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Promoting learner-centred education amid the culture of test-based accountability: insights from a cross-cultural teacher education programme

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Abstract

Based on third generation activity theory, this study analyses the interplay between a testbased accountability mechanism and a pedagogical reform that introduced unfamiliar educational experiences (including those popular in other contexts) to implement learnercentred education (LCE) in a cross-cultural teacher education programme in northern China. Interviews with principals and teachers and school documents in four schools were analysed. The findings questioned the polarisation of test-based accountability and LCE. All the participants showed support for pursuing examination excellence, partly due to the tradition of honouring examinations in China, but they also recognised that, in the long run, enhancing examination performance and implementation of LCE could align. However, to resolve short-term conflicts between these two objectives, developing school-specific development plans that accommodated both goals became essential. This research contributes to revealing the effectiveness of the third generation of activity theory in investigating how schools handled the complex interactions between the localisation of LCE and the pursuit of examination excellence. 'Expansive transformation' of current pedagogics became possible when educators developed a local understanding of the purpose of, and approaches to, LCE.

Keywords: test-based accountability; learner-centred education reform; the localisation of international pedagogical experiences; third generation activity theory

Introduction

The tension between test-based accountability and learner-centred education (LCE) has received significant attention in an age when outcome measurement prevails in evaluating educational quality. Many studies (e.g. Ball 2003) suggested the potential formidable barrier test-based accountability posed to implementing liberal pedagogies. Research (Schweisfurth 2015) on LCE concerning policy borrowing also pointed out that the emphasis on examination excellence makes it challenging for local educators to indigenise international experiences of LCE. Others (e.g. Solomon and Lewin 2016), however, suggested the potential of balancing test-based accountability goals and LCE under certain circumstances and argued for a more complex and contextualised view when studying the relationship between the two. Bremmer (2021) also called for a context-sensitive approach to understanding LCE concerning historical and social factors (e.g. the emphasis on high-performing educational systems) and how local educators interpret the purposes of education and different pedagogies during the internationalisation process. This situation requires more empirical investigations into different contexts for a nuanced understanding of the complexities involved in the interaction between the examinationfocused mechanism and LCE, especially from teachers' and other stakeholders' perspectives (ibid). This research examined this intricate and dynamic relationship from the standpoints of schools, including principals and teachers, in a regional LCE reform in China, a country with a centuries-old tradition of examination-oriented education and an ambition to incorporate LCE with Chinese characteristics in recent decades (You 2019).

In China, pursuing educational changes is entangled with the pressure to enhance students' examination results. To seek balance, unfamiliar pedagogical experiences, including

theoretical discussions and real-life experiences external to China, are frequently introduced to inspire educational innovations (Ryan, Kang and Erickson 2009; Wang, Ramdeo and McLaughlin, 2021). However, as researchers (McLaughlin and Ruby 2021; Steiner-Khamsi 2014) suggested, unfamiliar educational experiences, including those external to the home country, can hardly be replicated and should be tailored to local traditions and conditions. Localisation requires concerted support from different stakeholders (e.g. leadership, teachers, teacher educators) and robust institutional infrastructure, which awaits more research (Kwok 2024). This study, therefore, involved a qualitative inquiry into how local schools in a region in Northern China endeavoured to adopt LCE amid the pressure from a test-oriented accountability system in a cross-cultural teacher professional development programme. Notably, this study did not want to create a China-non-China dichotomy. Rather, it investigated how local educators reacted to these unfamiliar pedagogical experiences and the similarities and differences between these experiences and their existing teaching practices. The third generation activity theory, which focuses on the interactions and boundaries between different systems, was adopted to enable a nuanced understanding of how local schools, from the perspective of principals and teachers, reacted to the LCE reform and its tensions with the need to improve students' examination performance. This framework not only helped to contextualise the launch of LCE amid the culture of test-based accountability at the school level (e.g. the coordination between leadership, teachers, community, and institutional support) but also to investigate the interactions between the two systems and the potential contradictions and transformations emerged from the interactions. By probing into these interactions and whether these two systems could co-exist, this research aimed to generate insights into how schools could foster LCE in a Chinese context amid the pressure from high-stakes examinations. Moreover, Schweisfurth (2013) argued for an

international perspective on the operationalisation of LCE. From this perspective, the internationalisation of LCE is intertwined with complex local forces, including an emphasis on high-stakes testing, which leads to varying degrees of the implementation of LCE globally. Exploring the localisation of LCE in China, when juxtaposed with existing research on LCE in other contexts (e.g. Sakata et al. 2023), also contributed to revealing the complexity of implementing LCE globally.

Test-based accountability and LCE

The culture of accountability has prevailed in education and become an integral part of educators' work. It emphasises 'the duty to account for one's actions' (Solbrekke and Englund 2011, 854) and is defined as 'a condition in which individual role holders are liable to review and the application of sanctions if their actions fail to satisfy those with whom they are in an accountability relationship' (Kogan 1986, 25). This study focused specifically on high-stakes test-based accountability, one of the most prominent features of educational systems around the globe (Darling-Hammond 2004).

Despite the role of test-based accountability in the education system, controversies have emerged concerning the relationship between this mechanism and educational changes. Many researchers (e.g. Ball 2003) regarded the reliance on students' examination performance to regulate teaching practices as harmful, as it narrows teaching foci to teaching goals that official performance indicators can measure. Other researchers (e.g. Boardman and Woodruff 2004), however, suggested that high-stakes tests should not be regarded as categorically negative. In Boardman and Woodruff's (2004) study, for example, some teachers benefited from standardised testing, which provided them with a framework for teaching specific skills. Considering these

controversies, Mausethagen (2013) suggested the need for a more contextualised understanding of test-based accountability and educational changes.

Regarding the interplay between educational changes and test-based accountability, one area that has attracted increasing research attention is the tension between high-stakes testing and LCE (e.g. Schweisfurth 2013). While LCE has been widely promoted around the globe in recent decades, examination-oriented accountability is a common contextual barrier to the launch of LCE (e.g. Sakata, Bremmer and Cameron 2022). As suggested by Schweisfurth (2013), when fixed standards judge students, a more explorative and flexible educational mode can be a luxury. Bremner (2021) called for a contextually appropriate implementation of LCE and recognised the role of social enablers and constraints in shaping the relationship between examination-oriented education and LCE. However, developing contextually suitable LCE and balancing the global push for LCE and the local need for examination excellence remains challenging and needs further investigation (You 2019).

Test-based accountability and the localisation of LCE: a case in China

In China, standardised tests have been employed as accountable measures to quantify educational achievement for thousands of years. Dating back to the sixth century, a centralised testing system, the Imperial Examination (Keju), came into place in China. To select government officers based on merit, this system promoted social mobility and cultivated individuals' identification with using examination to gauge educational success (Feng 1995). This examination-oriented tradition still plays a crucial role in the current educational system in China, including pedagogical approaches and the evaluation of educational quality (Liu and Dunne 2009). However, at the crossroads of educational development, China has recognised the

negative impact of this accountability mechanism on students' holistic development (Feng 1995). Since the 1990s, China has begun to promote 'quality education' across the country (State Education Committee 1997), which calls for a constructive view of learning and implementing LCE.

The relationship between the pedagogical reforms and the accountability system, however, has turned out to be complex in China. The tradition of examination-driven education, combined with the predominant importance of Gaokao (College Entrance Examination) in college admission, a standardised test regarded by many educators and students as fair and economical in China, has reinforced social support for current schooling practices (Feng 1995; Liu and Dunne 2009). This situation has driven many teachers to sacrifice educational changes to meet academic benchmarks. As You (2019,107) argued, there are two parallel education systems in China, namely, quality education 'in rhetoric and in form' and examination-oriented education 'in reality and in substance.' The existence of high-stakes examinations and the considerable emphasis on the role of teachers as knowledge holders make it hard for teachers to prioritise LCE in their teaching (Liu and Dunne 2009).

Given the difficulty in implementing LCE, unfamiliar pedagogical experiences, including those popular in other countries, have been introduced to embrace changes in China. Ryan, Kang and Erickson's (2009) study, for example, showed that shared preferences for exploratory teaching among Chinese and foreign educators paved the way for cross-national collaborations on LCE activities in China. However, as You (2019) suggested, varying interpretations of LCE and school accountability among Chinese and foreign educators can complicate the efforts to localise LCE in China. As she found, the implementation LCE in China (e.g. group discussions) primarily focuses on promoting criticality and open-mindedness in students, rather than freeing

them and preparing them for a democratic life. LCE is also likely to clash with the pursuit of examination excellence, especially given that many Chinese teachers associate teacher-led pedagogies with strong examination performance (Ryan, Kang and Erickson 2009). Given these complexities involved in developing a localised version of LCE in China, an investigation into how educators here understand examination-oriented education and LCE, and how they navigate the relationship between the two, is both urgent and valuable for generating new insights into the internationalisation of LCE amid high-stakes testing.

Theoretical framework: third generation activity theory

The contextually-situated nature of the interplay between the accountability system and the educational changes has led us to frame this research using third generation activity theory (Engeström 2001), a framework that conceptualises social and historical transformation from a sociocultural perspective. Activity theory originates in Vygotsky's (1978) triangular model that captures the derivation of cognitive development from the interactions between human mental representations and external influences. In this model, individuals' (*Subject*) pursuit of developmental objects (*Object*) is mediated by sociocultural artefacts (*Mediating artefacts*). Based on Vygotsky's model, which is individually focused, Engeström (1987) recognised the complex interrelations between human actions and their situated communities and proposed activity theory which theorises human behaviours as collective activities. In this theory, the 'activity,' defined as 'an object-oriented and cultural formation that has its own structure', becomes the unit of analysis (Engeström 1999, 21). Six core constructs have been raised to conceptualise the interactions between human practices and the community contexts, as listed below (Engeström 1987):

Subject: the individual or the group involved in the activity;

Object: the objective of the activity;

Mediating artefacts: tools used by the subject to achieve the object;

Community: the social context that the activity is embedded in;

Rules: explicit or implicit regulations for the activity;

Distribution of labour: the division of the activity between different agent levels.

In addition to analysing the operationalisation of one activity, activity theory also has the potential to investigate multiple interacting activity systems. The third generation activity theory (Engeström 2001) specifically focuses on crossing the boundaries between different activity systems. It postulates that activity systems are open and dynamic. When an activity system interacts with other systems and adopts new elements, contradictions and changes may emerge. Resolving contradictions may require each system to break its boundaries, move towards collectively meaningful objects, and contribute to establishing a shared object for different activity systems (Engeström 2001). Implementing these changes can lead to the 'expansive transformation' of the activity, during which the key elements of the original system are reconstructed (Engeström 2001, 137).

Such conceptualisation makes the third generation activity theory consistent with the need of this study, which explored the complex interrelationship between test-based accountability and LCE under the influence of pedagogical experiences external to China. On the one hand, given the emphasis on examination excellence, test-based goals were incorporated into the target schools' routines and how the schools pursued these goals constituted an activity

systems. This included the approaches taken to pursue this object (mediating tools), evaluation systems (rules), the divided responsibility among staff (division of labour), community support. On the other hand, the implementation of LCE became another object for the target schools to strive for in response to the call for more liberal pedagogies in China, constituting another activity system that the schools were situated in. The interactions between the two systems, for example, the potential conflicts between pedagogical changes and examination excellence, might lead to contradictions within and between the existing systems. Such contradictions might have motivated the subject (i.e. schools) for expansive transformation and for a potential shared object between the two systems (e.g. balancing the need for examination success and LCE), as argued by Engeström (1987). Therefore, investigating the clash and interplay between the two activity systems enabled this study to develop a contextualised understanding of whether and how the target schools could implement LCE amid high-stakes testing.

This study explored whether and how school-wide pedagogical changes, motivated by the introduction of international perspectives on LCE, could be implemented when the huge emphasis on examination results was likely to persist. Two research questions were generated accordingly:

- 1. How were test-based accountability mechanisms and the implementation of LCE contextualised in the focal schools after the introduction of unfamiliar educational experiences?
- 2. Did the two activity systems interact with each other? If so, what were the effects of such interactions on the localisation of LCE?

Research context

The present study employed a qualitative design to explore how test-based accountability mechanisms and the implementation of LCE interacted in a Chinese context after introducing unfamiliar educational experiences from other countries and regions. This study was part of a larger research project focusing on teacher development and pedagogical changes. The research project was based on a cross-national collaborative teacher professional development programme, designed by a leading UK university and launched in a region in northern China. The programme was launched as the region hoped to learn from UK and other countries' experiences when implementing LCE. This was mainly because of a sharp increase in the number of international workers in the region. This programme, therefore, aimed at helping local principals and teachers implement LCE by introducing experiences external to China. Supported by the regional government (i.e. Education Bureau), 15 local schools, both urban and rural, expressed interest in this programme and were included. The programme was designed by the UK team which included researchers with expertise in the internationalisation of teacher education and teacher educators experienced in delivering cross-cultural teacher professional development workshops. At the implementation stage, teacher educators from the UK team first delivered four rounds of workshops (at intervals of three to four months and each round lasting two weeks) on LCE to 15 principals (one from each school) and 23 backbone teachers from the 15 schools, with the expectation that the principals and teachers would deepen their understanding of LCE. In the workshops, local educators were introduced to the learning theories that underpin LCE (e.g. sociocultural theory and Bruner's constructive theory) and real-life cases of how teachers in the UK implemented LCE in class.

After each workshop round, the participating teachers passed on the knowledge they had gained to their colleagues in the school. The aim was not to transfer UK educational practices to a Chinese context but to support Chinese principals and teachers in developing localised versions of LCE.

Notably, according to the director of the regional Education Bureau, while pedagogical changes were recognised as important, improving students' examination outcomes was considered equally crucial. This was because students' performance in the entrance examinations played a largely decisive role in high school and university admissions and was highly valued by parents and society. This situation made teachers' evaluation, school reputation, and even regional attractiveness in terms of education closely related to students' examination performance. Under this circumstance, an investigation into how schools reacted to the interplay between the test-oriented accountability pressure and the localisation of LCE became important.

Research design

Participants

From the 15 schools, four schools were selected as the focal schools for an in-depth case study, which aimed to investigate the implementation of unfamiliar LCE experiences at the school level. This research only focused on the principals and backbone teachers who attended the workshops. To ensure a variety of perspectives, schools with multiple participants were prioritised for the case studies. Moreover, two urban and two rural schools were chosen to cover different school types. All four principals and nine teachers who joined the workshops from the selected school agreed to join the research. Every participant was assigned a code when we

analysed the data and presented the findings. For example, Urban 1-Teacher 1 refers to 'teacher number one from urban school number one'. The details of the four schools and participants are listed in Table 1:

Table 1: The focal schools and participants

| | School | Participants | Basic information |
|----|-------------------|---|---|
| 1. | Urban school 1 | The principal and the three teachers in the workshops | This school ranked in the top 5% in examinations in the region and aimed to |
| | | | maintain this record. |
| 2. | Urban | The principal and the three | Boasting a 10% rise in regional examination |
| | school 2 | teachers in the workshops | top 20% scorers, the school aimed to continue |
| | | | this upward trend. |
| 3. | Rural | The principal and both | The school aimed to improve test results, as its |
| | school 1 | teachers in the workshops | average was lower than that of urban schools. |
| 4. | Rural | The principal and the only | The school aimed to significantly improve test |
| | school 2 | teacher in the workshops | results, as its average was lower than both |
| | | | urban and rural schools. The principal |
| | | | emphasised interactive teaching methods to |
| | | | achieve this aim before joining the programme. |

Research methods

Interviews were used as the primary method to investigate principals' and teachers' understanding of LCE and its relationship with the test-based accountability goals after joining the programme. All the teacher participants and three out of the four principals were interviewed twice during the first year of the programme (at the interval of approximately one academic term), and one principal (Urban School 2) was interviewed once in the second academic term

after the launch of the programme. Written informed consent was sent to all the participants and approval was obtained before the fieldwork started. The interviews with teachers focused on 1) the implementation of LCE and the test-based accountability mechanisms in their schools, 2) recent achievements and challenges during the school-wide pedagogical reform, and 3) the compatibility between pedagogical changes and pursuing examination excellence. After the first round of interviews, the criteria for teacher evaluation, particularly how students' examination results were used to assess teachers' performance, stood out as an essential factor influencing participants' attitudes towards the reform. The evaluation criteria, therefore, were further broached in the second round of interviews. All the topics investigated in the teachers' interviews were also addressed in those with the principals. Moreover, principals were asked about the long-term developmental plans for the school and their roles as leaders in the promotion of LCE. Each interview lasted approximately 50 minutes. As participants and the first author spoke Mandarin as their first language, interviews were conducted in Mandarin.

The interviews were then transcribed and coded with the help of Nvivo 11. Open coding was first conducted with descriptive labels assigned to chunks of raw materials. Subsequently, the generated codes were grouped into more explanatory themes concerning the proposed research questions. At this stage, activity theory emerged as a suitable framework for data analysis. From the perspectives of object, mediating artefacts, rules, community, and division of labour, this theory helped to demonstrate how the test-based accountability mechanisms and the pedagogical reform were contextualised in the school and the potential interactions between them.

In addition to interviews, documents relating to the pedagogical reform and the test-based accountability system were collected. First, the Educational Bureau' evaluation criteria to assess

each school and principal were collected to understand the contexts in which the focal schools were situated. Moreover, as peer observation of teaching was employed as one of the main strategies in local schools to improve teaching, the observation schemes used by the schools to evaluate classroom teaching were gathered. If the target school did not have standardised observation schemes, field notes were taken to record how teachers evaluated their colleagues' teaching practices. These data were analysed to deepen our understanding of how the focal schools implemented LCE.

Findings and discussion

Findings revealed that local principals and teachers were aware of the danger of excessive emphasis on examination results and regarded LCE as not necessarily in conflict with test-oriented accountability demands. The introduction of unfamiliar educational experiences facilitated the initiation of the pedagogical changes. However, due to the strong institutional and social support for the high-stakes testing system, participants' enthusiasm for LCE was likely to be overwhelmed by the pursuit of examination excellence. Only schools that attempted to redress this imbalance by identifying the context-specific alignment between the examination-oriented targets and LCE made more substantial progress in localising those unfamiliar experiences. Interestingly, these schools also turned out to be aiming for huge improvement in their examination results.

The test-based accountability system

Before exploring how the pedagogical changes were implemented in schools, it is first necessary to see how improving examination outcomes was contextualised as an explicit accountability

target in the four schools from the activity theory perspective.

Object: improving examination results for students and school development

In all four schools, great emphasis was placed on improving students' examination results, which was perceived as related to students' future success and the long-term development of schools.

All the interviewees felt accountable for pursuing examination excellence, as it was the only criterion for high school and university admissions and played a crucial role in students' future development. One example from an urban teacher was cited below:

Everyone understands the importance of examinations in shaping children's future. Students who score high in examinations enter better universities and lead better lives. As a teacher, I am expected to help them earn a promising future (Urban 2-Teacher 1).

The emphasis on students' examination performance also made good examination results a condition for schools to enter a positive development circle. According to the principals, only schools with a good record of students' examination results could attract ambitious and diligent children who, in turn, were more likely to have better examination performance. This situation further made the schools prioritise improving students' examination performance in daily teaching.

Interestingly, in the face of such emphasis on examination results, the interviewees' attitudes were neither fully supportive nor strongly resistant. On the one hand, two principals and six teachers regarded overemphasising examinations as 'harmful to students' holistic development'. On the other hand, all the interviewees believed that standardised examinations were a fair way to select students for schools and universities. One teacher reported, for example:

We cannot deny the value of standardised examinations in helping children from underprivileged backgrounds climb the social ladders. Some countries encourage more individualised assessment, but in a country with millions of college applicants annually, how can you ensure that this provides equal opportunities for everyone? (Urban 1-Teacher 1)

Hence, the teacher regarded standardised examinations as an emblem of equal opportunities for social mobility. This may explain why these principals and teachers accepted the examination-oriented accountability system and only rejected excessive emphasis on this target.

Mediating tools: teacher-led approaches in dominance

According to the participants from all four schools, the class remained largely teacher-led at the beginning stage of the programme, as it was the teachers' most familiar teaching mode for enhancing students' examination results. In other words, these teachers seemed to associate teacher-led pedagogies with accomplishing the test-based accountability goals. Even though the teacher interviewees all reported having been introduced to LCE before and were willing to try innovative teaching strategies, they reverted to teacher-led pedagogies before examinations.

Moreover, all four schools analysed and reflected on student performance data after every regional examination at the subject, grade, and school level to identify areas for improvement.

Therefore, the emphasis on examination results was integrated into the entire teaching process, including lesson planning, in-class teaching, and after-examination reflections.

Rules: students' examination results as part of the school evaluation system

Analysis demonstrated that students' examination performance was also a crucial part of the

evaluation for schools and teachers. At the beginning of each academic year, every school would set a goal regarding how the students' examination results could be enhanced over the year and report the goal to the Education Bureau. The accomplishment of this target constituted an important evaluative criterion for principals. The strategies for achieving this goal were then divided and assigned to individual teachers. Teachers' annual evaluations were partially based on whether they met these sub-goals, which were linked to students' performance in essential examinations. Hence, the target of improving students' examination results was regulated by a multi-layered accountability system at the regional level. According to all the participants, such an evaluation system stimulated them to prioritise examinations in their teaching.

Community: parents' support for examination-oriented education

Parents were found to contribute to maintaining the test-based accountability system, as they paid great attention to their children's examination performance. The principal in Rural 1 reported, for example, 'Students' examination performance is more convincing than anything else. Parents want their children to score high in the examinations.' Therefore, parents also helped to construct a context in which schools and teachers were held accountable for students' examination outcomes.

Distribution of labour: a top-down approach with possibilities for negotiation

The accountability system was found to be launched in a top-down manner. Principals and senior leaders decided the extent to which students' examination performance should be improved and how this goal could be achieved and evaluated, while teachers mainly focused on how to realise it at the classroom level. Negotiations between regional leaders, principals, and teachers were

possible. Six teachers from three schools had experience negotiating with their principals about balancing improving students' examination results and promoting their holistic development.

In short, principals and teachers were held accountable for student examination performance in all four schools. From the activity theory perspective, this research showed that this target was primarily associated with teacher-led pedagogies and underpinned by a highly coordinated system that normalised every aspect of teaching and learning. Notably, while the interviewees recognised the limitations of examination-oriented education, they identified with the equal opportunities provided by standardised examinations for social mobility. Interestingly, this view contradicted many researchers' (e.g. Petour and Assael 2020) opinions that test-based accountability undermines educational equality, as learners from underprivileged backgrounds receive less support in preparation for examinations. This situation suggests the necessity of a more contextual view when analysing the historical and social complexities involved in educators' interpretations of the test-based accountability culture when researching the relationship between high-stakes testing and the internationalisation of LCE.

The pedagogical reform system: in tension with the test-based accountability system

Based on the analysis of interviews, all the schools showed interest in implementing LCE. However, although introducing foreign experiences motivated the schools to initiate the changes, teachers did not seem to receive sufficient institutional and community support. Under this circumstance, teachers' desire to change their pedagogies was likely to succumb to the pressure imposed by examinations.

Object: balancing LCE and the pursuit of examination excellence

In all four schools, principals and teachers agreed on the objective of educational changes, namely, realising a balance between improving pedagogical practices and enhancing students' examination results. Notably, as university admission tests had put increasing emphasis on students' analytical thinking, LCE was regarded by local educators as beneficial for accomplishing examination-oriented accountability goals, as exemplified below:

Implementing LCE is important. Everyone is aware of the danger of spoon-feeding students.

(...) Students who know how to learn also perform better in the examinations, particularly when the admission tests consider critical thinking. Students cannot be critical only by listening to teachers. (Urban 1-Principal)

Enhancing students' examination results does not conflict with LCE. They should be mutually beneficial. Moreover, Vygotsky's insights echo Confucius' beliefs that dialogic teaching contributes to deep thinking (Rural 2-Principal).

These excerpts demonstrate the principals' commitment to the rhetoric of LCE. Notably, their motivation for such pedagogical changes was influenced by the changing criteria in the admission tests and the belief that LCE was for developing critical thinking and learning abilities. This result echoes Supovitz's (2009) findings that changes in the content of examinations may provide a catalyst for educational changes. Moreover, the second principal's belief in the similarities between LCE and Chinese educational traditions was shared by another two principals and seven teachers, as one suggested, 'LCE and Confucian ideas have many similarities, so it is not hard for us to accept LCE.'

Teachers were also found to support the implementation of LCE. According to them, LCE developed children more holistically, including 'thinking critically' (Urban 2-Teacher 3) and 'better learning abilities' (Rural 2-Teacher 1). Seven teachers also agreed that students' heightened learning abilities would enhance their examination outcomes.

However, although participants decided to move away from teacher-dominated classes, ensuring that students could meet the academic standards was regarded by all the interviewees as the prerequisite for launching LCE at a broad scale, as exemplified below:

We know the benefits of LCE, but pedagogical changes should not lower students' examination results. We can take three years to change our pedagogies, but our students cannot wait three years to take the admission tests. No students should be sacrificed for changes. (Urban 2-Principal)

Therefore, though recognising the value of LCE, the principals rejected any movements that might undermine students' examination performance. The pivotal point for the pedagogical changes became identifying the niche in which LCE would not compromise students' examination outcomes.

Mediating tools: introducing unfamiliar educational experiences

According to all the interviewees, the cross-national teacher education programme was the primary motivator for the pedagogical reforms. In all four schools, professional learning workshops on LCE were led by teachers involved in the cross-national programme, including discussions over the theoretical underpinnings and successful examples in different countries.

After the workshops, teachers were encouraged to make pedagogical changes in class and regular

meetings were organised to discuss the achievement and strategies to move forward the reform. In three schools, implementing LCE at a more profound and wider scale was listed as a requirement when teachers prepared for new lessons. With these activities, all the principals and eight out of the nine teachers reported that teachers in their schools strengthened their beliefs in the value of LCE, as shown below:

Looking at the successful experiences from other countries helps us see how LCE can encourage more autonomous learning without undermining students' academic performance.

More colleagues told me that they were interested in adopting more LCE pedagogies. (Urban 2-Teacher 1)

Therefore, other countries' success in balancing LCE and examination excellence motivated teachers to make similar changes. This result aligns with Steiner-Khamsi's (2014) view that crossnational borrowing of pedagogy may have a certifying effect on local educational changes.

However, learning experiences in other contexts alone might not have resolved teachers' concerns over the potential negative impact of pedagogical changes on completing the examination-oriented targets. Two principals and five teachers admitted that the huge emphasis on Gaokao in China sometimes shook their determination to deepen the pedagogical reform.

Division of labour: unclear division of responsibility for the pedagogical changes

Another significant barrier to the educational changes seemed to be the vague division of labour between principals and teachers during the reform. Based on the interviews, principals all regarded themselves as 'co-constructors' with teachers in the pedagogical reform, which meant that they would support teachers to change pedagogies, as shown below:

I want to promote the idea of 'shared leadership' when improving our pedagogical practices; every member can be the leader under certain circumstances. For example, teachers may lead pedagogical changes in their classes. (Urban 1-Principal)

While seven teachers were reported to welcome 'shared leadership', five of them pointed out that compared to principals, teachers had less power to persuade their colleagues to join them, especially 'amid huge examination pressure'. This made implementing LCE collectively difficult and teachers needed 'stronger support from the senior leadership'. Therefore, as the pedagogical changes might counter the test-based accountability targets, the blurred area of who should be responsible for the outcome of the changes could tempt teachers to make a 'safer' choice and revert to teacher-led pedagogies.

Rules: few rules established to promote LCE

Moreover, few rules were established to encourage the experimentation with LCE, and students' examination outcomes were still prioritised in the evaluation for teaching. Seven teachers regarded this practice as unhelpful for the pedagogical changes, for example:

The construction of LCE should be rewarded. I am not suggesting that we would not have a try if not being pushed to do so. However, due to the examination pressure, it is easier not to make any changes. (Urban 2-Teacher 1)

Hence, as the test-based goals played a regulatory role in teaching, it seemed challenging to shift teachers' focus from examinations to educational changes.

Community: parents' ambiguous attitudes towards LCE

Lastly, compared to parents' emphasis on children's examination performance, their support for the pedagogical changes was much more ambiguous. In all four schools, principals and teachers reported that parents would have complained if adopting LCE pedagogies had lowered children's examination results, as exemplified below:

It is hard to make every parent understand the value of LCE. They will say, 'Please stop those fancy changes. Just show me that my child can memorise the texts and do better in the examinations.' (Rural 2-Principal)

In short, although all the schools regarded LCE as beneficial for students' long-term academic achievement, the test-based accountability demand hindered the pedagogical changes. Moreover, compared to the test-based accountability system, the pedagogical reform system seemed less coordinated from the activity theory perspective, including the lack of institutional and community support. This situation continued until the end of fieldwork in one urban school (Urban 1) and one rural school (Rural 1).

Attempts to establish a more coordinated system for localising LCE

In the face of the tension between the examination pressure and the localisation of international perspectives on LCE, two schools (Urban 2 and Rural 2) were found to have identified the niche in which LCE could benefit the realisation of the school-specific accountability goals. These changes facilitated the pedagogical reform and contributed to reconstructing the pre-existing test-oriented accountability system. Interestingly, both schools were more eager to improve their students' examination performance than their counterparts.

Object: establishing connections between the school-specific test-based accountability target and LCE

One distinctive feature of the pedagogical reform in these two schools was the establishment of clear connections between implementing LCE and completing school-specific accountability targets. The urban school, for example, set the objective of having more students achieve 'excellence' (top 20 per cent) in the regional examinations, which highly depended on strengthening students' analytical abilities. According to the principal, realising this goal made the adoption of LCE necessary. A similar situation was also found in the rural school, as the principal regarded launching LCE as crucial for enhancing students' learning efficiency and examination outcomes. He reported, for example:

Compared to urban students, our students generally have much less support from parents, so it is crucial that we implement LCE to enhance their learning efficiency in class. I believe that students can learn effectively when their opinions and autonomy are fully respected. (Rural 2-Principal)

Therefore, the two schools established more context-specific accountability goals to reconcile the conflicts between LCE and the examination pressure. Notably, LCE was again considered better at developing critical thinking and learning abilities, which were regarded as the key to significantly improving students' academic performance.

Mediating tools: reflections on how unfamiliar experiences on LCE helped to realise the school-specific developmental goals

To realise the objectives mentioned above, the two schools endeavoured to help teachers

recognise the problems inherent in teacher-centred pedagogies and the feasibility of LCE in their schools. The principal of the rural school, for example, organised school-wide meetings in which teachers were asked to discuss the real-life cases of LCE in other countries and other regions in China, based on which they identified the limitations of their current teaching and how LCE could be applied in their classes. Similar attempts were also observed in the urban schools. Teachers interested in the programme were provided with more autonomy and resources to experiment with initiating students' autonomy in student-student or teacher-student dialogues. Other teachers were encouraged to compare these lessons with their previous teaching practices in which teacher-centred pedagogies were dominantly used. The feasibility of LCE in the schoolspecific context was thereby broached. According to the participants from both schools, these attempts motivated more teachers to implement LCE, as they reported to recognise the possibility for LCE to enhance students' holistic development and examination results. Therefore, the assumed connection between teacher-led education and better examination results seemed shaken, creating more room for LCE. It is nevertheless admitted that neither school involved students in decisions about what they wanted to learn or would be examined.

Division of labour: a combination of top-down and bottom-up approaches

Collective efforts from principals and teachers also supported the implementation of LCE in these two schools. As shown above, principals in the two schools took a stronger lead in promoting LCE, for example, establishing the school-specific targets for the pedagogical changes. According to the teachers from both schools, such support from the principal was valuable for localising LCE, as it alleviated teachers' anxiety about undermining students' examination performance during the changes. Notably, teachers' autonomy was also respected

during the changes. All the teacher interviewees from these two schools admitted that their opinions were gathered regularly to inform further educational changes.

Rules: diversifying the criteria for teacher evaluation

Another important change in the two schools was the diversification of teacher evaluation criteria, which lowered the importance of examination outcomes in gauging teaching quality and encouraged the implementation of LCE. In the urban school, a standardised class observation scheme was developed to specify that the peer observation of teaching should focus on organising group discussions, teacher-student interactions, and students' reactions to different learning activities. This scheme was developed based on the feedback from teachers and underscored the role of LCE in high-quality teaching. Two teacher interviewees from this school regarded the observation scheme as a reminder of the key steps in implementing LCE.

In the rural school, teachers who actively changed their teaching practices would be awarded extra points in their annual evaluation to reduce their anxieties about students' examination performance during the educational changes. In short, both schools diversified the criteria that defined good teaching and gave teachers more flexibility to implement LCE.

Therefore, in addition to a long-term vision that LCE would benefit students' examination performance, these two schools moved one step further and established an explicit connection between localising LCE and completing short-term school-specific accountability targets. In this process, a more coordinated system, including collective efforts from the principals and teachers and diversified teacher evaluation systems, became especially important.

The interplay between the test-based accountability mechanism and LCE from the perspective of activity theory

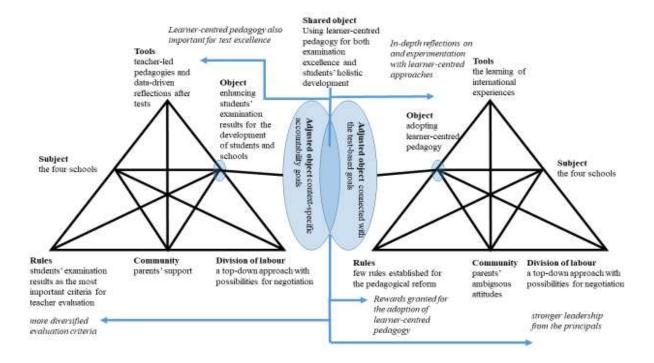
A review of the findings suggested that the test-based accountability and the localisation of LCE were not in categorically conflicting positions. Admittedly, localising international perspectives on LCE could conflict with the pursuit of examination excellence and lead to contradictions both within and between the LCE reform and the pre-existing test-based accountability systems. Specifically, within the LCE reform system, the object of implementing LCE might lack institutional and community support, including evaluation systems, strong leadership, and parental recognition. Moreover, principals' and teachers' focus on examination results undermined their commitment to any pedagogical changes that might negatively influence students' examination performance, especially in Urban 1 and Rural 1 where the main aim was to maintain or slightly improve students' examination results.

However, the clash of the two systems also motivated some schools (e.g. Urban 2 and Rural 2) to look for the shared objectives between implementing LCE and pursuing good examination results. This echoes Engeström's (2001, 137) argument that contradictions can be the source of changes and contribute to 'expansive transformation' of the original systems when individuals seek synergies between different activities. For example, aiming to significantly improve students' examination performance and recognising the potential of LCE in strengthening individual learning abilities and analytical skills, Urban 2 and Rural 2 adopted more dialogic teaching approaches and showed more respect for students' voices and feelings. These changes largely aligned with the minimum standards proposed Schweisfurth (2013) in defining LCE. Adjusting each system's object helped to break the boundaries between the two

systems and initiate more systematic school-level changes, which reconstructed the LCE reform system regarding mediating tools, rules, and distribution of labour. For example, more localised approaches were implemented to encourage the adoption of LCE, the division of responsibility between principals and teachers was clarified, and the criteria for teacher evaluation were diversified. This process also changed the long-standing test-based accountability system, as the association between teacher-led pedagogy and examination excellence seemed shaken.

Therefore, the principals and teachers in these two schools experienced expansive learning and transformed their previous teaching practices by looking for the synergy between two objects, namely, realising examination excellence and localising LCE. Figure 1 captures the dynamic interactions between the test-based accountability and the pedagogical changes system in this study:

Figure 1: The interactions between the test-based accountability and the pedagogical reform system



Note: The blue line refers to the changes made to the activity systems after the shared object was established.

Admittedly, developing shared objectives between the reform and examination-oriented systems might not have enabled local schools to fully integrate LCE into their teaching routines. However, this study cast doubt over the dichotomy between localising LCE and examination-oriented accountability and emphasised the role of school-level systematic changes in reconciling the tensions between the two systems.

An international perspective on the interplay between LCE and high-stakes testing: a case in China

Another important finding generated from this research is how local historical and social forces interacted with unfamiliar pedagogical experiences during the interplay between pedagogical changes and high-stakes testing, contributing to the unique implementation of LCE in China. It is first notable that participants regarded enhancing students' examination performance not only as imposed accountability goals but also as part of their moral obligation to prepare students for their future. This was because examination excellence was interpreted as a pathway to upward social mobility, aligned with Feng's (1995) argument on the tradition of integrating examination success into learning objectives in China. This tendency might have also been strengthened by the Confucian influence, which required teachers to be responsible for students' lifelong development (Huang 2003), as several participants mentioned their obligation to support every student's 'future success'. Therefore, when implementing LCE, local teachers needed to identify a niche where LCE could maintain or enhance students' examination success.

Moreover, this research supported You's (2019) findings that LCE is promoted in China to encourage deeper thinking in class, as local educators' acceptance of LCE in this study was based on its potential for developing critical thinking, a skill emphasised in current national examinations. Comparatively, no participants mentioned the value of LCE in developing students as active citizens nationally and globally in the future or would involve students in co-deciding learning objectives or materials, which were also key features of LCE (Schweisfurth 2015). Interestingly, the participants' beliefs in the value of LCE for cognitive development were partly related to their understandings of the similar educational philosophy advocated by the Confucian classics. This result differs from Sakata et al.' (2023) observations of LCE in Ghana where LCE was mainly conceptualised based on foreign experiences. This again suggested the need to investigate the localisation of LCE in different cultural contexts.

Lastly, it is worth noting that the two schools that were more determined to implement LCE and develop school-specific plans also strove for more significant improvement in examination performance compared to the other two. This was partly because they recognised that maintaining current pedagogical practices could not enable them to achieve their test-oriented goals. Moreover, one of the schools was from a less developed area, countering You's (2019) observation that schools in better socioeconomic conditions were more likely to balance LCE with high-performing educational systems. This indicates that future research should consider cultural factors and school-specific conditions that influence the internationalisation of LCE in high-stakes testing contexts.

Conclusion

This research demonstrated the complex relationship between test-based accountability and the

localisation of LCE and questioned their polarisation. First, as shown in the findings, situated in a culture with a long tradition of examination-oriented education, pedagogical changes and examination-oriented targets may not necessarily be in irreconcilable conflict but can be in complex and dynamic interaction. The shift of focus in examinations was even found to motivate schools to localise LCE. From the activity theory perspective, this study suggested a potential overlap between the objectives of test-based accountability and pedagogical changes. It called for a more context-sensitive view when conceptualising the relationship between examination-oriented accountability and LCE during the internationalisation process. In particular, how local educators' current understandings of examination-oriented education and LCE influences the localisation of unfamiliar pedagogical experiences, including those external to the home country, may need special research attention.

In this study, identifying context-specific connections between LCE and the pursuit of examination excellence was found to be crucial for the deepening of pedagogical changes. The introduction of unfamiliar pedagogical experiences was found to initiate this exploratory process. But it was equally important to organise coordinated efforts at the school level to help educators recognise the value of LCE, including its contribution to completing culture-specific, even school-specific, test-oriented targets. This made the localisation of LCE vary across schools. Notably, educational changes might, in turn, lead to changes in the accountability mechanism, which again indicates the possibility of positive interactions between the two systems.

In summary, from the perspective of third generation activity theory, this study questioned the polarisation of test-based accountability and the internationalisation of LCE and suggested a more context- and culture-sensitive view when conceptualising the relationship between them. Admittedly, as a small-scale qualitative study, the findings generated here are not

generalisable. Future research may bring insights from school management to investigate further how the whole school system can be coordinated to support the indigenisation of LCE. It is also worthwhile to probe into the possibility of deepening LCE in China, including how to involve the students in the decision-making process regarding learning content and assessment format.

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