

# The Development of TPACK for Trilingual Teachers in Chinese Ethnic Minority Regions

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## Abstract

From observing on the trilingual class education in Jinkouhe, a Chinese ethnic minority region, the author examines the widespread absence of the use of information technology application in trilingual education, although the multimedia hardware has been equipped generally. language education should be learner-centered with the emergence of and increased emphasis on informatization. Thus, the English teachers should be provided with Technological Pedagogical and Content Knowledge (TPACK). This paper describes theoretical research on the development of TPACK for trilingual educators, based on the current condition of the information technology application in Chinese Ethnic Minority. The trilingual educators' community is supposed to develop by applying TPACK, which contributes to the establishment of a trilingual education model and the formulation of minority language policy.

**Keywords:** trilingual education, TPACK, teacher development

## 1. Introduction

### 1.1 The Trilingual Education in China

Life has been greatly changed with the development of information technology, which also promotes the multimedia education linguistically. Rural vitalized strategy was proposed as a key move at the 19th National Congress of the Communist Party of China, which benefits the Chinese minority regions constantly. it is necessary that minority students receive trilingual education—their minority languages, standard Chinese, and English—because there are no specific trilingual educational strategies among the nation's policies (Huang Jian 2013). The application of IT in trilingual classroom could benefit learners by increasing their initiative and enthusiasm.

Trilingual educators should draw attention towards content and pedagogical knowledge. Regrettably, as I observed in Jinkouhe, the current trilingual classroom teaching is unsatisfactory. Multimedia facilities are auxiliary and translation approaches are widely used. It is difficult for minority students to receive effective trilingual education due to the limited availability of English learning materials and the shortage of professional trilingual educators. The shortage also consists of the absence of information technology. These drawbacks hinder English-classroom instruction and cross-cultural education in ethnic minority regions. TPACK could be applied to establish an educational community for minority educators to have a comprehensive understanding of trilingual education.

### 1.2 The Absence of Continuing Education for Trilingual Educators

Generally, linguistic education includes content and pedagogical and cultural knowledge. Trilingual teachers who are members of Chinese ethnic minorities mostly have long-term teaching experience, which causes the absence of technical knowledge education.

From my random interviews with trilingual teachers in Jinkouhe, I infer that there are limitations on understanding information technology, although most of these teachers have received relevant training. There is

no combination of technology, pedagogy, and content knowledge in daily trilingual teaching. They may have received some related TPACK system knowledge, but traditional translation approaches still predominate.

## **2. Problems in Present Trilingual Education in Ethnic Minority Regions**

It is obvious that the ethnic minority students fail in competing against Han students in English learning, although bilingual students are more pragmatic and productive than monolingual students (Jorda M. P. S, 2005). The problems facing trilingual education can be classified as psychological barriers, resource barriers, and content barriers.

### *2.1 Psychological Barriers*

Anxiety, fear, hesitation, and psychological phenomenon would interfere with speech and directly impact second language fluency. Schmidt (1992) divided anxiety over foreign-language learning into three types: fear of exchange, fear of negative evaluation (having their language ability judged by others), and test anxiety (p. 63).

People who are fluent in a language are often considered more intelligent, more capable, and efficient than others, which evidences the psychological barriers affecting trilingual teachers: psychological tension, psychology of inferiority, and psychology of being afraid of difficulty. Specifically, ignorance of technical education results in the absence of technology knowledge in trilingual classrooms. Trilingual educators fail to update relevant TPACK theoretically, which leads to the dread of integrating content knowledge and new technologies. Such inability leads to the absence of information technology and online media in the process of language education. This psychology barrier can be described as being afraid of difficulties.

Educators' confidence and self-realization can be impacted by this barrier. Probably, these teachers carry out their teaching without intensity and enthusiasm, which affects pupils' interest, confidence, and self-realization. In a large class (a common phenomenon in Chinese ethnic minority regions), without suitable TPACK supplement pupils would be even less likely to feel a sense of enthusiasm about education. Therefore, effective learning would be hindered, as would students' self-education.

### *2.2 Resource Barriers*

The National English Curriculum Standards, adopted out in 2001, are designed to promote overall student quality. Without suitable teaching resources, minority teachers could not meet the high teaching goals of those standards. Although trilingual teachers had realized the benefits of information technology, the truth is that technology was a marginalized and unfamiliar field. The minority teachers still regarded information technology as an auxiliary or a recreational tool.

Influenced by translation approaches, minority teachers could not realize the need to combine information technology and teaching content. Unless key points in the curriculum are presented intuitively and visually, pupils may find it difficult to catch points calling for deeper knowledge. Applying information technology in trilingual education could achieve the goal of student-centered teaching, and TPACK could liberate teachers to teach with an understanding of pupils needs.

### *2.3 Content Barriers*

Language education, as a carrier of culture, must be rooted in the content of the culture. It is common sense that linguistic acquisition should be drawn with the real density and intensity phenomenon. Minority pupils can master L1 (their native language) naturally, and in the proper context they can learn L2 (Chinese). But compared with L1 and L2, English would present a content barrier to the third-language acquisition.

With the unbalanced distribution of education resources, minority teachers' attitude toward language and cross-cultural education is indifference. Unsuitable education approaches, such as the translation approach, are also barriers to the efficiency of linguistic acquisition in ethnic minority regions. Different cultural and language backgrounds can be obstacles to cross-cultural communication. Since communicative ability implicates one's self-respect, trilingual education of those coming from different cultures is not truly accepted by either minority pupils or teachers. National amalgamation can occur in three forms: combination, integration, and assimilation.

### *2.4 Summary*

In this study I describe a theoretical trilingual-education approach in ethnic minority regions. It is designed to contribute to a practical trilingual-education model for minority English teachers. Trilingual educator problems have a psychological aspect.

Educational resources must be supplements to classroom teaching, and motivation from minority English teachers is a prerequisite to presenting some suitable English context. Minority trilingual educators may

gradually accept multicultural education from their constant teaching of content. My research addresses two problems: the establishment of information environment and the development of information technology.

### 3. Interpretation of the Applied Theories

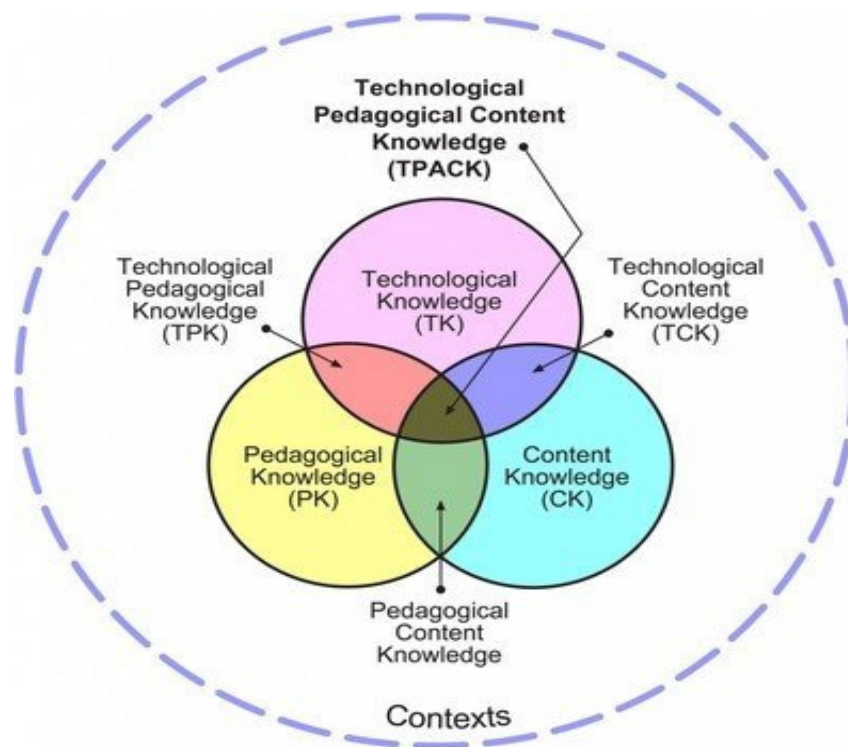
My paper aims to create a suitable trilingual-classroom-teaching model for minority educators. I assume that TPACK would contribute to the model's construction.

#### 3.1 A Brief Introduction to TPACK

Shulman (1986) introduced a concept named Pedagogical Content Knowledge, which contends that educators should draw from certain subject knowledge within Content Knowledge (CK) and Pedagogical Knowledge (PK) in creating a Model of pedagogical content knowledge. Then after two decades, Technology Knowledge (TK) was added to the theory by Mishra and Kohler (2006), who believed in the need for information technology to contribute to effective teaching.

Five years later, Thompson and Mishra (2011) renamed the framework as TPACK to make it easier to remember. They proposed that intelligent technology integration includes technology, pedagogy, and content, and that such integration is helpful in teaching efficiency. In this way, TPACK can be defined as a framework for integrating educators' knowledge of technology. Technology education cannot occur in isolation, but rather is a context that includes pupils, school, and infrastructure as well as a trilingual environment.

Koehler and Mishra (2008) created a table to depict a necessary part of the TPACK framework:



#### 3.2 The Components of TPACK

There are three basic elements of TPACK, as depicted in the above table. Content Knowledge (CK) refers to the teaching of content within concepts, theories, and methods, as well as to the essence of the subject being explored. Teachers should capture the interaction among subjects in order to promote the prerequisite of transformation of teaching.

Koehler and Mishra (2008) defined Pedagogical Knowledge (PK) as a type of knowledge about the processes and practices or methods of teaching and learning and how it encompasses overall educational purposes, values, and aims. PK addresses disciplines combined with a specific subject or technology. PK is helpful in creating teaching plans and classroom evaluations.

As information technology is developing, it is impossible to define Technology Knowledge (TK). Generally, the research target of TK consists of all teaching technologies, including digital technology and computer hardware and software.

While these three elements address classroom teaching, there are overlaps among Technology Content Knowledge (TCK), Pedagogical Content Knowledge (PCK) and Technological Pedagogical Knowledge (TPK). TCK transfers traditional teaching approaches into digital presentations, in which subject content might be presented in different approaches such as picture or video presentations. Such classroom transformation could stimulate learning motivation. PCK features the transformation of teaching content, which would be helpful to the classroom organization. TPK does not include specific teaching content or approaches, but features the process of technology applied in education. Educators can supplement their presentation strategies with TPK; teaching methods can differ with different technologies.

The dynamic balance among PK, CK, and TK contributes to TPACK, which enables trilingual educators to try new and various teaching activities. Since pupils' native language (Yi), medium of instruction (Chinese) and target language (English) always overlap in trilingual class, applying TPACK could achieve the promised effective trilingual teaching.

#### 4. Discussions

Psychological, resource, and content barriers contribute to the present problems in trilingual education in minority schools. The application of TPACK might remove these barriers.

##### 4.1 Inspiring Trilingual Educators' Teaching Enthusiasm

On the whole, the psychological barriers faced by ethnic minority educators can be attributed to their frustration with present trilingual education. Without applying TPACK, they lack a sense of accomplishment in the process of their teaching. Pupils' achievement in trilingual learning would satisfy teachers' sense of accomplishment or at least lighten their frustration. The digital presentation from TCK can be designed with various cross-cultural content, which could fascinate pupils in their trilingual lessons. Pupils' attention would be helpful in reestablishing teachers' self-realization.

According to my classroom observations, TPACK practice is inseparable from real teaching. Therefore, information technology should be adopted in ethnic minority trilingual classes. As discussed above, appropriate teaching plans designed with PCK could ensure more suitable assignments, which could help achieve short- and long-term goals of classroom teaching. In such a process, pupils could derive a sense of success from daily assignments. With pupils' success, educators might gradually achieve self-realization. Teaching targets that are too high cause frustration while targets that are too low cause complacency. Teaching must be evaluated daily or weekly to ensure the proper goal setting.

Hence, effective classroom tasks should be deemed critical. A task-based approach motivates pupils to engage in language learning. Topics studied in trilingual-education classrooms must be responsive to students' multicultural backgrounds. Knowledge of technology in the process of trilingual education can stimulate positive learning attitudes. Assignments must be followed by teacher feedback.

##### 4.2 Addressing Resource and Content Barriers

The first two problems that should be addressed are (a) the effect of resource and content barriers on ethnic minority teachers' development of technology, and (b) teachers' cross-cultural communication in trilingual class.

###### 4.2.1 An Effective Trilingual-Educator Community

With the development of information technology, ethnic minority educators ought to seek to develop professional ability in that area. Simultaneously, the curriculum content should be integrated with information-technology courses designed specifically for trilingual educators. TPACK is largely absent from ethnic minority areas, so the development of capability in educational technology is particularly important. The core of such training is a form of training among members of the trilingual-education community. TPACK theory should be used to ensure professional technology development. The training should include (a) the current state of applying technology in trilingual education and (b) the innovations in the modes of multicultural integration. The establishment of such a community features two purposes: to promote the use of technology in trilingual classrooms and to transform trilingual-teaching approaches with supplementation by TPACK.

In addition, the interdependence of various education elements should be considered in creating a trilingual-educator community, including information technology, pedagogical content knowledge, and discipline. Moreover, theoretical development and resource coexistence should be based on true trilingual-education content.

Ethnic minority educators should focus on practicality, which requires that the training offer real solution to real trilingual-teaching problems. The integration of technological, pedagogical, and content knowledge is rooted in real trilingual-classroom activities.

#### 4.2.2 The Principles of Community Creation

Resources generated from an appropriate trilingual-educator community could address a series of trilingual-education problems. Thus, creating the community should be guided by several principles, which might satisfy the goal of improving educators' communicative competence. The aim is not to concentrate on communication practice but rather to establish a relevant multicultural environment and some trilingual-instruction content.

Language education is rooted in culture. Ethnic minority educators should carry out their instruction spontaneously in an authentic language environment. Simultaneously, the combination of language, culture, and communication contributes to a positive learning attitude of minority pupils. The trilingual-community environment should be created with content that reflects the multicultural background of students. By applying PCK to community creation, there could appear transferring from minority culture, original culture into western culture.

Hampered by poor pronunciation, ethnic minority teachers encounter difficulties in teaching English. Trilingual educators cannot master real communication while using circumlocution, literal translation, and approximation.

In sum, trilingual educators should be familiar with trilingual tasks within Chinese and Western culture. Their teaching would benefit from TPACK. Appropriate content knowledge fosters making multicultural class presentations. In addition, multicultural teaching of content based on TCK should be presented from the origin of ethnological culture introduction in English.

#### 4.3 Suggestions for Improving TPACK

A trilingual-education community should be created in order to construct a program of information technology for ethnic minority educators. Teachers should optimize their TPACK abilities for a better contribution of information technology.

As a theoretical framework for teachers' development, TPACK is flexible. Being a catalyst for change, TPACK transforms the classroom from teacher-centered to teacher-led. And TPACK is the basis of creating a trilingual-education community. The community training for ethnic minority educators improves trilingual-teaching methods so that minority pupils can have more earning opportunities.

Trilingual-content teaching and design should be optimized. The reforms of the traditional teaching process can move pupils into the center of teaching activities, cultivating their skills and attention to the morality of their behavior. Following the guidance of pedagogical knowledge, curriculum design should be molded to take into account pupils' individual differences.

Classroom reflection contributes to TPACK improvement. Teachers must continuously teach students to reflect on their classroom performance.

### 5. Conclusion

Trilingual-education approaches would change substantially with the development of information technology, which contributes to the emergence of informatization. Trilingual-education behaviors can be supported by informatization while the effects of psychological, resource, and content barriers tend to hinder trilingual-class informatization. Hence, using information technology requires that trilingual educators employ TPACK.

In this paper I argue that TPACK effectively integrates multicultural realities and teaching approaches for trilingual education. Effective classroom tasks and feedback would overcome ethnic minority teachers' psychological barriers, and creation of a trilingual-educator community would meet the resource and content barriers. Educators' appropriate teaching plan should be conducted with pedagogical content knowledge. To carry out the teaching plan properly, TCK must be considered. Using TPK can address the multicultural presentation problems in trilingual classrooms. The combination of PCK, TCK, and TPK would locate in a trilingual educator community theoretically.

The solutions based on TPACK theory are theoretical and empirical. There is no language policy for the creation of an appropriate trilingual-educator community. Further research should address the practical problems involved in how to establish a trilingual-educator community for ethnic minority teachers' further education.

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