Stimulating intercultural intellectual capabilities in intercultural communication: testing an innovative course design

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CHAPTER 6

SUMMARY AND DISCUSSION

"Tell me and I forget. Teach me and I remember. Involve me and I learn"
 -- Benjamin Franklin – American statesman, scientist, inventor

In this final chapter, we aim to provide the reader with a brief summary of the study in terms of its purpose, the design and methodology employed, and the overall results. We also address the strengths and added value of this study and areas where further improvements are possible and needed. Linked to the evaluation of work done, we provide some areas for future research. We conclude with some final remarks.

1.   SUMMARY

Our world is globalising and becoming more international by the day. Because of the increased need for peoples worldwide to communicate with each other across and beyond cultural boundaries; i.e. engage in intercultural communication (IC), we believe there is an important – and ever increasing – didactic role to play for course designers and curriculum builders at universities. Universities have the social obligation to prepare their students for the world that is out there waiting for them, the moment they graduate. That means, students will have to have acquired competences and capabilities to be equipped to act as competent intercultural communicators of the future. Referring back to the Indian proverb in the introductory chapter: they should have been taught *how* to fish.

1.1 Purpose of the study

This study was set out to design and implement a new course in Intercultural Communication that stimulated both intrapersonal and interpersonal growth in intercultural intellectual capabilities (IIC) among students. This course should fill a gap in the practice of teaching IC that is focused on stimulating both intercultural compe-

tences and intellectual capabilities. The course aimed to stimulate students to become true intercultural communicators, ready for the globalised and internationalised world that awaits them.

1.2 Design and methodology

To reach the overall aim of this study, a new model of experiential learning in Intercultural Communication, focused on growth of intercultural intellectual capabilities (IIC), was developed. This model was based on theories regarding intellectual development following experiential learning (Kholodnaya and Shavinina, 1996; Kholodnaya, 2002; Matsumoto et al., 2001; King and Baxter Magolda, 2005) which were combined with the view that intercultural communication benefits strongly from learning in a dialogue with others (Lustig and Koester, 1998; Frijters et al., 2008) and that focus should be on stimulating intercultural competences (Byram, 1997; Williams, 2005; Deardorff, 2006).

Combining these two views on developing intercultural competences, or intercultural intellectual capabilities as we called them, we derived four course design parameters (CDP) and three clusters of course design specifications (CDS). The designed course should include exercises and activities to stimulate critical cultural awareness (CDP 1), cultural stress tolerance (CDP 2), increase students' willingness to experiment with their cultural selves (CDP 3), and allow them to engage in interpersonal intercultural dialogues (CDP 4). The course was then designed in detail, employing different pedagogical design specifications (e.g. autonomous learning exercises, problem-solving and critical thinking exercises), content design specifications (e.g. information about the native culture, providing different views on cultures and providing culture-general and culture-specific information), and various teaching formats (e.g. simulations, snowball discussions, group work, video fragments). Based on these CDP and CDS the new course was designed; i.e. rooted systematically in the latest theoretical insights. This course design was tested.

We have also tested and validated measurement instruments to measure changes in students' levels of IIC and in critical thinking and self-reflection. From a large number of potential measurement instruments, we pre-selected the most viable ones (based on three objective criteria) and finally selected one measurement instrument for intra-IIC, one for inter-IIC, one for critical thinking, one for self-reflection, and one for intrinsic motivation. These measurement instruments were tested three times: once in April 2008 in a special session used to test the measurement instruments, a second time in September 2008 during the trial course, and a third time during the full course that we taught in March-April 2009.

Finally, having created a new model of experiential learning, having checked the validity of the course design and having selected and validated the measurement instruments, we taught the designed course and measured its effects (March-April 2009). For this full course run, we implemented a pre-test post-test design with swapping panels to measure changes in IIC and the complex cognitive processes critical thinking and self-reflection. Because of the double experimental design, the

effect of the course was measured twice and we were also able to test some of the post-course effects for the first experiment.

1.3 Results

In this study, we obtained three different clusters of results of which the third and final result were the most important. First, we validated the course design to be in line with the theoretical model in which it was rooted. Second, we validated the chosen measurement instruments to measure changes in IIC, critical thinking and self-reflection. Third, we confirmed – based on the validated course design and measured with validated measurement instruments – that the experimental course on IC taught in March-April 2009 in Tomsk did cause significant and positive growth of intrapersonal IIC, interpersonal IIC, critical thinking skills and self-reflection skills among the participating students.

Validation of course design
The intended course design was to be rooted systematically in the theoretical model. We used various measurements to ensure that the intended and perceived course design were indeed in line with the CDP and CDS that followed from the model of growth of intra- and interpersonal intellectual capabilities. Based on the theoretical model, the course needed to include activities that would enhance critical cultural awareness among students, stimulate their tolerance to cultural stress and encourage them to be open and willing to experiment with their cultural selves. The course also needed to stimulate development of interpersonal experiences through dialogue with others. In order to evaluate the validity of the course design, we first measured the perceived course design during the trial course experiment. Ten modifications were made to the course following these trial course measurements. In the full course, we evaluated the course with the students, especially the CDP and CDS. The teacher and observers took extensive notes to document student reactions, comments and progress. We presented the students with a Learner Report and a Learner Questionnaire as well as with a check on their levels of intrinsic motivation for the course, and detailed measurements for time-on-task.

The evaluation, matching intended and perceived CDP and CDS, showed that in general the course design was perceived as intended. Two modules were not matching designer expectations (i.e. their perceived effects were lower than their intended effects), while three modules performed slightly better in terms of breadth and depth of CDP and CDS coverage.

The Learner Report results showed that students mentioned critical cultural awareness, knowledge about other cultures and experimentation with the cultural self as increasing knowledge, while cultural stress tolerance, self-reflection and willingness to experiment with the cultural self were indicated as important skills that have improved. Especially the interactive lectures and process of self-reflection were considered positively during the course.

Our analysis of levels of intrinsic motivation showed strong positive effects of the course on student levels of motivation. This was encouraging for course validity,

because it implied that the course fulfilled its aim to get students more interested and thus involved in the course related to IC, which is a prerequisite for learning and being open to personal growth. Indirectly, these findings suggested that the quality of the course was perceived as high by the students.

Our findings with respect to time-on-task supported earlier evidence that course design was satisfactory. Students appeared to be on task 97 percent of the time (in both conditions) which showed their levels of commitment and the fact the course kept them working continuously. Also the findings on types of tasks and types of activities appeared to be in line with the intended use of CDS in the course design. We need to note, however, that the time-on-task measures were based on a sample and thus did not cover each class in detail for each group. They showed that at the aggregate level, implemented course design were in line with intended course design for the CDS. Furthermore, time-on-task for the CDP showed that most time was spent on activities and exercises stimulating critical cultural awareness (34 and 30 percent for the two conditions) and learning in an interpersonal dialogue (33 percent for both conditions), while slightly less time was spent on activities related to cultural stress tolerance (22 and 24 percent for the two conditions) and experimentation with the cultural self (11 and 13 percent for the two conditions).

Taken together, these measurements presented the picture that the course matched the course design parameters and course design specifications to a satisfactory degree.

Validity and reliability of measurement instruments
In total, 252 students from the Linguistics and Intercultural Communication study at TSU, participated during the three occasions (with in total six moments) where the measurement instruments were tested. We selected the ICAPS instrument (Matsumoto et al., 2001) to measure intra-IIC, the INCA instrument (INCA, 2007) to measure inter-IIC, the MSLQ-CT instrument (Pintrich et al., 1991) to measure critical thinking, the Self-reflection instrument to measure self-reflection and the IMI instrument (Ryan and Deci, 1992) to measure intrinsic motivation. All instruments were adapted to a larger or lesser extent as described in chapter 3 in order to increase validity and reliability as well as understanding of the items in each of the instruments.

During the full course, the validity and reliability of all instruments were measured three times. For the ICAPS instrument, validity as measured by the value of Cronbach alpha was .80, .90 and .89 for the three moments of testing. For INCA, the values of Cronbach alpha were .66, .96 and .82 for the three moments respectively. The MSLQ-CT instrument and Self-reflection instrument were also valid with values of Cronbach alpha of .82, .86 and .84 for MSLQ-CT and .81, .76 and .81 for self-reflection for the three moments of testing. Finally, internal validity of the IMI instrument was confirmed by Cronbach alpha values of .97, .91, .88 for the instrument as a whole. Though total instrument validity tests were satisfactory, for some of the factors within the instruments, especially for the INCA instrument, the results were not strong, prompting us to not look at the factors individually, but at the instruments at the aggregate level.

Pearson correlations between the five instruments showed that correlations were very low between all variables except between MSLQ-CT and Self-reflection (a correlation of .66). We believe this came in part because some items of the self-reflection scale were taken from the MSLQ instrument and because self-reflection in part overlapped with critical thinking as a concept and cognitive process; i.e. it can be argued that elements of self-reflection are in part also critical thinking. Even though the correlation between the two instruments was relatively high, there was still sufficient room for unexplained variance, allowing us to treat the two measures separately.

Results of the full IC course
A group of 98 students followed an introductory class and eight modules on IC. The group of students was split into two groups (conditions). Condition one started with the course while condition two did nothing. Then, after condition one finished, condition two took the course, while condition one did nothing. At three moments we tested the levels of IIC, critical thinking and self-reflection: at moment 1 (before the start of the course), at moment 2 (when condition one had just finished the course, but condition two still had to start), and at moment 3, when both conditions had followed the course.

Measuring at these three moments, we could infer some strong conclusions from the experiments that we ran. First, we found that the level of intra-IIC increased significantly for both experiments. Intra-IIC measures intrapersonal growth, including changes in values and personal beliefs tapping into personal development of tolerance of cultural stress, and willingness to experiment with the cultural self through cognitive, meta-cognitive and intentional experiences. For condition one the effect size of moment 1 to moment 3 was 1.25 (p-value of .001) while for condition two the effect size of moment 2 to moment 3 was 1.49 (p-value of .001). For inter-IIC, that measures the interpersonal dimensions of IIC, i.e. situational experience, critical cultural awareness and learning in a dialogue, also strong and significant positive effects of the course were measured. For experiment one, the effect size was 4.91 (p-value of .001) between moment 1 and moment 3, while for experiment two, the size effect was 5.02 (p-value of .001) between moments 2 and 3. These figures also showed that the increase in inter-IIC was much larger than the increase in intra-IIC. This could be explained by the fact that inter-IIC involved practical manifestations of learning from a dialogue with others that – when practiced regularly – could grow into a set of automated responses in intercultural situations, while intra-IIC involved fundamental changes in the complex intellect of a person, affecting personal values and beliefs at a fundamental cognitive level.

Turning to critical thinking and self-reflection, the two higher order complex cognitive processes that occurred at the dimension of intellectual capabilities in our model, we found that both increased significantly during the course, for both experiments. For experiment one, the effect size from moment 1 to moment 3 was 1.47 (p-value = .001), while for experiment two, the effect size from moment 2 to moment 3 was .78 (p-value = .001). For self-reflection we found similar significant

positive effects of our course on the learners (effect size for experiment one was 1.46 (p-value = .001) and for experiment two it was 1.25 (p-value = .001).

From the significant growth in intra-IIC, inter-IIC, critical thinking and self-reflection because of the experiences the students were confronted with during the course on IC, we concluded in nuce, as many psychologists would confirm, *experientia docet.*[50]

Finally, we checked for several interaction effects and found one interesting one: there appeared to be a significant interaction effect between intrinsic motivation and growth of intra-IIC; i.e. students with higher levels of intrinsic motivation also showed higher levels of growth of intra-IIC. The effect could be explained by the fact that students with higher levels of motivation were more open to the course and more willing to engage deeply in the exercises, simulations, snowball discussions and group work. This, in turn, stimulated their levels of cultural stress tolerance, critical cultural awareness and willingness to experiment with their cultural selves much more strongly than in those students that were not so motivated.

2.   EVALUATION OF THIS RESEARCH

This study has set itself the ambitious aim to develop and test a new course in IC, rooted in theory, aimed at significantly stimulating student levels of Intercultural Intellectual Capabilities (IIC). In this section, we do as we have asked the students to do during the course: we self-reflect on what have been the strong aspects of this research and where lie areas for improvement.

2.1 Strengths of this study

Some of the strengths of this research have been implicitly presented in the results section above, but nonetheless, we would like to put forward some strong aspects more explicitly.

First of all, the general aim and outcome of the research is that a new course has been designed that significantly affects student levels of IIC. This course has been tested for a match with the CDP, and its course design has been validated. Also, the effects of the new course have been measured using measurement instruments that have been carefully selected and checked for validity and reliability. This implies that the overall endeavour has been successful because the course – systematically rooted in our theoretical model – has been shown to work.

Another strength of this study is the research design with a pre-test post-test run with swapping panels. This has allowed us to run two (repeated) experiments in one design, whereby one experiment served as control group and the other one as the experimental group. This is a strong design for reason of generalisation. Moreover, having collected data – for 98 students in the full course run – three times, including for experiment 1 a month after the course was finished, shows the longer run effects

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[50] *Latin for "Experience teaches".*

and evades the critique that the research results are based on a one-shot data collection.

On the theoretical level, we have been able to develop a new model of experiential learning that combines some of the core competences of ICC from the ICC research with research on intellectual development. Our model encompasses previous models (King and Baxter Magolda, 2005; Matsumoto et al., 2001) and lays bare that stimulation of the intellect is subject to changes at the cognitive, meta-cognitive, intentional and intellectual levels; i.e. we open the black box of how intercultural (intra- and interpersonal) experiences interact with the complex mental structures and lead to growth in Intercultural Intellectual Capabilities to higher levels of intercultural maturity.

From our theoretical model, the course design parameters follow logically. Many components of ICC have been identified in the literature over the past decades – an endeavour still ongoing. However, only few of these components are also related to stimulating intellectual capabilities through cognitive, meta-cognitive, intentional and intellectual levels, opening up the black box of intrapersonal learning and intellectual growth. At the meta-cognitive level, cultural stress tolerance is stimulated through the motivation to control all information against an intercultural filter and by conscious choice to control cultural stress. Also critical cultural awareness is encouraged in this dimension because the learner strives to be open to new cultures and otherness. The dimension of intentional intercultural experiences can stimulate critical cultural awareness because of the creation of new views and preferences as well as new frames of mind inside the learner's mental structure. In the fourth dimension, intercultural intellectual capabilities, divergent capabilities combined with self-reflection lead a learner to experiment more with the cultural self, while divergent capabilities also include finding creative solutions to intercultural challenges, which facilitates tolerance for cultural stress. Interpersonal experiences, the fourth CDP, matter because they feed into the cognitive dimension of a learner, adding to intrapersonal experiences to stimulate the cognitive process of balancing personal views, beliefs and frames of mind when confronted with new (diverging) ones.

The newness and originality of the designed course lies not so much in having developed new materials and knowledge. Intercultural knowledge, in our view, is not the focus of the course, but rather a vehicle to set cognitive learning processes going that in turn stimulate critical cultural awareness, cultural stress tolerance and the willingness to experiment with the cultural self. Our focus was on the combination and sequence of activities and exercises that dig deeper into the individual minds as the course progresses with a large variety of carefully selected exercises and activities, makes this course stand apart. For each of the CDP, specific activities and exercises have been designed and implemented based on a creative variety of sources. For example, intercultural stress and levels of discomfort are carefully built up throughout the different modules and climax in the 'Building a Bridge – The Derdians' simulation game, forcing students to look into themselves and reflect on what happened and how that has influenced their views of the world, their frames of reference and their knowledge perception styles – all through a process of critical thinking and self-reflection.

Another strength is the multi-occasion and multi-pronged approach to validating the course design. First of all, the course design has been evaluated both in the trial course run and the full course run. Modifications have been made to the full course based on the outcomes of the trial course evaluation, with the purpose of better aligning the intended and implemented/perceived course designs. Furthermore, the course design validity – i.e. the degree to which course design matches the CDP – has been tested using various approaches. The student evaluations, teacher and observer notes, Learner reports, Learner questionnaires, measures for intrinsic motivation, and time-on-task measurements all point in the direction that the course is designed satisfactorily. When one measurement instrument shows that the course is well designed, all depends on the reliability of that one measurement instrument. However, when six measurements – that are collected independently from each other – all point in the same direction, the validity of the combined approaches is much stronger. Thus we can say with much more certainty that the course was designed in line with the CDP.

Finally, looking at the results from the measurement instruments that have measured the effect of the full course, we find that these learning results are strong and interesting: levels of IIC are affected positively and at very high levels of statistical significance, and so are the levels of critical thinking and self-reflection. Our analysis also shows how these variables are affected differently (e.g. intra-IIC grows, but at a slower rate than inter-IIC). These findings also provide information about the learning process – no longer a black box, but going through four dimensions of intellectual development – and the link between two important complex skills, critical thinking and self-reflection, and IIC. The interaction effect between intrinsic motivation and intra-IIC is interesting because it shows that students that have higher levels of motivation learn faster intrapersonally, most likely because they are more open and engaged in the various facets of the course.

2.2 Areas for improvement for this study

Even though we are satisfied with the results and the way we have achieved the research goal of this study, there are some aspects of this research that could benefit from further improvements and scrutiny.

First of all, methodologically, it might have been better to have also a fourth moment of measuring during the full course – a delayed post test for both experiments in order to measure the longer-term effects. In our research, we conducted the third test right after the end of the course for experiment two and about one month after the end of the course for experiment one. A fourth delayed post-test would provide further information about the longer term effects of the course on IIC.

Even though we were satisfied with the reliability of the measurement instruments, further efforts could be put into increasing the levels of validity and reliability of the instruments. Our detailed analysis in chapter 3 shows that even though for the measurement instruments on the aggregate reliability figures look fine, the factors that comprise the total instrument sometimes have very low levels of Cronbach

alpha. Especially the INCA measurement instrument shows somewhat low levels of internal validity on the level of subscales.

In this study, we have tested the measurement instruments on reliability and internal validity of the instruments by measuring Pearson correlations to ensure the instruments measure significantly different aspects, and to ensure the instrument is constructed validly. Further strengthening of our chosen instruments would come from conducting an external comparison of results with other instruments. The closer our findings are in comparison with other research employing comparable instruments, the stronger the external validity and the more our own findings are corroborated by other research.

Further research into both the concepts of critical thinking and self-reflection and their measurement instruments is needed. We found a rather high correlation between the two instruments. This may be due to two reasons. First of all, because part of the items were taken from the same instruments (MSLQ) though from a different factor than critical thinking, there may be an overlap between what is measured in the two instruments. Second, on a more conceptual level, further research into the exact relation between critical thinking and self-reflection matters. It matters, because if indeed self-reflection is part of critical thinking in some situations, the two concepts (partially) overlap – hence the high correlations found.

We have focused on the intellectual component of ICC, calling it IIC. Further studies must also validate this focus; i.e. to what degree does IIC relate to actual communicative behaviour in IC settings. Our findings will stand stronger if other research validates our choice.

3.   AREAS FOR FUTURE RESEARCH

Part of the suggestions for further research stem from our section on weaknesses but other elements are aspects that warrant further research in support of our first findings of this study.

First of all, for the purpose of generalisability, it would be good to run the entire experiment again, but with a different group of learners; different in the sense of different nationalities or different in the sense of non-university students or university students with different study backgrounds. ICAPS in Matsumoto et al. (2001), for example, started off as a measurement instrument focused on Japanese sojourners. Only later, has the instrument also been used by other authors to analyse effects in the US. Our testing population consisted of 252 university students at TSU in Russia of Russian (or Kazakh) nationalities.

Studying and incorporating more elements of additional theories of intellectual development (e.g. King & Baxter Magolda, 2005; Arasaratnam and Doerfel, 2005) and assessing which ones or which elements would also be able to capture intercultural development would be an interesting area for future research. We would be able to more strongly link the work on components of ICC to our theory of IIC, by deepening and broadening the element of intellectual development linked to ICC.

In general, the idea of intellectual development could be studied in more depth and also more research into different measurement instruments could be done. Measuring with different instruments, and still getting significant and positive results would then more strongly validate the model of IIC in light of Intercultural Communication. In more detail, increased attention could be paid to studying knowledge growth in more detail – a focus not chosen in this research. More effort has to go into studying each of the four dimensions of intellectual development separately as well as together. Right now, we have linked our four dimensions of IIC that learners have to grow through in order to mature to the three relevant components of ICC, critical cultural awareness, cultural stress tolerance and experimentation with the cultural self. When studying each dimension in more detail, we may find other factors, especially grounded in theories of intellectual development and not intercultural communicative competence, that matter in the growth process of IIC.

More specifically, research could go into which of the CDP did contribute relatively more or most to achieving the goal of stimulating the development of IIC. One could think of regression analyses to determine relative weights or magnitudes of effects from each of the four CDP, given a list of control variables. This approach would have to be tested, cleared of different methodological challenges like the problems of multicollinearity and omitted variables, and further verified.

Combining two of the suggestions for further research mentioned so far, one could study whether interactions between the dimensions of growth of IIC would be robust against changes in the testing population. Changes in the testing population would then not only relate to university vs. non-university students or to students of different study backgrounds, but also to highly intellectually developed persons versus far less developed individuals, or to very young versus very old learners.

We have worked with a large sample size of students from TSU in Tomsk, Russia. Future research could focus on repeating the course and testing for other student populations in other countries. Much like the work of Matsumoto, this broadening of testing samples to include different nationalities, would strengthen the results of our work. It would also highlight if there are any typical Tomsk-specific or Russia-specific elements in our current research.

Further research could also look into how we could adapt the content and course materials to further strengthen the message of IIC growth, instead of keeping the knowledge component of the materials largely unchanged as was done in this research. Our current course has used existing materials and combined them in an original way. It would be interesting and challenging – especially now that the focus on IIC seems to be a promising road for further research – to adapt content and course materials to focus more on the intrapersonal effect information has.

Another area that is interesting to explore further, is delving into the combination of stimulating IIC and value-loaded learning. Frijters, Ten Dam, and Rijlaarsdam (2008) have worked on this from the perspective of ICC and dialogic learning, but a link to IIC could also be further explored. Value-loaded learning could be an important factor in the intrapersonal process of growth of IIC, further enhancing the importance of interpersonal experiences and the engagement in a dialogue with others.

We did not find interaction effects of the levels of English, except for with critical thinking. However, the students repeatedly indicated that following the course in

Russian, their mother tongue, would facilitate their understanding more. The tests and course materials could be translated into Russian and the working language of the course could be changed into Russian to see what effects the language factor has on learning about IIC. One could imagine an experiment whereby two groups would follow an identical course design, with the one exception of language. One group would follow the entire course in Russian, the other group in English. Comparison of measurements and results of the course would give insightful information as to the role of language in stimulating intellectual capabilities. It would also provide insights into the effects on IIC growth when using English as a second language.

Finally, it would be interesting to change the proportion of activities in the course towards more intrapersonally-focused work, away from interpersonally focused activities in the course and see whether this shift in focus actually leads to stronger intra-IIC growth versus inter-ICC growth or not. This experiment would provide us with further information as to how differences in growth rates of the two angles towards IIC are related to different foci of activities in the course design.

4.   FINAL REMARKS

At the outset of this study, the question arose whether 'extra interactive efforts on behalf of the teacher to make the class more student-centred are worth the while for students beyond the knowledge they are supposed to obtain'. Having created a new course and tested it, we can conclude that *'Usus magister est optimus'*[51] and the answer to the question is 'Yes'.

This study has clarified matters and shown positive results regarding the effectiveness and usefulness of an approach based on experiential learning and intellectual development in teaching IC. However, we are convinced that more work on course validation and corroboration of these results is needed. Nonetheless, we hope to have provided a model and tested a course on how IC could be taught in the future. Moreover, if valid courses that stimulate IIC can be offered to large enough student groups at universities, the intercultural capability of society as a whole could grow, which holds a promise of better cooperation and mutual understanding in the future.

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[51] *Latin for: "Practice is the best teacher".*