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THE ADAPTATION OF THE “WHAT IS HAPPENING IN THIS CLASS” (WIHIC) FOR USE IN CHINESE LANGUAGE CLASSROOMS IN SINGAPORE SECONDARY SCHOOLS

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Abstract: ‘What is Happening in This Class?’ (WIHIC) is a validated classroom environment instrument developed by Fraser, Fisher and McRobbie (1996) to assess the nature of classroom learning environments. It was translated into Chinese in a cross-national classroom learning environment study with Taiwanese samples (Huang & Fraser, 1997). The present study further modified the Taiwanese Chinese version for use in assessing the nature of Chinese Language classroom environments in Singapore secondary schools. The modification procedure consisted of five stages and the whole cycle was repeated from stage 2 until all the items were satisfactorily translated into Singaporean standard Chinese Language. The aim of this paper is to describe the procedures and report on the outcomes of the different cycles, which the WIHIC questionnaire underwent before the final modified form was adopted for the main study.

Background

Classroom learning environment research has spanned a number of decades with most of the studies using the approach of perceptual measures to investigate the nature of classroom environments (Fraser, 1986; Fraser, 1998; Fraser & Walberg, 1991; Haertel, Walberg & Haertel, 1981). Such studies used reliable and validated classroom environment instruments to measure teachers’ and students’ perceptions of classroom learning environments. A number of classroom environment studies involving perceptual measures had been conducted in Singapore in recent years. These studies developed or modified instruments tailored for investigating learning environments of different classroom contexts. For example, Wong and Fraser (1997) modified the Science Laboratory Environment Inventory (SLEI) for use in Chemistry laboratory classrooms in Singapore secondary schools while the “Geography Classroom Environment Inventory (GCEI)” (Teh & Fraser, 1994) was developed for use in geography classrooms in Singapore. However, no instrument has yet been used to investigate the nature of the Chinese Language classroom environments in Singapore. Thus forms the impetus to modify an existing learning environment instrument for investigating the nature of Chinese Language classroom learning environments in Singapore secondary schools. The instrument that was selected for modification was the Taiwanese Chinese version of ‘What is Happening In this Class? (WIHIC)’ learning environment instrument (Huang & Fraser, 1997).

‘What is Happening in This Class?’ (WIHIC) is a validated classroom environment instrument developed by Fraser, Fisher and McRobbie (1996) to assess the nature of classroom learning environments. It has been developed with the best features of the existing instruments as it includes the salient scales of those instruments. Besides, it allows the exclusion of irrelevant scale(s) to suit any classroom environment under

study without affecting the reliability and validity of the original instrument (Fraser, Fisher & McRobbie, 1996).

The WIHIC questionnaire has gone through several revisions. The latest version consisting of 56 items in 7 scales evolved from a cross-national study of Chionh and Fraser (1998). The seven scales were Student Cohesiveness, Teacher Support, Involvement, Investigation, Task orientation, Cooperation and Equity. Huang and Fraser (1997) translated this 56-item version of the WIHIC into Chinese for study with Taiwanese samples. However, because of differences in culture and language use, the Taiwanese Chinese version had to be modified before it could be used in the Singapore context. Therefore, the purpose of this study was to develop a variation to this Chinese version for use in the investigation of the Chinese Language classroom learning environments in Singapore secondary schools.

The aim of this paper is to describe the whole modification process, which the WIHIC questionnaire underwent before the final modified form was adopted for use in the main study.

The Modification Process

Table 1 (pg.7) shows the overview of the whole modification process and outcomes at the end of various stages. The modification process was rigorous, as 3 cycles of the 5-stage translation procedures had to be repeated before a satisfactorily translated instrument was produced. The whole process involved 7 different focus groups with a total of 29 participants (8 effectively bilingual Chinese Language teachers, 13 effectively bilingual educators and 8 English Language experts). The focus group technique used was the 4-step Nominal Group Technique (NGT) (Moore, 1987; Stewart & Shamdasani, 1990). The modification process of each cycle and the analysis of outcomes at the end of each cycle are described in detail in the following sections.

The First Cycle

The first cycle consisted of 5 main stages: (1) Customizing and drafting of items, (2) Focus group validation of the draft, (3) Back translation of the validated draft to English, (4) Appraisal of back translation with original English version, and (5) Redrafting the inappropriately phrased item(s). Detailed procedures and the analysis of outcomes of the first cycle had been presented in the Second International Conference on Science, Mathematics and Technology Education, 2000 (Chua, Wong & Chen, 2000).

After the first cycle, 38 out of 48 items of the WIHIC questionnaire were satisfactorily modified and 10 items were found to be inappropriately translated. Three causes for the unsatisfactory translations of the 10 items were identified. They were (a) over-interpretation when drafting the Chinese items, (b) over-emphasis on minor structural differences, and (c) over-emphasis on linguistic differences (Chua, Wong & Chen, 2000). Analysis showed that the mistakes could be avoided by providing detailed verbatim instructions to the focus group members at the various stages. Therefore, for the second cycle, detailed verbatim instructions were prepared and read to the focus group members before they carried out their assigned tasks at each stage of it.

The Second Cycle

The results of the first cycle indicated that ten items (items 1, 15, 16, 17, 20, 26, 28, 29, 36 and 38) were not satisfactorily translated into acceptable Singaporean Chinese. Therefore, these ten items went through the second cycle of the translation procedure from stage 2 to stage 4. The procedure was basically similar to the first cycle except that the number of focus group members involved was reduced from 5 members per group in the first cycle to 3 members per group in the second cycle. The main reason was that the pool of effectively bilingual Chinese Language teachers, educators as well as English Language experts who are also interested in research work is rather limited. In addition, members who had participated in focus groups in the first cycle could not be invited to participate in the focus groups at this stage because members of the earlier focus groups would have had previous experiences and involvement, which might cause them to make biased decisions during the discussions in the new cycle. Furthermore, new members would be more likely to generate new ideas.

Similar to the first cycle, the focus group technique used was the four-step Nominal Group Technique (NGT) suggested by Moore (1987) and Stewart and Shamdasani (1990). The four-step NGT were (a) silent generation of ideas in writing, (b) round robin recording of ideas, (c) serial discussion of the list of ideas, and (d) voting. The procedure of the four-step NGT was modified slightly and applied at each stage of the second cycle. The detailed procedure and analysis of outcomes at each stage (stage 2 to 4) are described below:

Stage 2: Focus group validation of the draft

After redrafting the Chinese items for the ten English items which were identified to have “translation discrepancies”, we noticed that the Chinese translations of items 1 and 20 obtained in the second cycle and the first cycle were similar. This implied that the translation problems of these two items made in the first cycle did not occur at this stage, but at a later stage. Therefore, only eight items were actually redrafted and validated at this stage.

A focus group of three secondary school Chinese Language teachers who are effectively bilingual were invited to validate the eight redrafted Chinese items. Instead of asking the members to validate the eight redrafted Chinese items against their original English items and come up with another set of translations, a list of the eight original items, with their Chinese translations drafted in both first and second cycles were provided. The focus group then selected which version, in their opinion, was the better Chinese translation of that particular item. The reason for this modification of the original planned procedure was to prevent the focus group from creating too many unnecessary variations of the Chinese translations for an item. We felt that the quality of the translation would not be improved with the creation of these variations and instead would lengthen the whole process unnecessarily. Detailed verbatim instructions were read to the focus group members before they validated the 8 re-drafted items.

Stage 3: Back translation of the validated draft to English

Stage 3 involved the translation of the ten Chinese items back to English by another focus group comprising three effectively bilingual educators who were not involved in previous stages.

The back translation procedure for this cycle was the same as for the first cycle. The four-step NGT were again applied at this stage to produce a finalized back-translated English version for the ten items which were then used in stage 4. In addition, detailed verbatim instructions were also read to the focus group members before they carried out the back translation task.

Stage 4: Appraisal of back translation version with customized English version

This stage was to appraise the ten back-translated English items by comparing each of them with its corresponding customized original English item. The purpose of this appraisal was to check whether the paired-items have the same meaning. This, in turn, checked the suitability, accuracy and effectiveness of the ten identified Chinese translation items which had been back translated into English. Three English language experts, forming another focus group, were invited to do the appraisal. The four-step NGT employed at this stage was similar to that used in the first cycle (pg. 3).

Similar to stage 3, in order to avoid making similar mistakes that were made in the first cycle, verbatim instructions were also read to the members to emphasize the method used to do the translation and the appropriate way to appraise each back translated item with the original customised item (i.e. ten paired-items).

Results of the second cycle

At the end of the second cycle, only one paired-item (item 38: “I work with other students in this Chinese Language class”) was rejected by the focus group. It was noted that the problem was due to the differences in the use of the Chinese and English Language. The redrafted Chinese item 38: “在这华文班上，我和其他同学一起做功课。” meaning “I do homework with my classmates in this Chinese Language classroom” was back-translated as “In this Chinese Language class, my classmates and I do homework together”. In English Language, the terms “homework” and “work” have different interpretations, as “work” may not necessarily be “homework”. However, in Chinese Language, the term “功课” can be translated using the phrase “homework”. Since one item was not translated satisfactorily, this called for the implementation of the third cycle.

The Third Cycle

In the third cycle, the modification procedure was simplified with the use of only one focus group comprising of 5 effectively bilingual educators. There were two reasons for simplifying the procedure. Firstly, as only one item (item 38) was inappropriately translated, it could be a waste of manpower to carry out the comprehensive 5-stage procedure, which involves the participation of 3 different focus groups. Secondly, the analysis of the results of the second cycle showed that item 38 might be rejected again if the same procedure as the second cycle was used because the problem lay in the different language usage as stated above. It was then decided to simplify the modification procedure by inviting only one focus group to decide on the final translation of item 38.

Focus Group discussion

At the focus group discussion, each member was given the original customised English Language version of item 38, its Taiwanese Chinese version, the two Singaporean Chinese translations drafted in first and second cycle and the two back translated English Language version. The results from the previous two cycles and outcome analysis were also explained in detail to the members.

After the discussion, a consensus was made to translate item 38 as“在这华文班上，我和其他同学共同参与各项学习活动。”。 It means “I work together with other students in every learning activity in this Chinese Language class.” Members felt that the phrase “learning activity” could be interpreted as “work” as well as “homework” so that the use of this phrase would solve the problem of different interpretations in both languages as stated above. In addition, members also back translated the redrafted Chinese version of item 38 to English. It was found that the back translated item meant the same as the original customised item, which reads “I work with other students in this Chinese Language class.”

Discussion and Conclusion

In summary, this paper described the whole modification process for developing a variation of the Taiwanese Chinese WIHIC questionnaire (Huang & Fraser, 1997) for use in Singapore Chinese Language classrooms. The significance of this modification process was the repeating of the 5-stage procedure until all the 48 items were satisfactorily translated. After the first cycle, 38 out of 48 items of the WIHIC questionnaire were satisfactorily translated into Singaporean Chinese language. Three causes for the unsatisfactorily translations of the remaining 10 items were identified (pg. 2). The identified 10 items went through the second cycle of the modification process. After the second cycle, all except one of the 48 items were satisfactorily translated into Chinese (i.e. item 38). The reason for the unsatisfactory translation of this particular item lay in the differences in language usage between the Chinese and English languages. In the third cycle, the modification procedure was simplified with the use of only one focus group rather than 3 focus groups as in the case for the first two cycles. At the end of the third cycle, the bilingual Chinese Language Classroom Environment Inventory (CLCEI) was ready for use to investigate the nature of Chinese Language classroom learning environments in Singapore secondary schools.

Four important findings surfaced from implementing the modification process used in the present study. (1) Some inappropriately translated items were not detected before comparing the meanings of the back-translated English item with its original customised English item (e.g. Item 38). That explained the advantage of using the back-translation method in the modification procedures to counter check the appropriateness of the translations. (2) Over-interpreting the original meaning of an item may lead to misinterpreting the actual meaning of the item and result in using a wrong Chinese phrase to translate the item. (3) Neglecting the differences in the usage of two languages may also lead to inappropriate translation of the items, and (4) detailed verbatim instructions are essential when applying the four-step Nominal Group Technique (NGT) to avoid any misunderstanding of what has to be done. When the focus group members are given clear background of their tasks and the detailed specifications of the assigned tasks, the application of NGT would be more efficient and effective.

For the main study which will follow, the bilingual version of the CLCEI would first be validated with a sample of approximately 1500 students from 50 Chinese Language classes in 25 secondary schools (2 classes per school). The comparisons of the perceptions of the Chinese Language classroom environments will also be made for students versus teachers, boys versus girls, actual versus preferred. The association between students' perceptions of classroom environment and their motivation to learning Chinese Language will also be investigated. It is hope that the findings from the main study will throw some light on how Chinese Language classrooms are perceived and how the environments may be improved to enhance teaching and learning of the language.

References

- Chionh, Y. H. & Fraser, B. J. (1998). Validation and use of the "What is Happening In This Class?" (WIHIC) questionnaire in Singapore. Paper presented at the annual meeting of the American Educational Research Association, San Diego, April, 1998.
- Chua, S.L., Wong, F.L. & Chen, D.T. (2000, January). The development of a variation to the Chinese "What Is Happening in This Class" (WIHIC) for use in cross-cultural studies. Paper presented at the Second International Conference on Science, Mathematics and Technology Education, Taipei, Taiwan.
- Fraser, B. J. (1986). *Classroom Environment*. London: Croom Helm.
- Fraser, B. J. (1998). Science learning environments: Assessment, effects and determinants. *International Handbook of Science Education*, 527-564.
- Fraser, B. J., Fisher, D. L., & McRobbie, C. J. (1996, April). Development, validation and use of personal and class forms of a new classroom environment instrument. Paper presented at the annual meeting of the American Educational Research Association, New York.
- Fraser, B. J. & Walberg, H. J. (1991). *Educational Environments: Evaluation, Antecedents and Consequences*. London: Pergamon.
- Haertel, G. D., Walberg, H. J. & Haertel, E. H. (1981). Social-psychological Environments and learning: a quantitative synthesis. *British Educational Research Journal*. 7(1), 27-36.
- Huang, I. T. C. & Fraser, B. J. (1997). The development of a questionnaire for assessing student perception of teaching environments in Taiwan and Australia. Paper presented at the annual meeting of the National Association for Research in Science Teaching, Chicago.
- Moore, C. M. (1987). *Group Techniques for Idea Building*. Newbury Park, CA: Sage.
- Stewart, D. W. & Shamdasani, P. N. (1990). *Focus Groups: Theory and Practice*. (3rd ed). Newbury Park, CA: Sage.
- Teh, G., & Fraser, B. J. (1994). An evaluation of computer-assisted learning in terms of achievement, attitudes and classroom environment. Paper presented at the annual meeting of the American Educational Research Association, San Francisco, California, April.
- Wong, F. L., & Fraser, B.J. (1997). Assessment of chemistry laboratory classroom environments. *Asia Pacific Journal of Education*, 17(2), 41-62.