HOW TO ADAPT TO THE CHANGING WORLD? A MULTIPLE-CASE STUDY OF TEACHER ADAPTABILITY IN CHINA

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Abstract - Teachers' work is characterised by novelty, variability, and uncertainty, and teacher adaptability is essential in navigating these challenges. Adaptability can significantly improve teachers' classroom teaching ability and psychological function. Moreover, there is a positive correlation between teacher adaptability and academic and non-academic student performance. However, several issues remain unresolved. Most research focuses primarily on adaptive teaching, often neglecting adaptability in other workplace aspects. Additionally, the emphasis has largely been on behavioural adaptability, with less attention given to the cognitive and emotional dimensions of teacher adaptability. Furthermore, reliance on the self-reporting method has its limitations. This study utilised the adaptability tripartite model and the teacher capability framework to provide a comprehensive exploration of teacher adaptability. A multiple case study design involving thirteen teachers from three secondary schools in mainland China was adopted. Data were collected through semi-structured interviews, non-participant classroom observations, and documents. The data were analysed using thematic and nexus analysis methods. The findings revealed that teachers adapted their classroom teaching and interactions within their workplace. In terms of classroom teaching adaptability, teachers adapted their teacher knowledge and classroom teaching behaviour; these were cognitive and behavioural adaptability, which were not always synchronised. Teachers adapted teacher knowledge through copy type, expansion type, and innovation type. Among these, the expansion type was the most prevalent. Teachers adapted their teaching behaviour through student-centred type, examination-centred type, and teacher-centred type. Among these, the student-centred type was the most prevalent. Regarding interaction adaptability, teachers exhibited almost synchronised cognitive-behavioural adaptability. Problem-solving, avoidance, and balance types were identified. Teachers' emotional adaptability was prevalent throughout the classroom teaching and interactions, with a predominance of cognitive-reappraisal and modification types.This study enriches the theoretical understanding of teacher adaptability and the original adaptability tripartite model by introducing a bottom-up taxonomy of teacher adaptability. It also offers practical insights for policymakers and educational stakeholders to better support teacher adaptability.

Keywords - Teacher Adaptability, Tripartite Adaptability Model,Multiple-Case Research Design

I. BACKGROUND AND PURPOSE

Teachers' work involves novelty, variability and uncertainty bases every day, and their adaptability can help them regulate and face uncertainties(Loughland& Alonzo, 2019). Based on Martin et al.'s research (2012; 2013), teacher adaptability can be defined as "the teacher's conscious reactive activity in response to stimuli". Existing research has increased our understanding of teacher adaptability (e.g., Loughland& Vlies, 2016); however, gaps in the research still need to be filled. Firstly, most current studies have focused on teachers' adaptive teaching (e.g., Loughland& Vlies, 2016) but have overlooked other aspects of teachers' work environments. Secondly, from the adaptability tripartite model (Marin et al., 2012; 2013), teacher behavioural adaptability has garnered the most attention, often neglecting the cognitive and emotional dimensions of teacher adaptability (Loughland& Alonzo, 2019). Lastly, the self-reporting research method presents limitations. Hence, there is a call to utilise alternative methods such as external observations or assessments (Collie & Martin,2017).

Based on previous findings and the research gaps, this study aims to comprehensively explore "What is teacher adaptability"? The sub-questions are:

1. What are the specific aspects of teacher adaptability?
2. How does teacher adaptability manifest across cognitive, behavioural, and emotional dimensions?

Therefore, this study used Martin et al.'s adaptability tripartite model (2012; 2013) and the Hong Kong teacher capability framework as theoretical frameworks (Hong Kong Education Bureau, 2003) and adopted a multi-case research design to explore the different aspects and dimensions of teacher adaptability in an all-round way.

II. METHODS

Participants

Following consideration of the study's purposes and research questions, purposive sampling was used. The principals recommended participants based on the teachers' daily work performance, including adaptability levels. Finally, thirteen secondary teachers took part in this study.

Data collection

In-depth semi-structured interview.All study participants were invited to four rounds of interviews. The first-round interview aimed to learn basic information about participants, diverse aspects of teacher adaptability, and the teacher's expectations for students in the next day's course. The second,

third, and fourth interview rounds were conducted the day after the three classroom teaching observations to gain insight into teacher adaptability of classroom teaching.

Non-participant classroom observation.Before conducting a classroom observation, the researcher used the teacher's lesson plan to understand the teaching objective, content, teaching methods, and assessment. The researcher also used the in-depth semi-structured interview on the former day to understand case teachers' expectations for student performance. Each participant was observed three times for classroom teaching, once a day and for three consecutive days.

Documents. Documents about cases can generally be divided into three categories, i.e., (1) public documents, such as school policy; (2) personal documents, such as teachers' teaching plans; and (3) physical documents, such as case teachers' daily teaching video recordings.

Data Analysis

All data were transcribed verbatim.This study adopted four analysis methods of case studies for encoding, category attribution and theory construction, i.e., inductive analysis, narrative analysis, constant comparative method and content analysis. Guided by the research question and conceptual framework, the researcher performed open, axial, and selective coding. Taking an example, in the open coding phase, the researcher coded the adaptive performance of the case teacher. During the axial coding, the researcher further clarified the categories of teacher adaptability. Finally, during the selective coding, the researcher determined what teacher adaptability is and analysed the characteristics of diverse aspects of adaptability.

III. SIGNIFICANT FINDINGS

Teachers adapt teacher knowledge primarily through expansiontype and teaching behaviour primarily through student-centred type

This study found that teachers adapted their cognition and behaviour within classroom teaching, that was, their teacher knowledge and teaching behaviour. Firstly, the adaptability of teacher knowledge could be categorised into three types based on the foundational level of the teachers' knowledge: copy type, expansion type, and innovation type (Figure 1). Among these, the expansion type was the most prevalent.

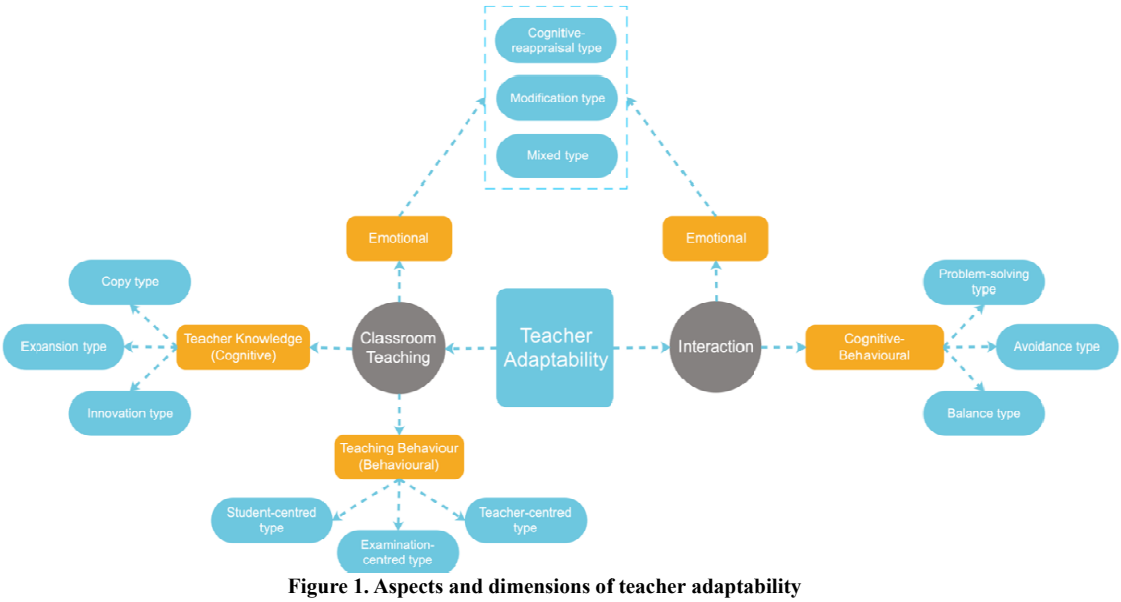

Figure 1. Aspects and dimensions of teacher adaptability

Secondly, for the adaptability of teaching behaviour, the student-centred type emerged as the most prevalent, followed by the examination-centred and teacher-centred types.Teachers initially prioritisedtheir teaching design, the homogenisation of student learning, and the assumption of responsibility for students' learning motivation. Nevertheless, given the diversity and complexity of the educational context, teachers adapted their teaching strategies to cater to the varied needs of students, epitomised by the individualised-teaching type of adaptability. As teachers accrued knowledge and experience, their role perceptibly evolved from an authoritarian figure to a facilitator of guidance, from mere transmitters of knowledge to collaborative partners, and from content experts to architects of the learning experience. The students' dynamic engagement and emergent interests formed the cornerstone of teaching, giving rise to dynamic-forming and motivation-stimulating types of adaptability.

Typology of teacher interaction adaptability: Problem-solving, avoidance, and balance

This study systematically analysed the adaptability of teacher interactions with students, parents, colleagues, as well as within schools and educational organisations. Problem-solving was the predominant type of interaction adaptability, typically employed by teachers with high motivation and a strong sense of control (Güss et al., 2017). These teachers usually strove to overcome challenges posed by various stimuli and they were inclined to tackle changes and uncertainties through forthright communication and purposeful conflicts, aiming to devise solutions that benefited all parties while addressing problems.

An additional distinct type identified was avoidance. Teachers with this type often avoided conflict and tension due to discomfort with potential negative repercussions. The avoidance offered short-term psychological protection and maintained the work status quo but, over time, might result in unresolved issues, strained relationships, and missed problem-solving opportunities (Herman-Stabl et al., 1995). Typical strategies included sidestepping direct interaction or postponing engagement.

The final type of interaction adaptability was balance, wherein teachers adapted themselves according to the interacting party's characteristics, performance, attitudes, and relationships. Teachers who employed this type of adaptability exhibited high situational awareness, flexibility, and reflective capacity, allowing them to read the attitudes and actions of various interactors accurately. They adapted based on these observations and engaged in self-reflection post-interaction, thus progressively refining their adaptability strategies.

Synchrony in cognitive and behavioural adaptability: Classroom teaching vs. interaction

This study revealed that the cognitive and behavioural adaptability of classroom teaching did not always align synchronously. However, regarding interaction adaptability, they were largely in harmony. Prior research had identified two first-order (cognitive-behavioural and emotional) and one higher-order (cognitive, behavioural, and emotional) factors of teacher adaptability (e.g., Martin et al., 2012; 2013). Thus, the findings of this study offered a detailed, clear, and ground-breaking illustration of the tripartite adaptability model across various workplace contexts.

Regarding interaction adaptability, the results corroborated the existing tripartite adaptability model, demonstrating synchrony between cognitive and behavioural adaptability. Specifically, cognitive adaptability guided behavioural adaptability. This was because, in comparison with classroom teaching, adapting interactive behaviour was less critical and urgent. In mainland China's teacher profession system, public school teachers' roles were relatively stable, with performance predominantly assessed by classroom teaching effectiveness instead of interaction (Lo et al., 2014). Consequently, there was less urgency to adapt interactive behaviour.

Prevalence of emotional adaptability in the workplace: Dominance of cognitive-reappraisal and modification types

Firstly, it was observed that emotional adaptability permeated both classroom teaching and interactions, with individuals displaying distinct types of emotional adaptability. Such adaptability appeared to be consistent across various workplace aspects, attributable to its correlation with one's personality, accumulated experience, and established emotional coping mechanisms, all of which contributed to its inherent stability.

Secondly, the present study found the prevalence of cognitive-reappraisal and modification as principal types of emotional adaptability. These results challenged the pre-eminence of cognitive-reappraisal and suppression as primary emotional adjustment types in response to stimuli (Gross, 2002). This was because the efficacy of modification, which empowered teachers to exert direct influence over emotional stimuli by modifying the context or circumstances, appeared to surpass that of mere emotional suppression.

IV. SIGNIFICANCE OF THE STUDY

For theoretical significance, this study substantiated distinct categories of adaptability and enhanced extant theories, particularly the tripartite adaptability model within the context of teachers' workplaces. Previous research has predominantly focused on teachers' adaptive teaching, centred on their behavioural adaptability of classroom teaching. Concurrently, considerable ambiguity has remained concerning the tripartite model for teacher adaptability. This study transcended the boundaries of prior investigations. Regarding teachers' workplace, it posited that adaptability manifested primarily within teachers' classroom teaching and their interactions with diverse groups. Furthermore, this study undertook an in-depth examination of secondary dimensions of teacher adaptability, grounded in the theoretical tripartite adaptability model. These findings were a pioneering foundation for refining and constructing a tripartite teacher adaptability model. Concurrently, they furnished a conceptual framework for comprehending the antecedents and outcomes of disparate adaptability types in future investigations.

For practical significance, firstly, the types of teacher adaptability identified offered strategic support in responding to these stimuli, shaping their adaptability

mechanism. Secondly, the findings of this study offered organisational leaders valuable insights to systematically organise training programs or courses to enhance teacher adaptability. Lastly, policymakers needed to establish evaluation policies encompassing a multidimensional teacher assessment to enhance teacher adaptability of teacher knowledge and interactions.

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