Kluwer.
- Von Glasersfeld, E. 1995. *Radical Constructivism: A Way of Knowing and Learning*. London: The Falmer Press.
- Wang, L. 2009. *Basic Education in China*. Hangzhou: Zhejiang University Press and Homa & Sekey Books.
- Wang, C. 2004. "Renzheng duidai 'qingshi zhishi' de jiaoyu sichao – zai ping you 'yingshi jiaoyu' xiang sushi jiaoyu zhuan gui tifa de taolun." [Seriously considering the educational trend of the 'contempt of knowledge' (Part 1): Re-evaluation of the transition from 'exam-oriented education' to quality-oriented education] *Beijing Daxue Jiaoyu Pinglun* 3: 5-24. [http://www.pep.com.cn/xgij/jyyj/jyxfh/fhkw/505/201009/t20100901\\_861117.htm](http://www.pep.com.cn/xgij/jyyj/jyxfh/fhkw/505/201009/t20100901_861117.htm)
- Wang, X. 2008. "Jichu jiaoyu xinkegai xinlixue quxiang jiangou zhuyi xinlixue dui xinkecheng gaige." [A discussion of the psychological orientation of the new curriculum reform for basic education: the influence of constructivist psychology on the new curriculum reform] *Kejiao Wenhui (Shangxunkan)* 1. <http://www.xchen.com.cn/dyjj/xkglw/456796.html>
- Wu, Y., and Qian, P. 2008. "Guanyu woguo jichu jiaoyu xinkegai wenti yanjiu de fansi." [Reflection on the research on the problems in the new curriculum reform for Chinese basic education] *Jiaoyu Fazhan Yanjiu* 18: 52-56.
- Xu, X., and Mei, W. 2009. *Educational Policies and Legislation in China*. Hangzhou: Zhejiang University Press and Homa & Sekey Books.
- Young, M. 2008. *Bringing Knowledge Back In: From Social Constructivism to Social Realism in the Sociology of Education*. London: Routledge.
- Young, M. 2009. "Education, Globalisation and the 'Voice of Knowledge'." *Journal of Education and Work* 22 (3):193-204.
- Zhang, G. 2010. "Jiangou zhuyi jiaoyusichao dui jichu jiaoyu kecheng gaige de shendu yingxiang." [The deep impact of the ideological trend of constructivist educational thought on curriculum reform for basic education] *Jiaoyu Kexue* 26 (6): 15-18.
- Zhong, Q. 2005. "Gainian chongjian yu woguo kecheng chuangxin – 'Renzhen duidai 'qingshi zhishi' de jiaoyu sichao'." [Concept reconstruction and curriculum innovation in China – and 'Seriously treating the educational trend of the "contempt of knowledge"'] *Beijing Daxue Jiaoyu Pinglun* 1. <http://wenku.baidu.com/view/9007eb26dd36a32d737581ba.html?re=view>
- Zhou, Y. 2013. *Xinkecheng gaige xianzhuang fansi yu tuijin chelue yanjiu* [Reflection on Current State of New Curriculum Reform and Research on Implementation Strategy] (unpublished master's thesis). National Institute of Education, Nanyang Technological University.