Continuity and change: Chinese lesson study redefined in the context of key competencies-based reform

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Abstract

Purpose – This special issue reveals how lesson study in China continues to serve as a powerful platform to support change in teaching. The papers included in this issue explore how university faculty members and researchers support teachers to cross boundaries resulting from the introduction of key competencies-based (hexin suyang 核心素养) curriculum reform (KCR).

Design/methodology/approach – The theme of continuity and change is examined against the backdrop of Chinese lesson study's (CLS's) consistent supporting role in enabling curriculum reform. These analyses make use of concepts involved in understanding boundary crossing, such as using boundary objects and their roles, to help make sense of the new theories, tools, and resources as well as relationships engendered in responding to the reform's demand. While recognizing the continuity at play in Chinese LS, the authors use the lens of learning at the boundary of research-practice partnerships (RPPs) (Farrell *et al.*, 2022) to contemplate the future of CLS.

Findings – The papers touch on three major themes: (1) the role of university-school partnerships in meeting the new demands of key competencies reform; (2) resourceful tools, strategies and structures to support boundary crossing for teachers; and (3) roles and relationships for mutual learning in university-school partnerships. Together these three themes, considered across the papers in this issue, point to the need to redefine CLS to engender versatility and hybridity and to enlist mutual learning relationships in future university-school partnerships. Such redefinition positions lesson study to both continue and change.

Research limitations/implications – The papers in this issue are expected to promote mutualist learning in future CLS research-practice partnerships. To do so, research needs to move from focusing on change of a single case teacher to clarifying what experts and teachers each learn from the LS and from each other. Attention also needs to focus on the collaborative discourse and ways such discourse is able to promote mutual learning, emotional support in facing change as well as critical and constructive problem solving.

Practical implications – Practically, to better support boundary crossing, this special issue encourages academics and teachers to identify and work around boundary objects and their enabling features to enhance knowledge and identity of both university and teacher participants for more effective research-practice partnerships.

Originality/value – This special issue offers a pioneering set of studies that contributes to an in-depth understanding of how CLS is supporting the current competencies-based reform in China. It also provides concrete future directions for research and practice to enhance university-school partnerships' response to reform.

Keywords Chinese lesson study (CLS), Continuity and change, Key-competencies curriculum reform (KCR), University-school (research-practice) partnerships, Boundary crossing, Hybridity

Paper type Editorial

Theme 1: The role of university-school partnerships in meeting the new demands of key competencies-based reform (KCR)

China's movement towards a key competencies-based curriculum represents a significant change in the curriculum orientation and stated learning goals for students, as well as a

significant challenge for teachers. KCR marks a fundamental shift from content-based to competencies-based reform. Since the publishing of OECD's Key Competencies Framework in 2005, it has shaped the national curriculum reform efforts globally (Zhao and Tröhler, 2021). The Framework heavily prioritizes cultivating students' ability to meet the complex demands using "cognitive and practical skills, creative abilities and other psychosocial resources such as attitudes, motivation and values" (OECD, 2005, p. 8). While content-based curricula rely on disciplinary knowledge as the basis for teaching and learning activities, competencies-based curricula are outcome-driven, focusing on the mastery of specific learning outcomes or competences that may or may not be related to a specific discipline (Anderson-Levitt, 2017), such as global cultural awareness, civic responsibility and cyber wellness, and so on. These learner-centered competencies define the new curriculum standards and how teachers should translate them in teaching, but they fall outside the familiar knowledge and skills of frontline teachers. University faculty members and researchers have thus been increasingly involved in schools to work with teachers as brokers of theories and knowledge that are needed for this reform (Fang et al., 2022).

This special issue reflects this shifting context. While it follows the earlier 2017 special issue, edited by Huang, Fang, and Chen, which examined Chinese lesson study, the current special issue for International Journal of Lesson and Learning Studies (IJLLS) specifically examines CLS at a period of major curriculum reform. The papers included here illustrate the power of CLS to continue to serve as a bridge to reform practices in teaching and learning. That apparent continuity in support of change is visible in multiple ways across the cases illustrated in the 7 contributing papers.

In China, KCR has triggered a paradigm shift from the decades-long content-based learning goals to competencies-based learning outcomes. It has created unprecedented change both in content selection and ways of teaching and learning. Zhang and Luo's case study reported how Luo, a faculty member of Beijing Normal University (BNU), supported her project school, a senior secondary school, to make this demanding transition in the subject area of English as a Foreign Language (EFL). The authors highlighted the new EFL key competencies stipulated in curriculum standards that include language ability, cultural awareness, thinking skills, and learning capacity in senior secondary school graduates for them to be capable and responsible citizens (Luo and Zhang). These new standards have shifted EFL from a subject aimed at teaching English language proficiency to appreciation of literary classics of both China and the English world including 56 literary works by well-known Chinese and foreign authors (such as Lao She, Cao Xueqin, O. Henry, and F. Scott Fitzgerald) (Luo and Zhang). Teachers not only need to be equipped with theories and practice of interpretive traditions of literature education but also knowledge and skills to understand and promote students' perspectives, voices and thinking. Wang et al., also from BNU, present another case study of an equally dramatic shift in the curriculum standards, this time in senior secondary school chemistry. The new standards require students to predict, infer and design experiment to test knowledge and to eventually apply it in new and complex contexts. Lessons (and their associated learning tasks) cannot be designed and taught without cognitive theories and knowledge about students learning of a certain topic. Even for the class teachers (ban zhuren [1], 班主任), mindset change is paramount; teachers need to move from a problem-solution approach when working with difficult students to an approach that hinges on noticing and working with students' strengths and potentials, a transformation illustrated in a variant hybrid form of lesson study led by Chen from Peking University in this issue.

In helping teachers transform their ways of seeing, thinking, and teaching, university-school partnerships in CLS served as the key supporting mechanism. In the two senior secondary schools that Luo's and Wang's teams from BNU worked with, they went through

three rounds of research lessons after an initial project meeting to decide on topics and material to teach. The first research lessons (RLs) were prepared by the RL teachers and presented to the teams as talk lessons to receive feedback from the entire university-school teams for them to get a sense of their own existing teaching practice. The RL teachers taught two subsequent RLs (RL2 and RL3) with the teams observing and discussing and improving the research lessons based on the new curriculum standards.

The above model is similar to the one developed in China by Gu and colleagues in response to the "second cycle" of curriculum reform (2001–2011) and their survey of teachers' needs. In developing the model, Gu drew on his own long-term experience in school-based teaching research and his study of the impressive professional growth trajectory of a nationally famous master teacher, Yu Yi (Wang and Gu, 2007). Fang (2017) detailed this model, its development and use in Shanghai's second cycle curriculum reform in the first IJLLS special issue on Chinese lesson study (Huang *et al.*, 2017). The Gu model is called "three focuses (on one's belief, gaps identification, and adaptive change) in two rounds of reflections in between the iterative RL planning for improvement (三关注, 两反思)" (Wang and Gu, 2007, p. 37). More specifically, a teacher starts with planning a lesson aiming at making explicit/visible his or her own existing teaching beliefs and behaviors by reflecting on feedback from colleagues in the teaching research group and identifying the gaps from what the reform requires; then the teacher redesigns and teaches the lesson aiming at gaining lived experience of the new standards, ending it with reflecting, redesigning, teaching it again based on colleagues' observation feedback and evidence of student learning in order to arrive at the desired new practice. Gu and colleagues' work also marked the first time that researchers were called on to work with schools to provide this kind of specific expert guidance (zhuanjia yinling, 专家引领) (Huang and Bao, 2006).

Indeed, the spread of Gu's model in China's schools' teaching research culture underscores the theme of continuity and change. CLS has remained a kind of crucial infrastructure, a platform on which university research supports schools to cross the boundary of practices and take up competencies-based reform. Akkerman and Bakker (2011) argues that boundary crossing can be facilitated by explicit identification of differences which can be used productively as resources. In fact, in Gu's consolidated CLS model is a structure that enables the research lesson teachers to make visible the differences and gaps in his or her own beliefs and practices from those of others, from research as well as from those expected by new curriculum reform. Huang *et al.*, in this volume, demonstrates how this can be done step by step in a primary mathematics lesson study team by starting from 'a gem cell' and ending with refined improvement of a research lesson through a set of expansive collaborative learning actions (Engeström and Sannino, 2010). This stepwise and expansive development from the bottom up is evident in the other subject-specific papers in this volume, such as Zhao, Cai and Huang in their research on a secondary mathematics lesson study case. These cases foreground how the research lesson teachers benefited from the collaborative processes. At the same time, the curriculum development and enactment is equally prominent, since they are the substance that the lessons were planned and enacted in line with the competencies-based curriculum standards.

Chinese lesson study, with university-school collaboration, continues to play a role in curriculum reform also by supporting expansion from a district level, which acts as a middle zone (Paine *et al.*, 2003) in centralized education reform. An *et al.*'s paper showcases how the stepwise expansive development of KCR curriculum through lesson study can be done as a districtwide endeavor in one of Shanghai's leading education districts to build curriculum leadership in schools. Tapping into the district teaching research expertise and school-level teaching research groups, experimental schools received intensive training at the district level and used CLS as a medium to address each school's real problems of practice and turn them into reforms aligned with district goals. Through CLS, a school's curriculum texts at

five different levels from programs down to lessons were planned, designed, translated, implemented, reflected on, updated and mutually adjusted systematically to ensure consistency in transforming the district KCR reform vision into classroom practice. The curriculum leadership development through CLS has shaped experimental schools. These changes subsequently have spread to all schools in the district through the circulation of LS exemplars as high quality curriculum packages, laying the foundation for district-wide reform. This study shows that the powerful structure of CLS embedded in institutionalized teaching research culture mediated reform expansion from within one classroom to the entire district curriculum system.

Finally, Chinese lesson study's continuity in managing change not only is evident in the patterns of dissemination and expansion but also through its hybridization. In response to Covid-19 outbreak, Chen and her team turned their large-scale narrative inquiry workshops into a small group setting in which university faculty members and six teacher participants formed co-teaching pairs. The team went through four rounds of lesson-study type of plan-present-feedback-improve sessions to successfully enable the mindset change of the teachers. They named their unique model a type of boundary-crossing lesson study (BCLS). Thus, while the particular form of CLS changed to respond to the conditions on the ground, lesson study and its core principles remained a framework for teacher growth and instructional change.

As the next two themes demonstrate, CLS's success in being a consistent infrastructure supporting change and its power for expansion and hybridization relate to its capacity to develop and use new tools to mediate new forms of participation, appropriate new learning and enable new forms of partnership work.

Theme 2: Resourceful tools and strategies to support boundary crossing for teachers

Indeed, lesson study in Asia and elsewhere has been shown to support boundary crossing in curriculum reform by developing common commitments, language, and focus when university and schools work together in research-practice partnerships (RPPs) (e.g., Fang et al., 2022; Dudley et al., 2019; Ni Shuilleabhain and Seery, 2018). Case studies for this special issue offer a rich set of examples. The studies highlighted in this issue illustrate that by taking advantage of the consistent infrastructure of CLS's familiar cycles of improvement, the university-school LS partnerships were able to focus their energy to develop and use tools and strategies to support boundary crossing. Across the contexts of different subject areas, new or existing theories, frameworks, or protocols were brought into use by university scholars to facilitate communication and focus energy in helping teachers understand, design and teach based on new curriculum standards and content.

In working with their long-term partnerships school in 2018–2019 to implement the new EFL curriculum standards, Luo's team attributed their success in supporting Lily to cross the boundary of EFL as literature teaching to "learning circle" (Furr, 2004) and carefully chosen literary texts as most important tools. Learning Circle was chosen as the major teaching/learning activity as it is learner-centred and allows personal interpretation within small groups of learners by assigning enabling roles to discuss the same piece of literature and engage in meaningful investigation (Furr, 2004). When examined against the textbook, O. Henry's *After Twenty Years* was selected since its theme of conflict between friendship and duty suits the interest of senior secondary students and its proper length and lexical difficulty. Lily, with five years of experience teaching EFL, experienced an emotionally demanding learning journey in designing and enacting this learning circle together with her 13 colleagues mentored by university expert, Yun. Her "teacher-centered mindset" and her tendency to control the discussion and move in a quick pace to finish the discussions were

made visible to her. She realized that "standardized themes" and "seeking agreement" would deprive students of joy for literature reading. She wrote in her journal that "there could be a thousand Hamlets in a thousand people's eyes. So students should be allowed to have different interpretations instead of always seeking agreement." She came to appreciate that literature reading is an interpretive and intellectual process. Through two rounds of observation feedback from Yun and the peers, she learned how to provide students room to dialogue and create classroom interactions for deep thinking. In the beginning, she was doubtful of learner-centered instruction but in her post-lesson interview, she shared that the classroom should be given back to students and let them be the master.

Developed and verified through CLS with schools over quite a few years by Wang's chemistry team, the subject competencies-based framework (SCF), is an interlinking four-dimensional model consisting of subject core knowledge, cognitive mode, research objects, problem contexts and tasks and activities. With this framework, students' core subject knowledge and learning experience can be specified into a set of discipline-specific cognitive perspectives and reasoning paths. The cognitive patterns are used to gauge the design of different types and levels of tasks and activities geared towards moving students from understanding to application and finally to reaching the expected competencies through solving problems in unfamiliar situations. To achieve this network of knowledge, the planning is always unit- and theme-based, targeting a whole grade level or a topic across grade levels. Over the years, SFC has reportedly been able to guide Wang's teams in lesson planning and improvement consistently in many schools across China. In the case school where they conducted their CLS in 2020, they focused on a topic of inorganic chemistry, a difficult area for students. In the research lessons initially planned by two RL teachers, the cognitive dimensions of the research lessons were found absent and the tasks that they designed did not readily make visible students' reasoning. The SCF provided guidance in surfacing teachers' original teaching design habits and enhanced their awareness and understanding of the corresponding teaching content. In addition, a carefully designed pretest diagnosed student learning problems and served as basis of lesson design by identifying and consolidating the teaching objectives, organizing teaching content, and helping teachers design the tasks and evaluation based on students' reasoning paths. Post-tests, as a constant component in this CLS, was used to assess students' learning trajectories and their development of competencies. The university experts mentored the two RL teachers to analyze and make use of the test results for diagnostic and assessment purposes.

In the variant model of boundary crossing lesson study (BCLS) developed by Chen and her teacher narrative team, the university team supported a small group of teachers, including Mrs. Li, a 45-year-old experienced class teacher in a Beijing primary school. Mrs. Li joined the team single-mindedly in search of theories to explain and strategies to support her trouble-maker student (whom she called Little Wang), his rowdy disruptive behaviors and his refusal to study. Mrs. Li's eventual achievement of a double-loop learning was made possible with a set of carefully planned arrangements and tools, such as pairing each teacher with a university trainer for co-presentation preparation, feedback and reflection dialogue; introducing and supporting application of the theory of double-loop learning with books, whole team sharing of their reflections as "a hall of mirrors", and opportunities to present in pairs and eventually present alone. These steps helped Mrs. Li (and her peers) shift her mindset from strategy-focused "attribution mindset" to "relationship-focused appreciation orientation" that led her to appreciate Little Wang's potential that was otherwise hidden from her eyes.

In each of these three cases of boundary crossing, the university-school LS collaboration benefited from tools that created openings for noticing, offered new perspectives for understanding and new scripts for communicating, and helped develop shared frameworks for common action. These tools and strategies are not uniform, but instead are resourcefully adapted to the particular contexts and goals (Farrell *et al.*, 2022). In fact, many of these

theories, frameworks and models played the role of boundary objects that advance the development of shared learning as "a means of translation" within a situation of multisite work relations and requirements (Star and Griesemer, 1989, p. 393). Chen *et al.* regarded "the team teaching" as the "boundary object" providing the context for the teachers and the trainers to collaborate with each other. In addition to these boundary objects, resource building is also a prominent phenomenon in all lesson study work reported in the studies – Lily's EFL research lesson was taught to the colleagues of the whole district; Wang's team has over the years built a rich online repository of chemistry research lessons available to all schools in China; Mrs Li's final presentation was simultaneously offered online to an audience in China of around 8,000 educators. In many ways, these boundary objects and resources strengthen the "boundary infrastructure" of the research-practice partnerships (Farrell *et al.*, 2022) in meeting the new reform demand. Wenger (1998) warned, however, that "it is easy to overlook" such roles of the boundary objects which "are in fact the nexus of perspectives and that it is often in the meeting of these perspectives that artifacts obtain their meanings" (p. 108). These boundary tools bridged the perspectives of the experts, the RL teachers, the peer colleagues in the teams, as well as those of the students who constitute a vital indirect source of perspectives essential as evidences for improvement.

Theme 3: Roles, relationships for mutual learning in university-school partnerships

As shown in the above, university researchers have played the role of *brokers* (Wenger, 1998) or *spanners* (Farrell *et al.*, 2022) of new knowledge, theories and tools in project-supported university-school partnerships. Apart from the ways academics may play spanning and bridging roles, however, the fact is that the world of academics and the world of schools are not typically seen as equal in status. And while those with higher degrees or higher social position may be viewed by some as having more power, it is clear that members of each community may lack understanding of the different expertise of the other, as well as the different demands of the institutions they occupy. Penuel *et al.* (2015) reminded that "w(W) hen people from different cultural and institutional domains collaborate" they have to be brought to awareness of the ways in which their differences "can become obstacles that close down collaboration, or boundaries to be understood and navigated" (p. 188). As "outsiders" join in to support collaborative learning in schools, we note that the established institutional structures, such as Teaching Research Groups (TRG), Lesson Preparation Groups (LPG) [2] and lesson study become natural platforms for collaboration and create opportunities for negotiation. In addition, the new theories and tools further connect the joint energy. Nevertheless, the university academics most often appear as experts and mentors, passing on and teaching the teachers knowledge and tools required by the reform. This is a phenomenon commonly found in lesson study research-practice partnerships in Asian countries where expert knowledge is always held with esteem (Wei and Huang, 2022). In two of the studies in this volume, however, mutual learning relationships were carefully attended to in order to facilitate the learning at the boundary of university and schools.

Zhang and Luo worked with their long-term university-school CLS project with teachers who were new to literature instruction. Since the students in Lily's class had lower-intermediate English proficiency, they were careful in building a supportive community, "a democratic rather than top-down partnership" and "avoid expert/peer dominance" so Lily would feel safe and supported to "experiment with fresh ideas and methods." Even though the authors did not mention how they built such a learning environment, from their reported interview, Lily attributed her resilience in dealing with the challenges and success in teaching students critical thinking skills to the "heart-warming company of the colleagues" that kindled "her passion for life-long learning" and regarded the lesson study experience as "a revolutionary event" in her career.

If Zhang and Luo's study above provides a glimpse of the care in building a nurturing learning environment for the case teachers, we see in Chen *et al.* the concrete steps they took in fostering a supportive environment to enable Mrs. Li's mindset change. They believed that it was a kind of "inspirational trust" the university trainers built in each of the four presentations that enabled the mindset change of Mrs Li. When they noticed the seed of a double-loop learning in her narrative, the pair teaching dialogue then focused on making that seed visible and germinate; the trainers offered books as a resource because they trusted that Mrs Li had the capacity to apply the theory; when the team eventually weaned her from the support from the trainer as her co-presenter, they trusted that she was ready to be "an autonomous public speaker". In both Zhao *et al.* and Huang *et al.* papers, they recommended the knowledge and skills that university researchers need in order to develop communicative teacher-researcher partnerships with CLS. We notice, however, that Chen *et al.*'s study focused on teacher's self and lived experiences as the object of inquiry, for which the teachers claim ownership. This could mean that when CLS-based research-practice partnerships promote ownership and voice of teachers and make inquiry and research central to build teacher capacity, the mutual learning can be more sustainable (Farrell *et al.*, 2021). It is thus not surprising that Farrell *et al.* (2021) more recently identify as a key principle of RPP the need to "shift power relations in research endeavors to ensure that all participants have a say" (p. iv).

Towards communication orientation – the next step in research-practice partnership
In their review article that examines research-practice partnerships (RPPs) in Asia, Wei and Huang (2022), found all three modes of the RPPs defined by Engeström (2008, 2015) – *coordination, cooperation* and *communication* – co-exist in Asia. *Coordination* is a mode often present in early stages of an RPP, in which researchers and teachers in lesson study each have their own different aims – for instance, while researchers aim to test and verify theories, teachers aim to develop an exemplary lesson. Each works within their own scripted roles and routines and there lacks a collaboration mechanism. Driven by theory, teachers overly rely on experts; limited buy in and misunderstanding are common. *Cooperation* mode represents a more mature stage in which researchers work as mentors or facilitators in lesson study so that theory building and problems of practice are both attended. At this stage, practice moves from research in a single direction, with experts' views still mattering most. Rules, routines and habit of mind of lesson study are not questioned and the main goal is aimed at doing lesson study. Sustainability is still a key concern. At the desired *communication* stage, there is a communication mechanism established in the lesson study partnership so that teachers are empowered and become more able to play stakeholder roles together with researchers. They reflect, question and reconceptualize the established routines, roles and lesson study practices so that they are able to reconstruct their practice to make it sustainable.

With the above three modes of RPPs in view, we are proposing that communication mechanism be promoted to build more equal mutual learning in future university-school partnerships. Chen's team has actually taken steps in nurturing such mechanism through what they call, "inspirational trust" to create deep learning in the team, in the case of Mrs. Li's boundary crossing and mindset change. The team took this term as a vision to build on the part of the university academics, as they made clear in the following quote:

> All the trainers tried their best to embody this goal by treating the teachers as partners, and sharing their own vulnerabilities with and confidence in them. We named this trusting relationship "inspirational" in that the trainers did not treat the teachers for their social identity or roles, nor feed knowledge in them like vessels. Rather, they regarded the teachers as autonomous agents, who had a free will and were responsible for their own learning (Lv, 2020). As a result, both parties transcended the institutionally-arranged functional roles, and entered this joint adventure as equal explorers. In this reciprocal learning, sharing of either side would enrich the other, as it possessed a life-generating power of its own.

Such mutualistic learning stance is what leads to sustainable and productive partnership work, which can be the next step for us to study and theorize as scholars of Chinese lesson study.

Discussion

The cultural images of teachers working together polishing lessons as an East Asian cultural practice of teaching (Stigler and Stevenson, 1991) and Paine's (1990) classic metaphor of teaching in China as virtuoso performance often get associated with outsiders' discussions of Chinese lesson study. These images capture the spirit of continuous improvement resonated in Chinese lesson study (CLS) and give a sense of continuity as part of the longstanding institutional structures of teaching research. We noted this continuity as a recurring theme in the papers in this volume. Such continuity is particularly salient in the face of the reform-driven change discussed in each of the papers. We underscored the importance of this continuity by demonstrating how it enables CLS as a technology of practice in answering the demand of curriculum reforms. Continuity can be seen as an enabling feature of CLS from two dimensions: its functionality as a versatile, generative tool to support change; and its facilitating university-school partnerships in supporting teachers to cross the boundary of reform through hybrid forms of practice. In the remaining discussion we consider these two dimensions, sound a few cautionary notes, and end with implications for future research.

We started tracing the line of continuity against change with Gu's retooling of the CLS as an embodiment of the steps that Yu Yi took in perfecting her practice and becoming a master reflective practitioner under the cultivation of collaborative teaching research culture. Yu Yi's experience reflects a Chinese cultural model of learning to improve oneself seen as "a tendency of emulating those better than oneself (见贤思齐)" (Chen, 2017, p. 283). Gu's consolidated model guides teachers more concretely in identifying their gaps of beliefs and practice from those deemed better and required by reforms to align improvement actions with clear targets through due reflection in the accompaniment of TRG colleagues. The Italian university researchers, Ramploud *et al.* in this issue, who experimented with a cultural transposition of the CLS model in Italian pre-service and inservice programs which found that "the collaborative structure has been regarded by all experimenting teachers as a powerful tool to re-think teaching as a non-individual practice" (p. 14). The participating teachers also found that the CLS helped them justify their curriculum and pedagogical decisions, which previously they did not do consciously even though they are entrusted in the Italian education system as agents in choosing and sequencing their teaching topics and decide the ways to teach them.

Continuity as versatility

With spread of Gu's model in the prior round of national curriculum reform at the start of this century, its versatility was demonstrated in how it became a tool for schools to translate national curriculum standards into school-level programs; unit and lessons were tested, improved and made actionable through CLS (Fang, 2017). This capacity of curriculum translation is further expanded to district level through district-coordinated endeavors to build school curriculum leadership (An *et al.*, this issue). Through a training of trainer's model, they used CLS in developing and disseminating reserves of reform-minded lessons. This versatility captures again CLS' feature of continuity against change, which is made possible by CLS's deep rootedness in the rich soil of institutional teaching research culture, without which, CLS would be like lesson study around the world, subjected to constant threat of sustainability (Fang and Wang, 2021).

Continuity as hybridity

Supporting the brokering of university experts and researchers in building the paradigm shift to key-competencies-based teaching in schools further demonstrate the continuity of

CLS in responding to change. CLS is a platform on which the university researchers landed and allows them to focus their energy on brokering theories and devising tools as boundary objects to enable teachers' crossing the boundary of student-centered learning and imbue students' cognitive capacity in teaching different subject areas. In the process, CLS's resilience allows for hybridity with rich deployment and development of theories and framework of learning and subject competencies. One might argue that hybridity is a common product of learning at the boundary of research and practice (Farrell *et al.*, 2021). This is particularly true in Chen's team, as a quick response to the outbreak of the pandemic, creatively hybridized improvement cycles of lesson study in their adapted narrative training workshops brought their BCLS to class teachers enabling them to transform their mindset in the new reform.

What is CLS?

With rich forms of hybridity emerging from the studies reported in this special issue, we cannot help but asking: what on Earth is CLS? It is certainly limiting to treat CLS as a form of teacher professional development as it is unable to account for this much broader scope. The nature of its continuity against change provides teachers with familiar procedures to focus their energy on learning. CLS of this kind is rich curriculum development work, not "just" teacher professional development that focuses on instructional change (Fang, 2022). For one thing, the value of having these hybrid forms strengthens the boundary infrastructure as mentioned earlier and encourages diversity and flexibility rather than following common, rigidly scripted ways of doing lesson study. Given the demanding nature of school practice, and the heightened challenges of university-school collaboration in the midst of accountability pressures and external reform initiatives, it is worthwhile to explore further how particular theories, processes, and tools can enhance effective and sustainable lesson study collaborations.

The issue of hybridity pushes us to exercise caution about following OECD's ruling in Key Competencies Framework as mandates without much questioning. On the one hand, the Framework provides a set of key competencies that the young generation requires to survive and compete in the global market and encourages evidence-based data on student learning (such as how Wang *et al.* uses pre- and post-test data to inform planning and measure student learning). Indeed, a few papers show how these standards have directed attention in planning from a focus on teaching to a focus on student learning. On the other hand, however, the Chinese equivalent of "competence" 素养 is much more holistic and nuanced in meaning than the English word, competence. It includes, among others, cultivation of values, habit of mind and person making or personhood. By overly emphasizing these competencies in localizing the OECD framework, we run the risk of losing sight of the deeply embedded cultural values and character formation rooted in Chinese wisdom of thinking and being. (Zhao and Tröhler, 2021) Furthermore, focusing on these measurable competencies couched in cognitive psychology may be achieved at the expense of curriculum's educative potential in forming human powers (Deng, 2021) against an uncertain world. Critical awareness of this single-mindedness helps make clear what is left out of our peripheral vision and its unintended consequences in our curriculum and PD work through CLS.

We end the editorial by drawing implications based on what our special issue has to offer. As mentioned earlier, university faculties and researchers and specialists need to consider alternative ways of working with teachers to empower teachers and sustain their motivation to learn. Therefore, we strongly recommend that future university-school partnerships decentralize knowledge contribution and participation structure in improving research lessons and guiding teachers along through more dialogic equal participation (Farrell *et al.*, 2021). To promote mutualist learning in future CLS research-practice partnerships, research

needs to move from focusing on change of a single case teacher to clarifying what experts and teachers each learn from the LS and from each other. To achieve this, research has to attend to the collaborative discourse and ways such discourse is able to promote mutual learning, emotional support in facing change as well as critical and constructive problem solving. Practically, to better support boundary crossing, we encourage academics and teachers to identify and work around boundary objects and their enabling features in shifting perspectives. By doing so, both university and teacher participants can enhance their knowledge and identity and engage in more productive and sustainable research-practice partnerships.

Notes

1. Class teachers are somewhat similar to what in some countries might be considered homeroom teachers, yet their scope of responsibility is broader.

2. Teaching Research Group (TRG) is a fundamental institutional arrangement found in every primary and secondary school across China. Teachers of the same subject area in a school meet regularly to study policies and coordinate teaching matters as well as conduct lesson study, teaching competitions and other forms of public lessons. A Lesson Planning Group (LPG) is a branch of a school's subject TRG in which teachers of the same subject in the same grade level work together to plan an discuss lessons and coordinate their teaching on a regular basis.

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