

Emerging Technologies and the Potential and Challenges of Peer Learning of Chinese and English in Transnational Learning Spaces

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Chapter 1

Introduction

Background

The potential of emerging information and communication technologies (ICTs) for enhancing the quality of pedagogy and student learning is no longer contested. There is a great deal of evidence to show that the use of new technologies and social media can increase the level of student interest in learning, resulting in richer experiences and outcomes. ICTs can enable students to access information independently, acquire new research skills and work in teams, not only within their own classroom but potentially also across schools located around the world. In this way, technology can be a major driver for realizing the objectives of inquiry-based education. As for teachers, new technologies have the potential to help them access curriculum resources, experiment with new approaches to pedagogy, and develop transnational professional communities. For schools and systems of education, new technologies can be a major tool for benchmarking outcomes, building professional communities and internationalizing education.

Understandably, therefore, the International Baccalaureate Organization (IBO) has long advocated the use of technologies for teaching and learning across each of its four programs. It has stressed the importance of teaching about the shifting role of information technologies in a global society from the earliest years and across all stages of development. This commitment is demonstrated in the integration of digital technologies into its World Schools program. At the Diploma level, IB offers a subject, 'Information Technology in a Global Society', which 'uses an integrated approach, encouraging students to make informed judgments and decisions about the role of information technologies in contemporary society'. Another subject, 'Design Technology', aims to develop 'internationally-minded people whose enhanced understanding of design and the technological world can facilitate our shared guardianship of the planet and

create a better world'. In this way, IB recommends teaching about new technologies in ways that are both educational and ethical.

The IBO recognizes however that the potential of ICTs does not only reside in the possibilities of a broader range of curriculum options but also with respect to pedagogic improvements, as well as student assessment and program evaluation. For IBO, technology is also a major instrument for communicating across its vast spread of schools around the world, for sharing information and developing teacher networks. Technology is thus a major tool for building networks and enhancing pedagogic effectiveness. Given the major differences that exist across IB schools in their access and capacity to utilize new technologies, it should be noted that IBO does not prescribe a universal approach to their use, but insists instead on the need to strengthen student engagement with the application of new technologies in IB programs in ways that are specific to local conditions (Cooker, Crook, & Ainsworth, 2015, p. 7). In this way, IBO encourages innovation, with the expectation that the integration of ICTs in the processes of teaching and learning will invariably promote more effective student learning and outcomes, in line IBO's commitment to the goals of international mindedness and to the development of the key attributes of the Learner Profile.

This project is located within the context of this commitment. It seeks to explore the potential of emerging technologies in the teaching and learning of additional languages. It is based on the assumptions that the acquisition of additional languages enhances intercultural understanding and that a rich technology-mediated context of intercultural communication can greatly assist students both in learning an additional language and in acquiring cultural understanding. The more specific aims of the project are to determine the extent to which technology tools that include synchronous platforms such as Adobe Connect, Blackboard Elluminate and Zoom can be used to bring groups of students together in order for them to learn an additional language from their peers located in another country. It thus attempts to explore the possibilities and challenges of peer learning within a transnational learning space, the creation of which can now be readily facilitated by various synchronous platforms.

In order to explore these issues, this project involved a pedagogic experiment. It sought to create a transnational learning space in which three groups of students from China and Australia were brought together on the synchronous platform, Zoom, to simultaneously and reciprocally learn Chinese and English from each other. The sessions were held over a period of eight to ten weeks, and were facilitated by a bilingual researcher, whose notes formed the data upon which the discussion presented in this report is based. Students in China and Australia already had a rudimentary understanding of Chinese and English respectively, and the purpose of the project was to build on this understanding by developing, trialling and evaluating a pedagogy that involved simultaneous and reciprocal learning, within a rich technology-mediated context of intercultural communication. It needs to be stressed that the project was not intended to measure improvements in students' linguistic proficiency but was rather designed to determine the feasibility of such a pedagogy, as well as the challenges that arose in its execution.

A number of factors informed the choice of Chinese and English for this project. To begin with, two strands of previous research conducted by members of the research team came together in an effort to examine the use of synchronous technologies for the teaching and learning of languages. The first strand drew on the *International Project on Intercultural Teaching of Chinese* conducted between 2009 and 2012 by Lo Bianco, Hay, & Wang at the University of Melbourne which assembled materials for the teaching of Chinese that stemmed from intercultural drama and storytelling, in which language was situated in incidents and dilemmas requiring problem-solving through discussions. The second strand of research followed IB's *Transnational Digital Pedagogy Project*, which had provided a platform for students to take further control of their own learning in a peer-interactive mode. Insights from both of these research projects formed the basis for selecting the material that was used to encourage conversations among students from China and Australia. The assumption was that such conversations would greatly enhance their communication skills and cultural understanding in both English and Chinese.

This project also represented an attempt to address the challenges that have been widely associated with the teaching Chinese in Australia and English in China. In Australia, despite the growing availability of Chinese language courses (Lo Bianco, 2007; Tsung and Cruickshank, 2010), their appeal to non-Chinese background students remains limited.

The Australia-China Relations Institute based at the University of Technology, Sydney, has commissioned studies on Chinese language study. In a key report entitled 'Building Chinese Language Capacity in Australia' written by Dr Jane Orton focuses on gaps in Australia's Chinese language capacity and proposes various ways in which these can be bridged. The study points out that more than one million Chinese tourists travelled to Australia in 2015 alone, an encounter which added to the booming relationship in trade between the two countries and which stands in stark contrast to the nation's Chinese learning effort. The latter, at least as measured by Year 12 enrolments, is much more concentrated on other languages, with six times as many students enrolled in Japanese than Chinese, which counts a mere 4500 students at the pre-university Year 12 level. In this context the question of 'take up' of Chinese among non-Chinese background learners has become a considerable topic of debate in recent times (Orton, 2016a). It is certainly the case that longstanding policy targets to improve the 'Asia-literacy' of Australian students, often supported with considerable funding, have consistently been unmet, and there are low retention rates among Australian students who study Chinese in both school and university. This gap between policy target and policy outcome is described in Lo Bianco and Aliani (2013: p122) as a national need of "*pushing policy to be real*", a conclusion that applies not merely to enrolments but to the levels of attained proficiency from typical programs in schools. This is dramatically clear from the only wideranging review of proficiency attainments gained in schools as a result of the national investment in Asian language teaching (Scarino and Elder, 2012).

It is clear that learning outcomes leave a lot to be desired and that pushing for increased enrolments at a time when learning outcomes are so meagre might be a questionable priority. Much of the language policy and planning that has characterised Australian education in recent years has set unrealistic targets, and has often produced only superficial or shallow programs of language study. For both of these reasons these programs are vulnerable to closure as funding fades

or priorities shift. This has been the history in effect because systems are “tempted by targets” but should be “tempered by results” (Lo Bianco, 2012)

For many years in Chinese education English has had an established place, but there remains ever growing awareness of the importance of English communicative skills, alongside dissatisfaction with the quality of instruction in schools and private language centres. A number of commercial ventures have been established through online platforms in order to provide opportunities for Chinese students to talk with English speakers, but these initiatives are uneven in quality and often very expensive.

To grapple with some of these endemic challenges of language learning in both China and Australia, there is clearly a need for experimentation with new pedagogies. While such experimentation can come in many different forms, new technologies hold considerable potential for the teaching of additional languages, as explained above. New synchronous technology and social media in particular have the potential for creating 'transnational spaces of learning' (Rizvi 2014) that enable students in different parts of the world to communicate in real time, and learn from each other. A number of existing programs for language teaching and learning have sought to harness this potential, such as the icEurope program and the Australia-Korea ConneXion program. This project builds on these programs, but, importantly, seeks to examine the challenges that such pedagogic initiatives face, and explore how these might be addressed.

Aims and Methods

This project thus explores the potential uses of synchronous technologies for teaching and learning Chinese and English in settings that encourage peer learning. More specifically, it seeks to develop, trial and assess an experiment involving the creation of a ‘virtual learning space’ across schools in Australia and China. In this space, students with Australian and Chinese language and culture backgrounds are encouraged to assist each other in developing their linguistic capabilities and intercultural competence. Through this experiment, the project investigates the potential and challenges of such a pedagogic approach, with the

objective of delivering a set of recommendations for the professional development of teachers at both IB and other schools. These recommendations are aimed primarily at language teachers, but are also potentially applicable to other teachers interested in exploring the possibilities of synchronous technologies in creating transnational learning spaces, and are helpful in working towards IB's goals of intercultural understanding and international mindedness.

In order to achieve these aims, this project utilized a range of strategies, which together might be said to constitute a 'mixed method' approach to research (Spencer Foundation 2016). This approach began with a survey of teachers in Australia and China. This was followed by an overview of a range of initiatives designed to create transnational learning spaces, together with a critical review of the key concepts relevant to the experiment, such as peer learning and transnationalism. These research initiatives were designed to inform the major part of this project: a pedagogic experiment that used a synchronous technology platform, Zoom, in order to develop and trial a program for learning Chinese and English within a transnational learning space. In this way, the experiment may be regarded as a case of intervention research in education. The experiment was closely monitored, using methods of participant observation, in order to identify the potential and challenges of such an approach to language pedagogy.

As a multi-dimensional and multi-layered project, the research team thus:

- conducted a survey of teachers of English and Chinese in Australia and China to determine their perspectives on the potential uses of new technologies in thinking about and developing their pedagogy;
- critically assessed a number of widely known projects that are experimenting with emerging technologies to create transnational learning spaces and student and teacher networks, with a particular focus on teachers of additional languages;
- used a range of insights from an earlier project '*Intercultural Approaches to Teaching Chinese: A Basis for Pedagogical Innovation*' (Lo Bianco & Hay, 2010-12), prepared a critical review of the literature concerning concepts relevant to the experiment, and developed a 15 weeks program of synchronous technology-based peer learning of Chinese and English;
- trialed an experiment with three combined cohorts of Australian and Chinese students of various ages, 'meeting' weekly in 'virtual' sessions,

attended and supported by a bilingual facilitator with expertise in teaching both English and Chinese, and;

- monitored the sessions against criteria of technical viability, level of student interest and engagement and their growing confidence in intercultural communication and intercultural understanding, and;
- through interviews with students and their teachers, assessed the potential of technology-driven 'transnational learning spaces' for the teaching of additional languages and enhancing international mindedness.

Structure of the Report

This report documents the research undertaken, including the findings of a teacher survey, assessment of a wide range of projects aimed at developing transnational learning spaces, and also includes a description and evaluation of a pedagogic intervention. Together these are designed to provide a picture of the potential and challenges of the use of synchronous technologies in language learning across national borders. The report addresses the questions of:

- *how do teachers perceive and utilise new technologies?*
- *how can new technologies be used to create a transnational learning space helpful in the peer learning of a second language?*
- *how can new technologies encourage teachers to experiment with the learning of additional languages?*

Chapter 2 focuses on the survey of teachers, providing an overview of the methodology, some of its key findings, and implications for the planned experiment. Chapter 3 explores the potential of synchronous technologies for the learning of English and Chinese by providing an overview of a number of well-known cognate programs. It outlines the context and objectives of each project, including an assessment of their achievements and limitations. Chapter 4 focuses on the key concepts and principles underlying the experiment, together with a description of the ways in which schools and students were recruited, the three groups established, the synchronous technology platform selected, and the sessions conducted. Chapter 5 presents some of the key findings from the experiment, discusses the challenges faced in establishing the experiment, but nonetheless outlines the pedagogic potential of peer learning in transnational spaces for learning additional languages, specifying some of the key conditions under which such a pedagogic approach might prove helpful.

Chapter 2

Teacher Perspectives

Introduction

As has already been noted, the idea that emerging ICTs have considerable potential in transforming curriculum and pedagogy for the better is now widely acknowledged around the world. The Internet has enabled students to access a range of educational materials and has empowered teachers to consider new pedagogic approaches. Some teachers have embraced these new opportunities and have benefitted greatly from the potential of global professional networks that they have been able to forge. However, it is clear that the interest that teachers have in deploying the new technologies in pursuing pedagogic reforms varies greatly. The questions of how additional language teachers interpret the potential of the new technologies and how they use them are fundamental to this project, as indeed are the questions of what motivates them to experiment with pedagogic reform, and how they imagine the possibilities of transnational networks in learning languages.

This chapter presents the findings of a survey of language teachers in China and Australia, garnering their views about teaching English in China and Chinese in Australia, and the potential of new technologies in the teaching of additional languages, and helping their students to cooperate across national borders. The survey investigated the uses the additional language teachers in China and Australia make of emerging technologies; their attitudes towards the potential of their technologies in their teaching; their levels of technology proficiency, and the extent to which they experiment with technology to pursue pedagogic reform; and what they consider to be the enabling and inhibiting factors affecting the integration of technology in language teaching.

The survey was conducted on the SurveyMonkey platform between 1 February 2016 and 15 March 2016, with a sample size of 488 English and Chinese language teachers, mostly employed in Australia and China. It contained 35 items, evenly

divided between multiple choice and Likert-type attitudinal items. To analyse the data, Pearson Coefficient Correlation Test was carried out, in order to determine if there were any correlations between two or more variables and understand how the variables related to each other. For example, using teachers' teaching experience as an independent variable, it was possible to cross-reference and correlate dependant variables, such as teachers' attitudes towards the integration of technology in language teaching or teachers' perceived proficiency in the use of technology or the extent to which they felt confident about experimenting with new technologies in their teaching. Teachers were also given an opportunity to provide additional information through two open-ended items, one of which related to the potential of transnational learning space for enhancing the quality of additional language instruction.

Two hundred and twenty-nine (229) of the survey participants were employed as teachers in China, 156 in Australia, and the rest elsewhere. Less than half of the respondents (n=186) taught at an IB school. This allowed teachers' IB background or experience to be treated as an independent variable, in order to determine if there was any significance differences between IB and non-IB teachers with respect to how they perceived the usefulness of technology for additional language teaching, their proficiency in its use, the potential of transnational professional networks, and so on.

IB, as it has been noted, has a strong commitment to the use of technology, as well as a strong belief in teachers' capacity to adapt to new technologies. For example, in a document, *'Integration of Technology in the International Baccalaureate Diploma Programme'*, IB suggests that all of its programs encourage the use of ICT within the context of its commitment to inquiry-based collaborative learning, achievable through activities such as digital construction, gaming and so on. The IB also insists that teacher professional community building can be achieved through various features of collaboration that new technologies now permit. To develop an understanding of how new technologies can be integrated in their teaching as well as professional learning, IB provides wide-ranging programs of professional development to teachers in its schools. The key question underlying the survey then was to determine the extent to which IB teachers of

second/additional languages have become confident users of emerging technology; and are able to integrate it in their teaching and imagine and enact its considerable potential for pedagogic reform.

Findings in Numbers

The survey showed that technology in language teaching was used to some extent by almost every teacher in the survey, but newer technologies, such as interactive whiteboard, mobile phone, tablet/notebook, were used by a noticeably lower number of language teachers in both Australian and Chinese schools (see Figure 1). 47% of the teachers in the survey used interactive whiteboards, 39% of teachers used mobile phones, while 35% used tablets/notebooks in additional language teaching. Most teachers however used older technologies in language teaching, such as desktop computers (46%), laptop computers (69%) and data projectors (42%). This suggests that most teachers were savvy with older technologies but did not regard themselves as proficient with respect to more advanced emerging technologies, and made little attempt to learn them.

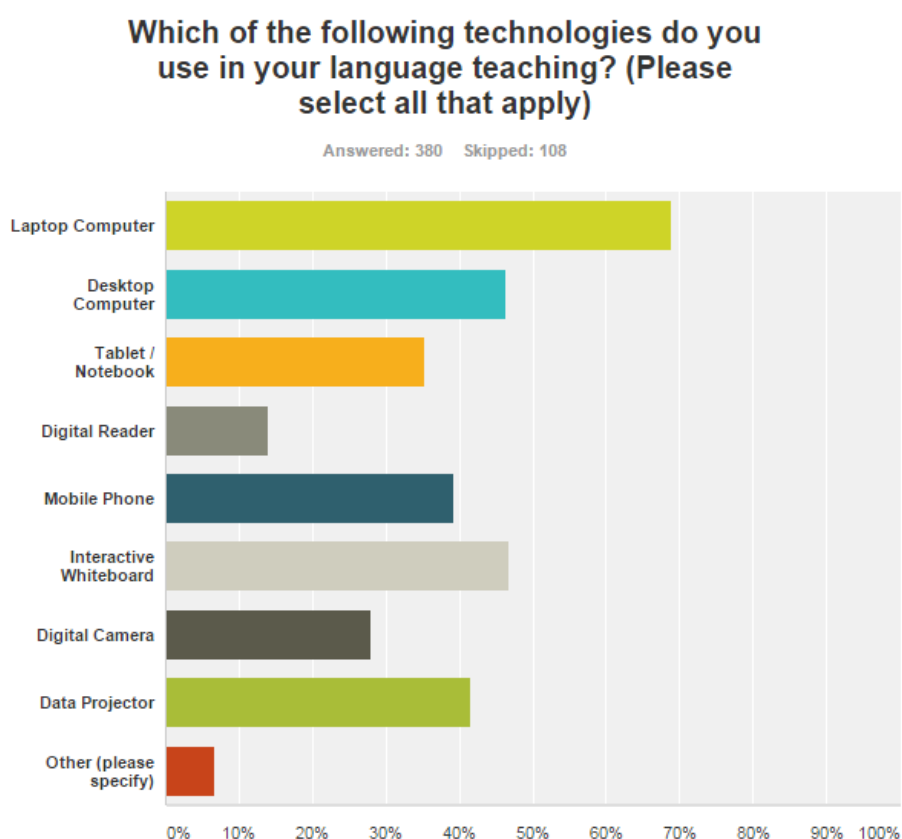


Figure 1: Teachers' use of technologies in language teaching

Although most teachers had access to the Internet at their schools, many still relied on basic technologies, such as desktop computers and data projectors, which do not require the use of the Internet. Newer technologies such as mobile phone and tablets/notebooks had relatively low uptake among additional language teachers. Their greater reliance on older technologies were due to a range of factors, including attitudes regarding the role of technology in language teaching, technology skills, the culture of the school, and the extent to which the schools provided Internet availability in the classroom and encouraged its use for teaching purposes. In other words, school policies made a significant difference.

Over 93% of the additional language teachers in the survey found technology to be either useful or very useful in language teaching, and none of the teachers totally denied its usefulness. The teachers thus had overwhelmingly positive attitudes towards technology and its integration in language teaching. However, they acknowledged that its potential was not fully realised in their teaching. The integration of technology in their teaching was considered by a large number of teachers to be a tool for supporting and facilitating better time management and organisation. 42% of teachers cited efficiency/time management as the biggest advantage of using technology in language teaching. 36% of the teachers surveyed ranked organisational practices such as student assessment as the second major advantage of using technology in language teaching. Only one third of the teachers regarded the use of technology in language teaching itself as its major advantage, even as some viewed providing students an opportunity to develop their technical-literacy as one of its major benefits.

Notably, 85% of teacher responses to the survey indicated that their students also had positive attitudes towards the use of technology for language teaching and learning. Some even admitted that their students had greater familiarity with the emerging technologies than they did. Few teachers however took advantage of this fact. by structuring their pedagogy in ways that utilised the knowledge and skills that many of their students brought to classrooms. Few teachers encouraged, or were permitted to encourage by their school, independent learning networks among the students. In some schools such networks were discouraged.

Figure 2 indicates that most teachers were familiar with and were active users of social media. Nearly 70% of teachers had used YouTube/Youku/Tudou or WeChat/WeChat/WhatsApp in their personal lives, nearly 39% of teachers used Facebook/Renren regularly, and 36% of teachers used Weibo/Twitter in their personal communication. Teachers were also aware of synchronous face-to-face platforms that are used for meetings and conferences conducted across distances. 35% of the teachers used Skype in their personal lives, but seldom did so in professional contexts. The use of synchronous communication tools was considerably higher among Australian teachers.

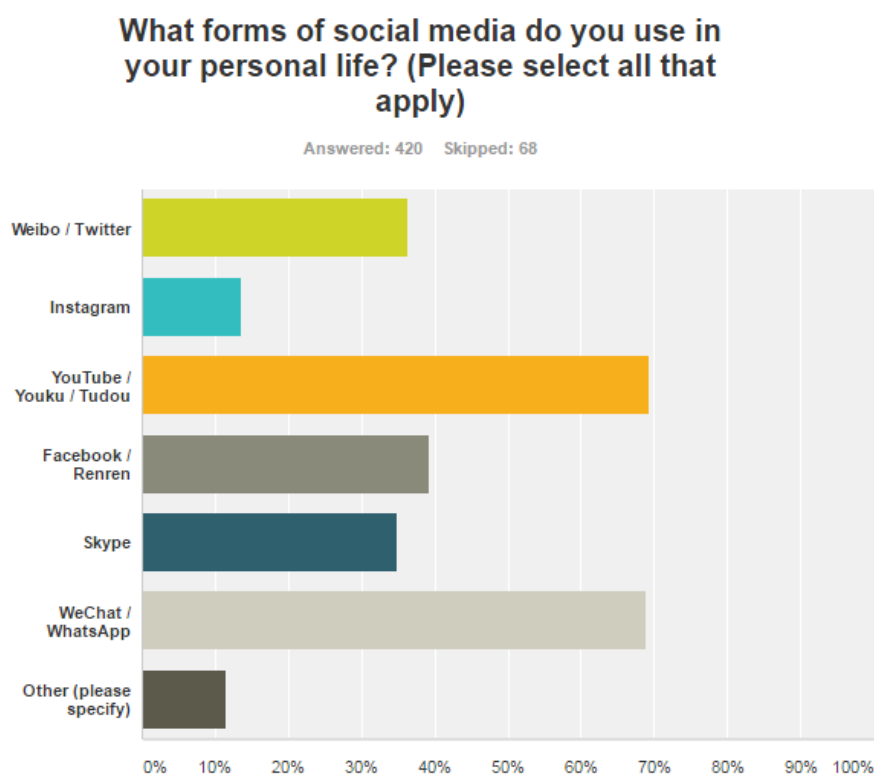


Figure 2: Teachers' use of social media in personal life

93% of the teachers had regular Internet access at their schools, and used it in language teaching – not for communicative purposes but often to show short clips in which native Chinese or English was spoken. The teachers who used synchronous tools of social media, such as Skype, in their personal lives, used it in language teaching with considerably less regularity (see Figure 3). Only 14% of teachers used Facebook/Renren, 23% used Weibo/Twitter in teaching, and 16% used Skype in teaching. This is not to say that teachers hadn't taken to social media, as the majority of the teachers (78%) had used the website

YouTube/Youku/Tudou in classroom teaching, but in ways that were mostly passive, and not interactive. The most widely used Internet tools included: the laptop ($r=0.99$, $p<0.05$), tablet ($r=0.96$, $p<0.05$), mobile phone ($r=0.97$, $p<0.05$), Interactive White Board ($r=0.99$, $p<0.05$) and data projector ($r=0.99$, $p<0.05$).

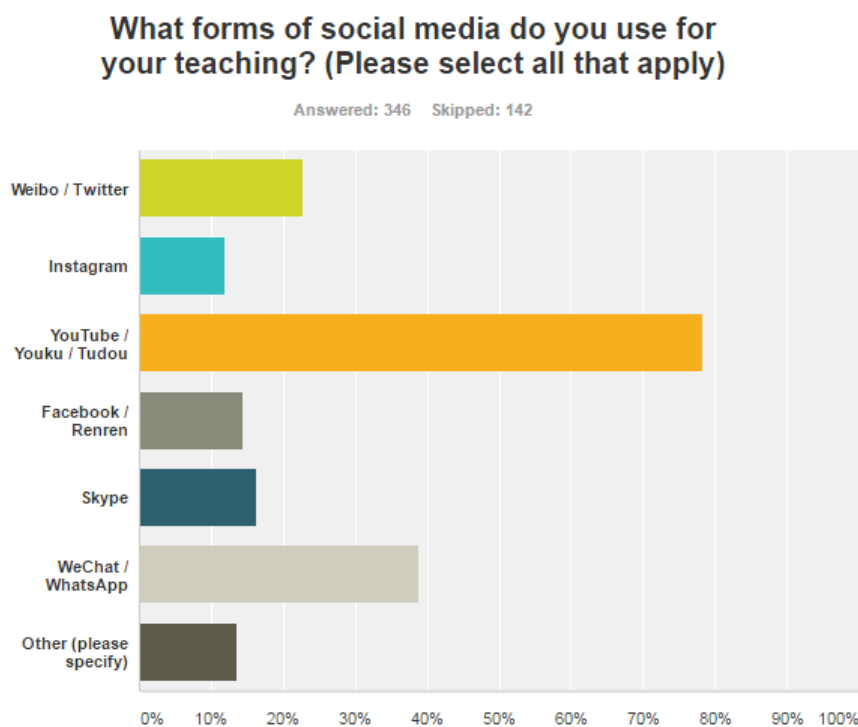


Figure 3: Teachers' use of social media in teaching

What this suggests is that the majority of the teachers were more comfortable with using tools of social media that allowed them control over communicative practices than they were with social media tools that opened up the more creative student-initiated possibilities. Of course, it is possible that the teachers' use of social media in teaching could have been affected by school privacy policies and codes of ethics pertaining to the use of online public platforms of social media. Few teachers however highlighted this barrier, but did underline the need for further training and support by the school, and especially relevant professional development that enable them to consider ways of integrating the tools of synchronous social media into their classroom teaching.

Fewer than 50% of the teachers surveyed considered that they were somewhat proficient or had average proficiency in the use of technology for language

teaching. Many viewed themselves also as comfortable in being able to apply it appropriately in language teaching, if opportunities arise, and having greater proficiency than their students. However, the survey indicated that over 50% were not well conversant with new technological tools, resources, and approaches, and needed constant help, especially with technical issues, and regularly had to call upon their students for assistance. These teachers could not even imagine the idea of using synchronous tools.

Teacher perception of the usefulness of technology also correlated with their perceived proficiency in the use of technology for language teaching ($r=0.96$, $p<0.05$). This means that teachers who acknowledged the many benefits of technology for language teaching also considered that they were proficient in the use of technology for language teaching (see Figure 7).

	TECH USEFULNESS	PROFICIENCY
Very useful	167	114
Useful	180	85
Neutral - no difference	21	6
Not very useful	4	2
Not useful at all	0	0
	<i>USEFULNESS</i>	<i>PROFICIENCY</i>
TECH USEFULNESS		1
PROFICIENCY	0.9699216	1

Figure 4: Correlation between teachers' perceived usefulness of technology and teachers' perceived proficiency in technology

The survey also revealed that there was a significant positive correlation between teachers' age and their perceived proficiency in the use of technology for language teaching ($r=0.99$, $p<0.05$) (see Figure 5). However, perhaps surprisingly, analysis of age-related differences suggested that older teachers were more likely than younger teachers to believe that they were proficient in the use of technology for language teaching, especially in China.

	AGE	PROFICIENCY
18 - 30	108	55
31 - 40	167	83
41 - 50	80	34
51 - 60	51	30
60+	13	5
	AGE	PROFICIENCY
AGE		1
PROFICIENCY	0.991437595	1

Figure 5: Correlation between teachers' age and perceived proficiency in technology

A correlation was also found between teachers' years of experience and their perceived proficiency in the use of technology for language teaching ($r=0.98$, $p<0.05$) (see Figure 6). The teachers with 4 to 20 years of experience expressed a greater degree of confidence than newer and older teachers (Figure 6). Of course, this does not imply that younger teachers are more infrequent users of technology, but rather that mid-career teachers were more confident in thinking about ways of applying technology to language learning.

	TEACHING EXPERIENCE	PROFICIENCY
1 - 3 years	67	32
4 - 10 years	128	69
11 - 20 years	154	73
More than 20 years	72	33
	TEACHING EXPERIENCE	PROFICIENCY
TEACHING EXPERIENCE		1
PROFICIENCY	0.983723437	1

Figure 6: Correlation between teaching experience and teachers' perceived proficiency in technology

There was also a significant correlation between the those who considered they had received an adequate level of professional development and the teachers' proficiency in the use of technology for language teaching ($r=0.96$, $p<0.05$). Over 60% of teachers reported having had an adequate level of training to prepare them to use technology effectively in language teaching, and teachers who claimed to have received sufficient professional development, considered that they were more proficient in the use of technology for language teaching (see

Teachers' perceptions of the usefulness of technology for language teaching also positively correlated with their students' attitudes towards the uses of technology ($r=0.99$, $p<0.05$). The teachers whose students possess a computer and use it regularly at home felt it essential for them to keep up with the students, using Internet both to motivate their students and in their language teaching. These teachers felt conscious of 'staying ahead' of their students. This clearly suggests that the greater use of emerging technologies in language teaching correlated with the socio-economic background of the schools and students, consistent with the more generalised findings about 'digital divide' (Snyder, 2017).

Contrasts across teachers at IB and non-IB schools

The survey also sought to determine whether there were any major differences between the ways that language at IB and non-IB schools approached issues of technology, both attitudinally and with respect their use in language teaching. No significant differences were found, and their attitudes and pattern of technology use were broadly similar. Teachers at both IB and non-IB schools considered that technology to be useful for language teaching.

	Very useful	Useful	Neutral	Not very useful	Not useful at all	Total
IB teachers	81	87	14	1	0	183
Non-IB teachers	84	90	7	3	0	184

Figure 8: Teachers' perceived usefulness of technology for language teaching

Similarly, both IB teachers and non-IB teachers had students with positive attitudes towards the use of technology for language teaching (see Figure 9), and considered that they were proficient in the use of technology for language teaching (see Figure 10).

	Highly proficient	Somewhat proficient	Average proficiency	Low proficiency	Very low proficiency	Total
IB teachers	31	75	57	11	0	174
Non-IB teachers	33	66	57	13	4	173

Figure 9: Students' attitudes towards the use of technology for language teaching

	Very positive	Somewhat positive	Indifferent	Somewhat negative	Very negative	Total
IB teachers	71	79	16	5	0	171
Non-IB teachers	76	65	23	6	0	170

Figure 10: Teachers' perceived proficiency in the use of technology for language teaching

There were however some minor differences in the technology infrastructure that were available at IB and non-IB schools. Responses to survey question that related to Internet accessibility and usage revealed that IB teachers, in comparison with non-IB school teachers, had regular Internet access in their schools (see Figure 11). This affected the teachers' use of Internet for language teaching, as a greater proportion of IB teachers, in comparison with non-IB school teachers, used Internet for language teaching (see Figure 12).

	Regular Internet accessibility	Irregular Internet accessibility	Total
IB teachers	179	5	184
Non-IB teachers	169	20	189

Figure 11: Internet accessibility at the schools

	Use of Internet	No use of Internet	Total
IB teachers	175	8	183
Non-IB teachers	163	24	187

Figure 12: Teachers' use of Internet for language teaching

What these numbers reveal is that IB schools cannot claim to be ahead of the game in the use of technology for language teaching, as popular perceptions might suggest. It is clear that the IB programs do not accord greater importance of ICT's integration into their pedagogy than other schools. Both groups of teachers valued the potential of digital technologies in learning an additional language and acknowledged the possibility of collaborative language learning though web-based

technologies. However, time constraints, limitations in using Internet, unequal opportunities and rewards for language learning, and inadequate professional development of teachers at non-IB schools appeared to be greater.

Much of this became evident in the open-ended survey items which had encouraged teachers to make comments in their own words on the extent to which emerging technology tools were or could be useful to them in the teaching of English and Chinese. Beyond this, teachers were asked to comment on issues of peer learning in transnational spaces for learning. Additionally, the survey described in what general terms the pedagogic experiment that was planned (see chapter 4) and asked them to comment on its feasibility and potential. The comments that follow include some of the responses.

In teachers' own words...

With respect to the experiment designed to create a shared transnational space in which peer learning of Chinese and English could become possible, issues of time difference and other scheduling problems were mentioned as a major obstacle. It was pointed out that, since teachers and learners were located in different places and in different time zones, a substantial part of the teaching and learning could not be possible because of scheduling difficulties, especially if the sessions are held at schools. The teachers mentioned that this could affect their and their students' timely participation in synchronous learning, as indicated in the following responses:

*The time difference between China and Australia will also make it difficult to find a mutually convenient time for this project. **Chinese language teacher in Australia***

*The time difference between Australia and China in terms of school holidays, terms, timetables and classes will be challenging. **Chinese language teacher in Australia***

The disparity in connectivity and Internet access was a key concern for many teachers, especially in China. English language teachers in China believed that restricted access and firewalls to Internet could hinder the potential use of synchronous communicative technologies for additional language learning, as suggested in the following responses:

*The internet in China is highly unreliable and access to basic websites is restricted. The internet can also be extremely slow. **English language teacher in China***

*Every conference on digital technologies in language learning I have ever been to has never been able to get the technology to work in the demonstration and that has been with experts running the session. Firewalls aimed to protect schools from spam and inappropriate internet causes issues massive issues with internet learning. **Inner-city teacher in China***

Although most of the teachers claimed that their schools conducted regular professional development programmes for them, issues regarding the effectiveness of such professional development programmes were also raised in survey responses, especially by teachers in non-IB schools. The following responses were representative of the teachers' view:

*First and the most important thing is that we should train the teachers first to get them ready for using technology. **Non-IB school teacher in China***

*The problem I think most teachers face when considering new digital technologies is that no-one facilitates professional learning to overcome their initial fears. **Non-IB school teacher in China***

The Chinese language teachers noted differences in the language learning practices across different languages and academic traditions, making difficult online collaboration and communication between Chinese and Australian students. They indicated that these differences could affect their students' language learning in a negative way, causing confusion and uncertainty. This is evident from the following survey responses:

*The biggest difficulty I foresee does not relate to technology. The problem is that the Chinese students' level of English (in Australia) is usually much higher than our students' level of Chinese. As the Chinese students are often very motivated to practise and the Australian students typically lack confidence, it frequently happens that most of the communication happens in English. **Chinese language teacher in Australia***

*Great idea, but my concern is that students will tend to speak English as their language development is much higher in China than students in Australia. This is due to the fact that in China they study the foreign language everyday have done since probably year 1. **Chinese language teacher in Australia***

Similarly, teachers at Australian schools in particular reported that they could not guarantee that their students would sustain attention in Chinese, especially if they

encounter difficulties. In any case, they felt it was not clear what would be the content of the on-line sessions, and how it would relate to the formal curriculum.

*What would the students be focusing on? Who would be receiving the instruction? How are you going to guarantee that this will result in a mutual mastery of a secondary language? Based on the dynamics, I can easily see some students dominating the instruction to achieve their English goals while others put in little effort to master a second language. **IB school teacher in Australia***

*I think it will be challenging to initiate and sustain communication between the peers, especially over a long period that is needed. The Chinese students will likely be passive, which would place a burden on the Australian student. **IB school teacher in Australia***

Teachers, especially at the IB schools, perceived the necessity to relate students' participation in sessions that use digital technologies for learning of an additional language to the requirements of formal assessment. They argued that at their school students are largely driven by a culture of examination, and unless the use of digital technologies and peer learning becomes part of formal assessment, their students were unlikely to recognise that they would benefit from participating seriously and effectively in sessions that for them represent additional work, no matter how innovative, exciting and challenging these might be. This is apparent in the following responses:

*Students rarely do something difficult like this for no specific reward in terms of grading or classwork. This must be a part of class work and assessed if it is to succeed outside of students who would do very well anyway. **IB school teacher in Australia***

*This seems like a wonderful project. Whether or not the Chinese students will take it seriously in an academic way, is debatable. If it is not directly related to their grades and achievements for yearly assessment, I doubt that they will participate in a meaningful way. **IB school teacher in Australia***

Summary of findings

The data collected from the survey suggested a number of generalizations, some expected and others not. The most unexpected finding was that the proficiency claimed by teachers in the use of technology for language teaching correlated significantly to their age and years of teaching experience. By and large, mid-career teachers with greater level of professional experience had greater with

technologies, and felt more confident in using them. Older teachers, and perhaps surprisingly younger teachers, were less confident with the pedagogic use of emerging technologies. The mid-career teachers were also more prepared to experiment with these technologies to drive pedagogic reform in additional language teaching. Secondary school teachers were more prepared to use technologies for language teaching than those who teach in primary and middle years programs.

While early-career teachers were more likely to use Internet and social media in their personal lives, they were less comfortable using them as tools of pedagogic experimentation and innovation. Professional development to encourage teachers to use new technologies was at best uneven, with teachers from urban and suburban schools believing that they receive an adequate amount of professional development to support their technology proficiency. Those who teach at IB schools also commented positively on the amount of training they received to negotiate the technical aspects of technology. However, many teachers felt that this training did not sufficiently address issues of curriculum and pedagogic reform in the teaching of additional languages.

What also became clear from the survey was that the uses of technology did not radically change the ways in which language pedagogy is organized at both IB and non-IB schools. In other words, the traditional ways of teaching languages were transferred to a new medium. The new medium itself supplemented the traditional methods and did not transform them. Despite the emergence of new Internet-driven possibilities of communication across long distances, teachers were reluctant to take advantage of these. The amount of pedagogic re-thinking and renewal was therefore limited, at best, with little in the ways of experimentation.

However, in responding to the invitation to consider the potential of the pedagogic experiment planned for this project, while they expressed a broadly enthusiastic response, the teachers also identified a range of challenges that might be encountered. However, by and large, they believed that the benefits and opportunities associated with the use of synchronous technologies in creating

transnational learning spaces far outweighed the risks. Of course, such potential has been considered by a number of scholars and technology activists in education. In the next chapter, we discuss a number of projects that they have developed and promoted.

Chapter 3

Using Synchronous Technologies

Over the past two decades, the emergence of new ICTs and social media has inspired many teachers and schools to develop practices that utilize digital technologies to improve the quality of teaching and learning. In a recent report for the IBO, Cooker, Crook and Ainsworth (2015) have provided a useful account of how digital technologies are being used in IB World Schools to support teaching and learning in the Diploma Programme's curriculum areas of Mathematics and Science. They have pointed to a range of good practices, which include the use of ICTs in the preparation and delivery of lessons and monitoring of student learning. However, in ways that are consistent with the findings of the survey discussed in the previous chapter, most of these initiatives are routine, and 'cannot be said to be strongly innovative', leading to new ways of thinking about pedagogy.

The most common patterns of use, Cooker, Crook and Ainsworth (2015, p. 4) argue, centre on 'the management of classroom exposition and the support of student inquiry from Internet sources'. They suggest that:

... more innovative development in the use of ICT might be possible: notably, collaborative learning, inquiry learning, digital construction, serious gaming and simulation. It is also stressed that the IB tradition of community building could be more fully pursued through the communication potential of new technology.

This project is in line with the assumption that, given IB's tradition of collaborative inquiry-based learning, IB teachers and students could have a more receptive attitude towards IT's pedagogic potential if it is appropriately cultivated and supported.

Over the past decade, a number of projects have been established to promote richer and more innovative ways of integrating ICTs into pedagogy. Many of these projects are focused on the teaching and learning of additional languages, and on promoting intercultural understanding across national and cultural borders. In what follows, some of these projects are discussed in order to discern

the broader potential of ICT's in additional language learning, especially through the use of synchronous interactive platforms.

icEurope – Intercultural Communication in Europe (2011)

The icEurope project was funded with support from the European Commission, and coordinated by the University of Tübingen's Department of Applied English Linguistics. The project aimed to develop, implement and evaluate a web-based collaboration course that facilitated learners to use (and improve) their language skills by sharing cultural information in intercultural settings. It blended aspects of inter-culturalism, English language learning and the tools of e-learning, showing language and culture to be inextricably related. In a five-month pilot study between January and May 2010, four teachers and over 80 students from four classes (from 10th and 11th grades in Bulgaria, Hungary, Italy, and Turkey) collaborated and networked online in four culturally mixed international groups. They used the learning platform Moodle to discuss intercultural themes using English as an additional language (EFL) to develop an intercultural perspective on topics that the students themselves identified as appropriate of discussion, but were approved by teachers.

The topics were selected to focus on serious conversations and collaboration concerning culture, traditions and festivities between adolescents and teachers from different countries with different linguistic backgrounds. The program was constructed in 'blended learning' format, involving a mix of activities (offline and online, asynchronous and synchronous) conducted in the local classrooms along with collaboration within the international groups online. Since only a limited number of studies on intercultural communication in blended learning EFL contexts had existed, the program also sought to investigate the development of the participating students' intercultural understanding and their perceptions of the potential of online collaboration in enhancing cultural understanding (Kohn & Warth, 2011). Despite the learners' initial difficulties and missteps in communication, the investigation observed significant levels of improvement in students' intercultural competence, as well as their desire to continue the conversations online (Kohn & Warth, 2011).

Australia-Korea ConneXion (AKC) Program (2013)

The Australia-Korea ConneXion Program was an initiative of the University of New England's School of Education in Australia, with support from the Australian Government and the New South Wales' Department of Education and Communities. It linked schools in Australia with those in Asia, specifically Korea through high definition videoconferencing for intercultural exchanges in an order to enhance the development of students' global understanding. Under the program, 13 Australian schools participated in video conferencing sessions during school hours in Social Studies subjects with 13 Korean schools from 2013-2014. The aim of the Australia-Korea ConneXion AKC initiative was to develop intercultural understanding through rich dialogue between Australian and Korean students.

At each session, students gave short presentations over the videoconference connectivity portal and participated in question and answer activities using both videoconferencing and subsequently the Moodle platform. Australian students taught their Korean peers various aspects of Australian culture, while Korean students shared with their Australian peers information about Korean cultural traditions using English language. As such, students from Korea were able to practise their spoken English with the Australian students for most of whom it was their first language.

Analysis of the videoconferencing sessions revealed that the students established an interest in and familiarity with aspects of each other's everyday life and their aspirations for the future. Teachers too developed their technical proficiency, leading them to consider how ICTs could be more widely used in language teaching. Of course, in this innovative project, a number of technological issues had to be dealt with, especially with respect to connectivity malfunctions. It also became clear that a technical assistant was needed at all times to assist teachers as and when such connectivity arose (Reading, Auh, Pegg, & Cybula, 2013).

Chinese Language Learning with Web 2.0 (2009)

The Chinese Language Learning with Web 2.0 project, undertaken by the Victorian Department of Education and Early Childhood Development (DEECD) in Australia in 2009, investigated how Web 2.0 technologies could enable and support Asian languages acquisition (in this case, Chinese) in public schools. Four teachers and 80 students from two primary and two secondary schools in Victoria participated in this project. Three of the schools were suburban schools in Melbourne, with one rural secondary school. The participating teachers were asked to examine the potential of Web 2.0 technologies in teaching Asian languages in Australian schools, especially with respect to student learning outcomes, attitudes, and levels of engagement. The teachers were asked to monitor their own and their students' confidence and capability in using ICT; communication and collaboration between students and teachers; and changes in teacher practice that addressed the learning needs of students of Chinese. More specifically, teachers were asked to identify the number of contact hours and the kind of opportunities that students would have to be 'immersed' in the language using Web 2.0 technologies to justify the experiment's expansion into other schools.

The evidence of student learning was produced through original audio, video and written texts, and these were uploaded on a social networking site (Ning) for sharing with peers. The teachers reported mostly positive experiences during the course of the trial, however all four teachers experienced various technical and practical difficulties, including a lack of bandwidth and IT support, insufficient training in the relevant ICT skills, and insufficient time for professional development, program planning and resourcing (DEECD, 2012). Overall the investigation revealed that the students' confidence and motivation to learn Chinese increased markedly, classroom behaviour improved, and students demonstrated an increased level of initiative and independent learning. Further research was recommended.

Technology Enhances Intercultural Language Instruction, TEILI (2014)

In Taiwan, Yang and Chen (2014) carried out three collaborative intercultural projects using web-based tools (online forums, weblogs, Skype, and email) in a 7th grade EFL class over a period of twelve months. These projects were designed to improve students' language skills and intercultural communicative competence (ICC) by providing authentic opportunities for students to experience cross-cultural communication in English. Yang and Chen called this cross-cultural technology mediated instruction model "Technology Enhances Intercultural Language Instruction" (TEILI), based on their conviction that the teaching of language and culture could not be separated.

When teachers were asked about their perceptions of TEILI, its benefits and challenges, the results were mostly positive. Participants felt that it enabled learners to encounter authentic language learning settings, promoting their linguistic skills and intercultural communicative competence. The students acknowledged that TEILI had improved their knowledge of English language in a number of ways, improving their vocabulary, writing, and technological abilities, as well as skills in collaboration across national borders. At the commencement of the project, TEILI also highlighted the students' lack of 'expressive skills', resulting from the limitations of long-established and obsolete didactic forms of language instruction (Yang & Chen, 2014). The teachers agreed that TEILI had the potential to address this problem, since it approximated real-life learning contexts by enabling students to use a language for similar purposes that they might use outside the more formal settings of the school.

Hello Little World (HLW) Skypers (2011-current)

The project, *Hello Little World (HLW) Skypers*, was established by a high school teacher, Katherine Zablatnik from the alps of Austria in January 2011. Zablatnik's thinking was informed by the potential of worldwide video conferencing

platforms, and also through an experiences of a Texas high school teacher's use of Skype to develop students' English speaking and writing skills. Her project thus not only encouraged collaborative learning among teachers but also involved the students becoming 'e-pals', with the expectation that this would contribute to growth in their confidence in the use of English. To establish the project, Zablatnik approached schools in a number of countries to participate in the project, with an indication that it would expand professional networking and collaborative cultural learning of their teachers, and enhance the quality of their English language instruction. It would motivate their students and give them an opportunity to speak English with native speakers of English. HLW has now grown into a platform engaging schools (teachers and students) from over 100 countries.

The discussion at each HLW skype sessions begins around ordinary events but often leads into conversations over more complex issues. Friendships are developed and have led to the forging of more formal relationships among schools that share common interests and aspirations. Exchange programs and collaborative programs have also emerged in a number of cases. In these ways, the benefits of HLW have exceeded the formal learning of English. Numerous evaluations of HLW have indicated that both teachers and students have gained linguistic and cultural knowledge through the various contacts they have created and developed by skyping, on a regular basis, with teachers and students in other countries (Zablatnik, 2012). Students have developed increased cultural awareness through opportunities to practise their speaking and listening skills, realizing that English is spoken in different accents. For teachers, HLW Skypers has furnished 'infotainment resources' for teaching, given them an opportunity to share ways of teaching with ICT learning tools, establishing a globally networked dedicated community of language teachers to solve pedagogical problems and be involved in related international projects (Zablatnik, 2012). HLW's many achievements were recognized in 2013, with Edublogs' award for the Best Educational Use of Social Media.

Virtual Schools Networks: VCE and Language Provision (2009-current)

In 2009, eleven secondary colleges across the Wimmera District of Victoria in Australia established a collaborative network of schools to develop and share curriculum resources for subjects offered by the Victorian Certificate of Education. Teachers in this group of schools called the 'North Central Cluster' employed video conferencing and other synchronous and asynchronous platforms to meet regularly to discuss issues of concern and provide support. This teacher network expanded to include students, and by 2013, the community across the Wimmera region and beyond boasted 24 schools with 227 students. The group not only advanced and discussed issues that needed to be addressed but also identified best practices and ideal combination of resources for educational disadvantages encountered by students, teachers and schools in rural and remote locations of Victoria.

Additionally, the network now employs a range of video conferencing tools to deliver Year 11 and 12 Victorian Certificate of Education (VCE) subjects into smaller secondary schools in the region, and offers additional languages instruction in primary schools. All schools involved are prepared to receive and send learning resources using the emerging communication technologies. Making use of a blended learning approach, for example, a normal class lesson is attended via a live video conferencing feed, with which teachers and students can engage in real time. Vodcasts, mobile technologies, and a variety of other learning platforms supplement face to face contact afforded by the synchronous technologies. Students spread across the region are now using video conferencing technologies on a weekly basis to learn languages such as Japanese, Chinese, German, Indonesian, AUSLAN and Italian. The project has highlighted the considerable benefits of ICTs in language learning in rural and remote schools. It has also confirmed the ways in which digital technologies can contribute to extending the possibilities of collaborative learning.

ICT Professional Development (ICTPD) Project (July-December 2010)

The National Asian Languages and Studies in Schools Program (NALSSP) was established in Australia to maximize the prospects for students across Australia to become acquainted with the languages and cultures of China, Indonesia,

Japan and Korea. In Victoria, the Department of Education and Early Childhood Development (DEECD), Independent Schools Victoria (ISV) and the Catholic Education Commission Victoria (CECV) functioned jointly to develop and implement the Program. Within its broader framework, an ICT Professional Development Project (ICTPD) was developed to support teachers of languages. It also aimed to enhance the ICT competence of teachers of Asian languages, and to develop the use of Web 2.0 technologies as a teaching and learning tool to develop teaching resources that are now housed on an open access website.

A total of 51 schools across Victoria from the Government, Catholic and Independent sectors have participated in the NALSSP ICTPD Project, trialling the application of various ICTs in their LOTE classrooms. Initially, basic technologies were utilized, but the learning environment has now been broadened to include the use of Skype, Elluminate and other video conferencing platforms to enable Australian students to connect directly with students from a number of Asian countries. Some teachers have also applied these technologies to combine their smaller classes with other schools that have a similarly small number of students in the same LOTE language.

The NALSSP ICTPD project has collected a great deal of evidence that the appropriate use of Web 2.0 technologies in Asian LOTE classes can greatly assist in improving student learning outcomes. It has thus led to considerable experimentations in the way LOTE is taught and has in several ways improved the student-teacher relationship in the language classroom. Student-centred learning has in many cases replaced the more rigid, teacher controlled approach. Hand held Web 2.0 devices have offered individualized applications that have amplified the level of self-paced, personalized learning and evaluation. The degree to which students are learning collaboratively in groups has also grown. Projects with younger classes are established as teachers acknowledge the advantages of peer teaching which enables students to learn the skills associated with both independent learning and team work, sometimes across national borders. The technologies have also offered students different and more engaging ways to demonstrate their learning, many of which are shared, stimulating them to review, practice and improve their LOTE skills.

Building Relations through Intercultural Dialogue and Growing Engagement Project (2008-current)

The BRIDGE (Building Relations through Intercultural Dialogue and Growing Engagement) Project is the Asia Education Foundation's (AEF) flagship program, supported by the Australian government. Beginning initially as Australia-Indonesia project, it has been functioning since 2008 and is operated by the AEF in conjunction with various departments of education in Australia, including the Department of Foreign Affairs and Trade. AEF represents BRIDGE as its most innovative program which supports bilateral educational exchange, facilitates visits by Asian teachers to Australian schools, supports schools in Australia and a number of countries in Asia in their collaborative efforts to develop curriculum materials and share information and ideas about pedagogic improvements especially in the teaching of additional languages and cultures.

BRIDGE is based on the premise that through productive and practical use of emerging technologies, teachers and students can establish people-to-people connections that cultivate friendly communities of learners across borders. The program aims to help students to develop intercultural understanding by assisting their teachers to develop skills and capabilities needed to this challenge in schools. To date, the project has established a large number of school partnerships between Australia schools and schools across Asia, beginning with schools in Indonesia and more recently extending the program to schools in New Delhi in India. Program outcomes include the development of professional and personal transnational relationships among teachers, collaboration between students using online tools, and the creation of partnership Wiki spaces to share student work. These spaces have become highly influential across Australia with schools inspired by BRIDGE and the ideas and practices it has trailed and promoted.

Telecollaboration for Intercultural Language Acquisition, TILA (2013-2015)

Telecollaboration for Intercultural Language Acquisition (TILA) was a European project supported by the European Commission within its broader Life Long Learning Programme from January 2013 to June 2015. TILA was coordinated by Utrecht University in Holland. Its main goal was to develop the quality of additional language teaching and learning practices at secondary schools through purposeful tele-collaboration among teachers and learners across Europe. The focus languages of the project were English, French, German and Spanish. Six countries were represented in the TILA consortium, including France, UK, Germany, Spain, the Netherlands and the Czech Republic. Each country teamed up a secondary school with a (teacher training) university to explore innovative approaches to additional language teaching and learning.

The TILA project (Jauregi, Melchor-Couto, & Vilar, 2013) emerged from efforts to examine whether and how telecollaboration impacts language learning processes for communication, intercultural understanding and in generating enthusiasm among students to learn additional languages at secondary schools. Over 300 learners, 200 pre-service teachers and 25 teachers engaged in various pilot experiences employing synchronous (chat, video communication and 3D virtual worlds) and/or asynchronous (wikis, blogs and discussion forum) communication resources. The project produced a similar set of outcomes as the other projects discussed in this chapter. However, it also highlighted complexities of online collaborations, against a historical backdrop of place-specific didactic modes of language teaching with which teachers and students were familiar and appeared comfortable. The investigation that many teachers were reluctant to embrace new challenges even as they recognised the potential benefits of synchronous platforms and other ICTs.

East Speaks West, West Speaks East, ESWWSE (2010-2012)

East Speaks West, West Speaks East (ESWWSE) is portrayed as ‘a two continents/one classroom ICT-enabled’ project that strived to introduce Asian and European languages to European students and teachers. Commenced in 2010 at a Asia Europe Classroom (AEC) Conference, ESWWSE attempted to stimulate and examine online language learning among high school students

from public or private schools from Europe and Asia through the application of open source ICT web instruments. Thirteen schools within the AEC Network participated in the project over a period of two years. The participants worked together in exploring ICT web tools to successfully learn the language and share knowledge. The aim of the project was not only to explore the pedagogic potential of ICTs but also consider their challenges.

The project identified several issues, including the difficulty of working within different time zones, shortage of time in some schools, and insufficient creativity of some teachers and students (Wolff, 2011). ICT-related problems included inadequate Internet access and connectivity, minimal technical assistance in schools, lack of skills or experience in the use of web tools among some participants, and restrictive Internet security settings at most schools. It also found the level of motivation to be uneven among students and teachers alike. Despite these challenges, the project showed that the students favourably accepted the idea of ICT-driven language learning. The opportunity to learn an additional language, which was not commonly provided at their school, excited many students. Teachers who taught students who otherwise had learning difficulties, such as Attention Deficit Hyperactivity Disorder particularly welcomed this opportunity (Wolff, 2011).

Conclusion

This chapter has described a number of projects that have utilized emerging ICTs to realize their potential in enhancing the student experiences of learning additional languages. While these accounts are brief, they do nevertheless indicate the enthusiasm that exists among language teachers around the world to consider the pedagogic possibilities associated with emerging technologies. This applies in particular with synchronous technologies, which enable groups of students and teachers to talk to each other in real time, converse with native speakers, and develop learning networks across national borders. For teachers, such technologies provide opportunities to develop transnational professional networks, and broaden their educational and cultural outlook.

At the same time, however, the pedagogic use of synchronous technologies is not as straightforward as many of their advocates claim. Schools and teachers face a range of challenges in integrating such technologies into their teaching. Not surprisingly therefore most ICT-driven projects are short-lived, as the review in this chapter has shown. Many teachers and students are enthusiastic about such projects but give up when frustrations with technical and intercultural issues set in. Most teachers return to the tried and tested didactic methods of teaching languages. To better understand the nature of the potential and challenges associated with the use of synchronous technologies in language learning across two systems of education –Australia and China -- this project developed a pedagogic experiment, based on the methods of intervention research. In the following chapters, this experiment is described and discussed, offering recommendations regarding the ways in which the uses of synchronous technologies can be rendered more productive and sustainable.

Chapter 4

An experiment

Introduction

Each of the projects described in the previous chapter seeks to realize the possibilities of ICTs in education. Each is based on the assumption that the use of ICTs can greatly assist in creating transnational learning networks helpful in ‘internationalizing’ student experiences -- in the language of the IB, developing ‘international mindedness’. It is also assumed that such innovative projects can increase access to productive educational experiences that might otherwise not be available to students. Such projects show that productive intercultural dialogue can be facilitated by connecting teachers and learners across national and cultural borders. Most of the projects described in the previous chapter are however largely teacher-directed, often led by committed educational activists. They are thus designed and managed in ways that are uni-directional, and provide little opportunity for students to initiate and take charge of their own learning.

The question arises then as to whether it is possible to develop an approach to learning and teaching in which students assume responsibility for their own learning in an ICT-powered transnational space, created and facilitated by adults, but not controlled by them. In such a project, student autonomy is valued, based on an assumption that even young students are capable of designing and pursuing their own learning in a collaborative transnational setting where they are supported by each other.

How might such a setting be created, in which students from different cultural and linguistic backgrounds cooperate on common learning tasks that they design collectively? Could such an approach enable second language learners to be assisted by native speakers while they simultaneously help students who want to learn their language? In this way, could the well-established principles of ‘peer learning’ be applied to transnational learning spaces, where groups of students

are located in different countries, but come together in a virtual setting? In this chapter, we discuss an experiment carried out to explore the potential of synchronous technologies in creating a transnational learning space in which students in China improve their English and students in Australia extend their proficiency in Chinese, in a shared learning space in which they assist each other.

Context

To explore such a possibility, it is important to describe the broader context within which Chinese and English were selected to be the focus of this pedagogic experiment. This context relates to the significance that is now attached to English in China as the global language of international trade and diplomacy. In China, English is now widely regarded as fundamental to its engagement with the world. At the same time, in most English-speaking countries, Chinese has been designated a 'priority' language, against the premise that China is now a major player in the global economy. In the slipstream of the global rise of China and its burgeoning economic, cultural and political links, the study of Modern Standard Chinese (Mandarin) in schools has become a prominent feature of national education policies around the world.

In Australia, for example, successive governments have paid considerable attention to Chinese language education. They have set ambitious targets and have highlighted the role of language learning in the development of 'Asia literacy' (Rizvi, 2016), a concept which entails acquiring not only knowledge about Asia but also *linguistic competence* required to interpret and negotiate the shifting dynamics of Asian societies. Yet, despite significant levels of investment and a lack of any substantial opposition, the national project of Asian language studies in Australia has fallen far short of expectations. Programs in Asian languages have rarely produced adequate linguistic proficiency levels (Scarino and Elder, 2012), often failing to develop a sustainable level of interest among students. Nor have these programs led to any verifiably productive improvements of intercultural understanding (Sturak & Naughten, 2010). In general Australian public policy in this area, essentially *The Australian Asia Project* (Lo Bianco and Slaughter, 2016) remains a work in progress, having failed to deliver its ambitious targets of study, acceptable proficiency levels or sustained student and system interest. Yet there are many positive gains and

achievements too and these should be celebrated as we explore how to redress past problems. This generally disappointing outcome is attributed to a diverse range of factors including structural complexities of Asian languages, poor policy design generally uninformed by language planning specialists, unavailability of properly trained teachers, structural failures within educational institutions regarding the special demands of language study, and, more recently, the inability of teachers of Chinese to cope with a mix of heritage and non-heritage learners. It has also been claimed that Australians are “too lazy to master Chinese” (Orton, 2016b). It is clear that deep analysis is required to understand the implications for the learning of Asian languages within the context of the rise of global English, economic transnationalism, population mobility and multiculturalism and their repercussions for curriculum design (Lo Bianco and Aliani, 2013). These issues do not only relate to Australia but also to other English-speaking countries (see Asia Society, 2012).

At the same time, there is an emerging concern in China about the quality of English instruction, both in schools but also in the growing number of private for-profit centers for the teaching of English in China. Throughout China, there has been an exponential growth in interest in learning English. English has become a major priority for both its systems of education and its population alike (Lo Bianco, Orton & Gao, 2009). The ability to read and speak English has become a marker of social status, widely regarded as essential for China’s engagement with the processes of globalization and its aspirations of continuing economic growth (Jacques, 2012). Yet China lacks good teachers of English. Students who graduate from China’s schools are often unable to write and speak English at an acceptable level of proficiency. While many Chinese students can readily master the technical aspects of English, they find it difficult to become fluent speakers.

In the face of these shortcomings, it has been argued that it is now crucial to imagine and devise new strategies to make additional language teaching and learning more appealing to students, as well as more effective pedagogically. Indeed, most systems of education now encourage pedagogic innovations in the teaching and learning of additional languages generally but Chinese in particular. While some of these innovations have considered and utilized new ICTs, most initiatives are teacher-centered and use technologies instrumentally, as the

teacher survey in Chapter 2 of this report demonstrates. The use of technology has thus not transformed traditional pedagogic approaches to the teaching of languages. What is clearly needed is a paradigm shift in the ways in which additional languages pedagogy is structured, not only in terms that are technical but also conceptual and cultural.

The experiment discussed in this report is based on an assumption that in order to re-imagine additional language pedagogy it might be helpful to consider an approach in which young people are encouraged to take charge of their own learning in a transnational learning space. It is based on the realization that emerging ICTs have opened up the possibilities of 'peer learning' across national and cultural borders as never before, grounded in the principles of organic communication and reciprocity. It is based on the belief that educational systems have yet to fully utilize the potential of social media and emerging ICTs in forging ongoing social and pedagogic relations across national and cultural borders.

This experiment is also grounded in an assumption that, in the context of amplified globalization and the growing possibilities of exchange to which it has given rise, it may be possible to enhance intercultural understanding through language learning. Although technical competence is situated at the heart of language studies, it has never been the sole objective of language teaching and learning. Wei (2005) claims that language has two functions: a way of communication and a carrier of culture. Gao (2006) states that additional language teachers should be aware of the context of cultural studies in additional language teaching and aim to improve students' cultural awareness and strengthen their communication competence in the additional language. Such an insight implies the benefits that are to be derived from learners interacting with each other across linguistic differences, with a focus on the ways in which context influences what is communicated and how. In such a setting, the focus is no longer on a single culture since both the target language and culture and the learner's own language and culture are present together and can be engaged at the same time. Learning to interact in an additional language entails building an awareness of the ways in which culture interrelates with language whenever it is used.

These insights are clearly recognized by the International Baccalaureate Organization (IBO). The IBO has argued that learning of additional language languages may be essential for developing 'international mindedness'. Learning a additional language contributes greatly to cultural awareness and intercultural understanding. While English is already the medium of instruction in the Chinese schools that offer IB programs, IBO has also encouraged learning Chinese in its World Schools. It has promoted student proficiency in both English and an Asian language. This experiment thus explores the possibility that these two imperatives *can be brought together* through an innovative program of peer learning in a digitally mediated 'transnational pedagogic space' (Rizvi, 2012) in which Australian students assist Chinese students learn English while Chinese assist their Australian counterparts in learning Chinese collegially. In this initiative, minimal support is provided by a bilingual teacher, who acts more as a facilitator of learning rather than an instructor.

The importance of peer learning

The idea of peer learning implies a cooperative strategy where students form a learning partnership, and are committed to helping each other reach a particular learning goal (Skilton-Sylvester & Erwin, 2000). It is based on Vygotsky's (1978) theory of the elementary feature of social interaction in the development of cognitive and affective learning (Foster & Rotoloni, 2005). According to Boud (2001, p. 1), peer learning 'refers to students learning with and from each other without any implied authority to any individual', based on the tenet that 'students learn a great deal by explaining their ideas to others and participating in activities in which they can learn from their peers'. In addition to content knowledge, peer learning nurtures and fosters the development of self-directed learning skills, learning through critical reflections and teamwork skills, and intercultural and inter-lingual communication skills. Such an approach focuses on dialogues between the learners themselves, as well as the learners and the teacher. In addition, it comprises of exchanging roles between the teacher and the learners which render the learners in charge of their roles in the teaching-learning process and enables them to guide each other consistently.

According to Thornton (2015), learners who learn collectively and from each other perform many roles, thereby making long term contributions which strengthen the learning experience of the people around them. Every participant in the partnership fulfils two roles: as a learner, they complete a learning activity or solve a learning task; as a tutor, they observe other participants while providing feedback and clues that assist them to complete the task. Participants discuss ideas and learn from each other, function as role models and encourage others to continue learning, render opportunities for target language communication and intercultural communication, and may act as peer-advisors or teachers (Thornton, 2015). Retention is better in this arrangement since there is a social and authentic advantage to the learning material (Preszler, 2009).

Central to an understanding of peer learning is the principle of reciprocity, which may be summarized thus: effective peer learning relies upon the reciprocal dependence and shared guidance of the partners; and both partners contribute evenly to their learning together and benefit to similar extent. Vygotsky (1978) considered learning as an activity rooted in social interactions with others and the outside world. He affirmed that when children interact with adults or more competent peers, increased mental functions are activated. In reciprocal peer learning partnerships, the learner is no longer the sole beneficiary. Because both partners experience what it is like to be a learner of a language, they are more likely than other speakers to take care of their partner's learning problems with greater sensitivity, patience and understanding. Peer learning thus offers students the chance to teach and learn from each other, and it offers them practice in functioning collaboratively, bearing responsibility for their own learning and more broadly learning how to learn.

Learning languages in transnational learning space

The idea of transnational learning space suggests a socially constructed learning space which transcends national borders and connects people residing in geographically distant communities. In the past two decades, the notion of transnationalism has been widely used to suggest long distance networks that are emerging as “systems of ties, interactions, exchange and mobility” which now “function intensively and in real time while being spread throughout the

world” (Vertovec 2009). Of course, transnational networks have always existed but they have now acquired new forms and possibilities, driven largely by new developments in information and communication technology. Notwithstanding the continued significance of national borders and the laws and national narratives that they represent, certain kinds of globally connected relationships have now become possible. While a strictly bounded sense of community or nation has not become obsolete, transnational spaces are nonetheless becoming common around the world, and have opened up the possibilities of new kinds of relationships across national and cultural boundaries.

The potential of such spaces for transnational learning languages is immense. Such spaces enable students to develop authentic relationships with one another despite the distances between them, and view learning as ‘borderless’. Technically, students can learn to hear an additional language spoken in its local registers, with the use of multiple phrases and idioms that are often absent in a formal classroom. A transnational learning space can also open up the possibilities of intercultural exchange and the development of intercultural competence. This is because this space enables formal and informal modes of communication to become seamlessly interconnected, helping to develop a global consciousness, or international mindedness, that is now widely advocated by various systems of education, including IB.

E-learning is commonly understood as instruction provided through computer and/or internet in teaching and learning. A few other terms are used synonymously with e-Learning, such as computer-based training, online learning, virtual learning, web-based learning and so on. The foremost idea is that all these involve the use of ICT that relates to instructional activities either carried out individually or in groups, working online or offline, synchronously or asynchronously, via networked or standalone computers or other electronic devices (Romiszowski, 2004; Garrison & Anderson, 2003). Technological developments, along with the increasing recognition of the social aspects of both language learning and learner autonomy (Murray, 2014), have generated exciting possibilities for teaching and learning additional languages. Virtual learning platforms that enable instantaneous interaction between learners in different

locales enable students to acquire new languages through online, task-oriented communications (Hauck and Young, 2008; Wang, Chen and Levy, 2010). Teachers can also use such platforms to collaborate, share quality and innovative resources, and reflect collectively on teaching plans and practices (Bailly, Ciekanski and Guély-Costa, 2013).

Synchronous online learning environments can help create a form of transnational learning spaces, wherein shared and effective learning can take place in real time between students residing in two or more different societies (Harris, Mishra, & Koehler, 2009). This is often achieved through the use of Web-conferencing or e-conferencing systems, which enables students and teachers to collaborate and ask questions in real-time. Many studies have attested to the benefits of web-based, synchronous communication (see, for example, Parker, & Deale, 2012). According to White (2003), web-based, real-time (synchronous) communication can stimulate learners to cultivate a sense of community, allows for peer feedback, and facilitates the development of interactive proficiency. In a synchronous mode, online learning can furnish additional language learners with opportunities to interact with highly competent speakers of the target language (LaPointe et al., 2004).

Emerging technologies as pedagogic resources

The past three decades have witnessed revolutionary developments in information and communication technologies. The progression of web-based communication technologies is commonly distinguished by the terms “Web 1.0”, “Web 2.0”, and “Web 3.0”. The standard conventional tools of Web 1.0 include email, chat rooms, and discussion boards (McLoughlin & Lee, 2007). Web 1.0 users would read fixed content material developed by “experts” who possessed the technical ability to write and post information (Ebne, 2007). While Web 1.0 is known as the static web, Web 2.0 is considered as the dynamic web, in that it enables the social and collaborative construction of content through the use of wikis, blogs, and other social web tools (McLoughlin & Lee, 2007). Web 2.0 tools thus grant users the chance to perform a more active part of potential writer, contributor, editor, or expert.

Employing Web 2.0 in the classroom has enabled many teachers to reach the latest generation of learners who are already deeply engaged in the Web 2.0 community outside of the classroom (Downes, 2005), providing opportunities for increased learner control, dynamic development of knowledge, and access to collaborative learning environments (Solomon & Schrum, 2007). While most Web 2.0 tools are just in the preliminary stages of classroom integration, additional language teachers have recently started using instant messaging tools for text-based communication with native speakers and downloadable podcasts for listening skills and word recognition (Godwin-Jones, 2005).

One of the distinct features of third generation e-Learning, Web 3.0, is the omnipresent access to learning resources with the use of mobile devices (Rubens, Kaplan, & Okamoto, 2011). Young learners are increasingly involved in producing and manipulating texts, digital images and video clips, and sharing content with peers worldwide through social media platforms (Downes, 2004). Platforms such as Facebook, QQ, Youtube, Twitter, Instagram, Messenger, Tumblr, QZone, Snapchat, Baidu Tiebo, WeChat, Sino Weibo and so on are now used widely by young people, often in ways that are creative and highly effective in making new acquaintances and keeping in touch with old friends and family.

Developments in the use Web 3.0 for educational purposes are still in their infancy but already point to possibilities that were unimaginable just a few years ago. Web 3.0's fundamental concept of 'anytime, anywhere and anybody' can now be supported by 'anyhow', which can be explored through the use of virtual 3D worlds. The challenge for teachers is to facilitate learner control while still providing the structure and scaffolding needed. Nonetheless, developments in this space clearly point to the need to research further ways of experimenting with, implementing and evaluating the use of Web 2.0 and Web 3.0 e-learning tools for language and intercultural learning purposes.

Such research needs to explore the pedagogic possibilities of using these emerging tools for projects involving 'flipping the classroom', in which the traditional learning environment is reversed, and learning experiences are encouraged and supported outside of the classroom. The popularity of 'the

flipped classroom' has grown in recent years as a way of increasing student engagement, leveraging technology and providing greater opportunities for active learning. It has also helped teachers to capture and curate content, often produced by students themselves. It has enabled them to convey timely information, provide immediate and sometimes anonymous feedback and capture data analytics about students to analyse their progress and identify students needing additional support. But, more importantly, 'the flipped classroom' has the potential to provide students opportunities for discourse and interaction in and out of formal settings, potentially in transnational learning spaces.

The experiment: objectives and strategy

It is with an understanding of the pedagogical, technological, and sociocultural ideas outlined above that the experiment was designed. Pedagogically, it drew on the principles of peer and reciprocal learning, in which students work collaboratively to take greater control of the learning of additional languages. In this way, an attempt was made to put this pedagogy to work through the use of virtual learning platforms, which enabled real-time collaboration between learners across national and cultural divides. While this approach is exciting in and of itself, the experiment also viewed it as a means to take seriously the notions of transnational learning and intercultural communication.

The experiment thus rested on a belief that transnational language learning spaces need a virtual peer learning system that supports synchronous interaction by enabling audio-video conferencing and the instantaneous sharing of content. This could facilitate multiple forms of interaction that occur simultaneously, despite the physical separation of learners. The transnational language learning space created through the use of new synchronous technologies thus became the focus of this experiment. Specifically, the project involved the development, trial and evaluation of a pedagogy that involved simultaneous and reciprocal learning of Chinese and English, within a rich technology-mediated context of intercultural communication. It aimed to examine how it might be possible to utilise new synchronous technologies and social media in developing effective modes of language learning in transnational

spaces characterized by the principles of peer learning, reciprocity and intercultural communication.

The project adopted a strategy consisting of several stages:

- 1) Developing a program for the reciprocal learning of Chinese by Australian students and English by Chinese students using synchronous technologies;
- 2) Enabling three combined cohorts of Australian and Chinese students (30 students, 15 from Australia and 15 from China) at Primary, Middle and Senior levels respectively to 'meet' on a virtual learning platform on a weekly basis with a bilingual facilitator in attendance;
- 3) Encouraging students to gradually take charge of their own learning, negotiating communication topics and activities, with the facilitator keeping their involvement to a minimum;
- 4) Monitoring the classes to inform reflection and discussion of emerging issues as well as pedagogic and theoretical insights concerning the uses of synchronous technologies in additional language instruction, as well as emerging dimensions of interculturality;
- 5) Evaluating the program against a range of criteria, such as level of interest, outcomes of linguistic proficiency, and the development of intercultural understanding;
- 6) Theorizing the nature and potential of 'transnational learning spaces' for the teaching of additional languages, and identifying the conditions of, and prerequisites for, enhanced intercultural understanding.

Various options for the synchronous platform were considered for this experiment, including Skype, Elluminate, Adobe Connect, QQ, Wechat and Zoom. In the end, Zoom was adopted at the recommendation of the University of Melbourne for its reputation with users, as well as the fact that the license had already been purchased by the University. Technical experts located in the University's Departments of Communications and Media Production and Academic Services were also available to provide technical support.

Zoom has a number of features that were found to be very helpful. It allowed the instant sharing of photos, video clips, and audio recordings. Participants were able to draw and write on the shared screen to emphasize matters of interest all, and students could apply the functions as part of self-exploration and peer learning. The facilitator was able to hand over the control of the Zoom meeting to a selected student and yet still be able to view and monitor the meeting. Chatting could take place alongside video conversations, enabling the facilitator to both send group chats and also chat with a particular member concealed from other participants. Finally, Zoom could be used to produce high quality recordings of entire sessions as long as equipment storage allowed. This became a very useful function for data collection.

A number of methods were used to recruit students to the experiment. In May and July 2015, researchers visited the partner schools in China and Australia, including an IB World school in Beijing. The principal of this Chinese school spent four hours with the researchers, discussing the feasibility of the project, introducing his school to the project, and providing a tour of the campus and technology facilities. A visit was also made to another international school in Beijing, which included a meeting with the principal, a tour of the school, and a discussion with teachers at the school who hailed from the US, Australia, New Zealand, Japan and China. Similar visits were made to schools in Melbourne, Australia, most of which were IB World schools. At the end of these visits, it had become apparent that technology itself did not obviate the need for a good deal of face-to-face contact and relationship-building, and the due diligence and reassurance of all participants, including the students and their parents.

A number of return visits and meetings, both in physical and virtual space, were necessary in order to further explore the possibilities of the experiment, and to establish plans to deal with any challenges that might arise. At the meetings with school principals, teachers and students in both China and Melbourne, the design, procedures and protocols of the experiment had to be repeatedly explained, with a perfectly understandable set of issues and concerns discussed. In light of these discussions, modifications to the research design and protocols of the experiment were made.

Along with these visits and meetings at the schools, the researchers also attended a number of workshops and conferences at which the experiment was described and promoted, with invitations to additional language teachers and their students to participate in both the teacher survey and the experiment. Two of the researchers attended a conference in Beijing hosted by Beijing Normal University for Chinese teachers at various levels. This proved to be most instructive and helpful, in that the issue of 'creativity' of Chinese students was addressed in a medium dependent on both innovative use of IT and traditional teacher guidance. This led the researchers to think about the use of a combination of techniques and tools, including the WeChat app, along with Zoom. Also discussed at the conference was the use of drama, storytelling and other forms of conversations in teaching and learning of additional languages.

To further publicise the project, an invitation letter was sent out to the mailing lists of Chinese Teachers' Training Centre (CTC), Chinese Language Teachers' Association of Victoria (CLTAV) and The Chinese Language Teachers' Federation of Australia (CLTFA). The bilingual teacher facilitator of the experiment also joined various social media groups of Australian Chinese language teachers, sending out an invitation to join the project through the group chats and to individual teachers. Once the students had been recruited for participation, she was also required to be in constant communication with parents, principals, presidents, Chinese teachers or secretaries of the organisations mentioned above to repeatedly explain the structure and purpose of the project. This was essential in light of the unfamiliar and innovative aspects of the experiment, and concerns that it might prove disruptive to students facing heavy course demands.

In the end, two schools from China and four schools from Australia took part in the experiment. An initial cohort of thirty Years 9 and 10 students in China and Australia signed up to participate in the online sessions on Zoom. One of the Chinese schools is a private boarding school funded by a Hong Kong company as part of its large-scale residential development. It has primary, middle and high school sections and is affiliated with the best ranked school in the city. The principal of the school is open to a more liberal curriculum than is normally the

case in China, dictated as its academic tradition is by the requirements of examination. The other Chinese school is a top ranked public school in a large provincial city. At both these schools, success in high-stakes examinations is the ultimate priority. The experiment was therefore promoted in China in terms of the potential the student participation had to improve students' final marks in English examinations.

The four schools in Australia ranged from private, public and Christian schools in metropolitan and rural areas. Two of these schools were IB World schools, and had different concerns about their participation in the experiment than in China. The fact that the sessions on Zoom were to be held outside school hours, later in the evening, was a major concern. Privacy concerns were also mentioned, as was the fear of high 'drop-out' rates. Most students and parents however viewed their participation in a positive light, with some parents wanting to 'sit in' on the sessions themselves.

Conducting the experiment

Having negotiated the multiply complex layers of difficulty, the experiment involved three types of sessions with students at various levels of education, namely: close-ended sessions at the Primary level, which involved the facilitator or a teacher (in one case, a parent as a visitor) presenting, assisting or guiding the student dialogue; semi-structured sessions at the Middle level, with controlled or limited intervention from the facilitator, and; open-ended sessions at the Senior level, with the facilitator almost invisible but observing behind a screen. The first three sessions had, respectively, 12, 11 and 7 students, but the attendance rate fell over the 8 to 10 weeks period. Formal meetings were held on Zoom.

Semi-structured and open-ended sessions were run with the more mature students from high school. For the semi-structured sessions, the facilitator provided a theme, such as 'your school life' or 'your impression of China/Australia'. Some of the students had already rehearsed this topic within their own national group before the transnational meeting in virtual space. For

the open-ended sessions, students were free to talk about anything that interested them without intervention or instructions from the facilitator. Often, they felt more comfortable in sharing ideas with students from the other country in their own language before repeating the same idea in the language that was less familiar to them. In this way, the sessions could be described as bilingual, with students moving in and out of a language.

For the older students at the Middle and Senior levels, the sessions were held on Saturday night (1 hour per session), while younger students met during their lunch break (45 minutes per session) while they were still at school. During the first few sessions, the facilitator was present in the meetings and directed them. Later the facilitator sought to become invisible to the students, but still monitored the Zoom sessions. With the younger students (the lunch break sessions), the students were located in one room at school with their teachers present. The Saturday night sessions with the older students from China and Melbourne were conducted online from their home.

For the students at Middle and Senior levels, three social media groups using China's popular social media QQ and Wechat were also set up as supplementary communication tools with the Chinese participants. As the host to these social media groups, the facilitator publicised details for meetings such as the time and ID to the group members. The facilitator also collected feedback from participants after Zoom sessions through Wechat and QQ group chats. In this way, social media played a critical role in online learning, as well assembling research data for further analysis.

The level of English among Chinese students varied greatly but was generally superior to the level of Chinese among Australian students. For the group at the Primary level, English was used as the primary language of communication, while for two older groups, English was used most of the time for communication, but was intercepted by Chinese as and when the students thought appropriate. In the sessions themselves, thematic story-telling and dramatic techniques were used to establish communication. For two sessions, Australian students in the Primary group were asked to write a short script for a play in Chinese language

and perform to the Chinese students in transnational virtual space. A Chinese teacher from the Australian school provided assistance with the students' preparation and acted as a 'prompt' when the students performed in the Zoom session.

Analysing the data

This experiment with the three groups enabled a great deal of data to be collected, producing a wide variety of 'texts'. These texts were derived from close inspection of the pedagogic processes on the recorded Zoom sessions, examination of the interactions among students across cultural and academic traditions, and discussion with students and teachers on social media. An additional data source came from a parallel set of Zoom sessions conducted with teachers to collect their feedback on their growing understanding of the challenges and potential of peer learning of languages in a technology-enabled transnational space. These data can be classified as the following:

1. Multimedia data:

- a. Videos clips from Zoom meetings: more than 2000 minutes video recordings including meetings with students, school principals, parents, team members from China and Australia.
- b. Photos from fieldwork, visits to schools and education authorities in China.

2. Textual data:

- a. Field notes: on-site observations for the visits to teachers' association meetings and the partner schools in China and Melbourne.
- b. Work log: more than 5000 words, including observations, minutes, reflections, discussions throughout the project.
- c. Email exchanges: More than 200 within the team member and external parties including schools, Chinese Teachers Association, Confucius Institute and Education Bureaus in China.
- d. Social media chats from three social media groups including QQ and Wechat groups;

- e. Minutes of meetings with project participants;
- f. Newsletters, booklets of Chinese schools.

To understand the cultural dynamics of learning, three levels of data, and the relationships between them, were considered, namely: the macro-level, being the social and cultural context in which the experiment was situated; the meso-level, where the schools, teachers and parents interacted with each other, and; the micro-level, where learning took place between students (and facilitators) in a trans-national cyber-space. An attempt was made to link these three levels, in order to generate an understanding of the processes of learning an additional language in a transnational space.

It should be noted however that since the experiment was limited to ten weeks, it could not be expected to produce an assessment of learning outcomes. Just the same, an analysis of the more affective dimensions of learning was nonetheless attempted, though in a way that was necessarily limited. In this way, the focus was not so much on students' enhanced technical proficiency but on the extent of their enjoyment, growing confidence and enhanced ability to listen and understand a language spoken in another register and accent. The analysis was thus located within the broad framework of language use as social interaction. Since this project is based on an assumption that intercultural dialogue is a major component of the teaching and learning of an additional language, the focus of analysis was on socio-linguistic factors such as register, body language and group dynamics.

As important as the outcomes of learning and teaching were to the experiment, greater attention was paid on the data concerning the potential of a transnational space in learning a second language and the challenges that were faced in setting up such a space across cultural and academic differences. Such challenges pertain to, for example, recruiting students, generating and maintaining student interest, impediments to the use and reliability of synchronous technology, and issues of cultural and academic difference. The analysis in the next chapter is therefore predominantly concerned with an understanding of the potential and challenges in the use of synchronous

technologies in learning Chinese by Australian students and English by Chinese students in a collaboratively constituted transnational learning space.

Chapter 5

Key Findings and discussion

The most significant finding of this project concerns the strong potential benefits that the emerging technologies in peer learning of languages in a transnational space offer to respond to key challenges of Australian language education policy: raising enrolments and improving outcomes. Even those who were at first sceptical gradually became convinced of this potential. Almost every teacher was able to imagine various innovative ways in which the learning of languages could be made more enjoyable and effective. They could readily see how intercultural understanding could be promoted through such an approach to language study, beyond formal proficiency acquisition. Towards the end of the experiment period, the students grew in confidence and began conversing in the second language in ways that appeared more fluent. At the same time, students were able to challenge long-held stereotypes of others, and began to develop a more realistic understanding of China and Australia respectively.

While the potential of the emerging technologies was clearly evident, so too were the challenges in establishing a virtual learning platform in which aspects of peer learning were central. This chapter outlines the issues that proved significant. It begins with an overview of some of the difficulties that emerged in the experiment, which pertain to student recruitment, retention, and participation in Australia and China respectively. Following this is an explication of the key findings of the study, which are elaborated upon through a discussion anchored by three key themes: cultural differences and barriers to communication; issues of access and reliability of technology; and the role of the facilitator. This chapter concludes by providing some further thoughts on the potential of synchronous learning technologies for language teaching and learning. Pseudonyms are used throughout this discussion to ensure that the identities of all participants remain confidential.

Issues of student recruitment

Some of the challenges of student recruitment in Australia and China respectively pertained to how the project was named, how its significance was articulated, the channels used for recruitment, the attitudes of teachers and students, and the timetabling of sessions.

In the beginning of the recruiting campaign, the use of key terms such as 'digital learning project' and 'transnational learning space' did not appeal to the Australian students. After taking advice from Australian school principals and teachers, the phrase 'virtual pen pal project' was adopted as an alternative in order to understate the learning elements and emphasize the fun parts. This proved a better strategy. The title of the project was not problematic for recruiting in China, which indicates some differences between the two countries. Chinese parents generally had a positive attitude towards the learning components of the project. In fact, for them and the Chinese students, it is the learning components that made the project worth doing. Chinese students were also enthusiastic about making Australian friends and saw this as a great opportunity for them to practice English that they felt would inevitably lead to good marks in examinations.

Personal contact of the researchers with Chinese and Australian partner schools played a critical role in efforts to recruit students. In a way, 'persuading' schools for involvement in an 'external' project without obvious and immediate benefits to the students, school and teachers proved to be a major challenge. Particularly in China, a culture where *guanxi* (personal contact) plays a crucial role in society, it was especially important to initiate and maintain relationships through ongoing personal contact. Personal face-to-face relationships were prioritised particularly in China, despite the possibilities of instantaneous forms of electronic communication.

Initially, researchers used a variety of social media networks such as teacher professional networks in both China and Australia to promote the project. The responses to the project received from mailing lists were rather limited, mainly due to the requirement for parental approval and the support from school. The project therefore applied a 'top-down' method, approaching school principals

and teachers directly. However, even when support from the school and Chinese teachers was obtained, parents' approval and support was needed, creating an additional layer of challenges. This was especially so in Australia, where parents repeatedly raised the issues of confidentiality and the benefits derived from participation.

The attitude of Chinese teachers played a critical role in recruitment and retaining students' participation. The project failed to recruit students in a private school due to lack of the support from the only Chinese teacher in the school. The major reason was because she and her students were under pressure to achieve better scores in Senior students' final examinations, and she maintained that she was too busy to spend time on the project even though she readily admitted its benefits. The need to obtain the support of the teachers was also important in ensuring that the learning activities undertaken as part of the project were discussed and elaborated in regular classrooms.

Even when we had approval and support from school authorities, including letters from teachers to students, the participation of students in the initial Zoom meetings was critical. These meetings served as a form of orientation, in which students were introduced to the project and each other. However, participation in these sessions did not always lead to ongoing participation. For instance, while one enthusiastic Australian mother attended the first Zoom meeting with a student for an information session, the student did not ultimately sign up for the project. It became clear that while the mother was interested in her son learning Chinese, her son was not. By and large, fewer Australian students appeared committed to learning Chinese than Chinese students keen on learning English. This does not only indicate the different attitudes to learning in Australia and China but is perhaps also illustrative of the global dominance of the English language.

The time constraints required to participate in the experiment over a period of ten weeks also became a challenging factor in recruiting students. Schools both in Australia and China have a full schedule for curriculum subjects and extra-curricular activities. Apart from art classes, Chinese students attend a large

number of after-school *buxi ban* – private tutorials designed to help students pass the entrance examinations. One of the participating schools in China is a boarding school where students' time is organised closely by the teachers, and students participate in night tutorials. The students at this school were also not allowed to use their personal electronic device. The Zoom meetings therefore had to be held in the IT rooms in the school using the school's equipment at lunchtime. A few Australian students too were reluctant to give up their Saturday nights for an experiment whose benefits were initially not clear to them.

Student retention and participation

While most sessions ran smoothly, the experiment unveiled a number of issues that proved to be important in sustaining students' interest and participation in online peer learning. Most significant was the regularity with which students were able to attend the sessions. In the experiment, there were a number of times when students had to miss out a Zoom session due to having to attend tests or student excursions, or changes in the school schedule. For the Saturday sessions, students missed sessions for personal reasons and family commitments. Rescheduling meetings disappointed the other party who had been eagerly planning, preparing and waiting for the sessions. The absence of just one student very often made the planned group work difficult to conduct. This had a negative impact on the retention of students' interest and participation generally, but also in the development of collegiality.

As is normal in most groups, personality clashes among the students also emerged. For example, in one semi-structured Zoom session, an outgoing Chinese boy from Year 10 named Li played beautiful guitar and introduced Chinese songs to the Australian girls. He apparently became quite popular, while another Chinese boy, Gao, remained silent and appeared unhappy. Gao was enthusiastic about online learning but a little shy in the Zoom meetings. In a post-session interview through QQ, Gao expressed his annoyance with Li, saying Li was just showing off to please the girls. As the tension between the two grew, Li considered leaving the group. After talking to the facilitator, Li agreed to stay in the program, but did not come back because he felt that he was disliked and

unwelcome. This kind of conflict between students constituted a challenge for the facilitator, who sought to retain students in the open Zoom session where adult intervention appeared necessary. In the close-ended Zoom sessions, the facilitator was easily able to resolve such tension.

There were occasions when a few students from an Australian rural school had to withdraw from the experiment because the school advised them to drop Chinese and focus instead on their literacy and numeracy to prepare for impending tests. At another Australian school, a newly opened option to take French reduced the interest that two students in learning Chinese and in participating in the experiment. These students argued that 'Chinese is too difficult' and students 'can't see the reason to learn Chinese', to quote a disappointed Chinese teacher. This reflects a broader issue surrounding Chinese language education in Australian schools, where many students acknowledge the importance of learning Chinese, but are reluctant to prioritize it, and retain interest.

The 'drop out' rate turned out to be higher than was hoped, with Australian students in particular offering a variety of reasons for their lack of interest. Some students attended once and never came back. Follow up interviews revealed that some of these students felt threatened to meet strangers online, especially those from an unfamiliar culture and language. Whether a more robust program of orientation and coaching within the two national groups prior to the transnational sessions would have helped remains an open question. As does the issue of whether learning within the framework of formal schooling during school hours rather than peer learning out of them is more likely to sustain student interest, especially when teachers are able to keep a close eye on the students.

Technology and Internet access

The experiment indicated that while emerging communications technologies have opened up a range of possibilities for pedagogic innovation, technology and Internet access have yet to be reliable and effective. Issues of reliability in

particular presented a major barrier to peer learning in a transnational space. For example, despite its various advantages, the Zoom platform at times struggled with inconsistent connectivity, causing a lack of instant contact and long buffering times. Furthermore, while Zoom boasts the capacity to host 20 participants for simultaneous conversation, its capability in this respect varied according to locations and individual situations.

Unexpectedly, there was often better connectivity at residential locations than in schools. One of the Chinese schools had particularly poor reception. A number of sessions that relied on this school's connectivity were frustrating for participants, and ultimately had to be abandoned. One of the most reliable, continuous and productive sessions turned out to be those where students from both China and Australia were conducting Zoom meetings from home on a Saturday. In this group, 12 participants were present in the Zoom space, and the quality of connection was entirely satisfactory, enabling a highly productive conversation in which both English and Chinese were spoken in turn.

At times, Zoom also did not permit consistent and rapid login. Consequently, the facilitator at times had to use other social media platforms to share crucial information about meetings. Setting up and trouble-shooting the Software Zoom also required a large number of outside-session conversations between the facilitator and the Chinese and Australian teachers and students. However, it was noted that while Chinese students readily accepted the facilitators' invitation to be friends on additional platforms, their Australian counterparts were somewhat reluctant. While different social media platforms have become common in each country, students in both Australian and China had varying degrees of familiarity with platforms used, leading to further difficulties in communication.

In the beginning, there were concerns about the possible negative impact of China's firewall and government internet scrutiny in the installation of Zoom, a program that is designed and provided by an organisation from outside China. However, on the evidence of the project, none of the participants encountered any such problem, possibly because of Zoom's limited usage and the fact that it is largely unknown in China. While the much feared 'fire wall' problems in China

did not eventuate, some Chinese students were reluctant to share information about themselves, which impeded free flowing conversations to some extent.

When problems with technology or miscommunication occurred, social media, in the form of Twitter or Facebook in Australia, or WeChat and QQ in China, became complementary tools used alongside Zoom. There were many occasions when WeChat provided a backup communication tool to solve problems about the process of joining the sessions as well as providing information about student movements. Furthermore, mobile phones were crucial for troubleshooting and solving urgent problems of an incidental kind, such as students running late, or the many unforeseen circumstances that can occur in the lives of young people.

At the beginning of the project, the participants encountered numerous problems with installing and logging in, mainly due to unfamiliarity with the platform. However, over time, the problems were easily resolved with repeated use and greater familiarity. It was noticeable that once they were within the platform, students did not have much trouble applying the various functions that Zoom offers, such as raising a hand for facilitator's attention, turning off the video and loading pictures. Of course, some students were quicker than others in adapting to these functions, and the facilitator observed that quicker learners were eager to help other students. What was abundantly clear was that both Chinese and Australian students displayed pride and satisfaction in helping each other, which in turn may have motivated their participation in general online learning. Those that persisted with the project enjoyed the experience could foresee the potential of peer learning in a transnational space.

Discussion

Geert Hofstede (2001), in his influential study *Culture's Consequences: Comparing Values, Behaviors, Institutions and Organizations Across Nations*, identifies different dimensions of cultural exchange: power distance, collectivism and individualism, and uncertainty avoidance. The cultural differences between China and Australia along these dimensions are considerable in many aspects, creating serious challenges for a cross-national project requiring close

collaboration between China and Australia – two nations that have markedly different cultural trajectories, political systems and academic traditions. This project was designed to explore the extent to which it was possible to forge a transnational learning space in which the principles of peer learning could be applied, to enable students to work across these differences.

Social hierarchies have played an important role in China's history and underpin its schooling system. This was reflected in the Chinese schools that participated in the experiment. The Chinese principals we met had more power over day-to-day school matters than their counterparts in Australian schools, where democratic ideals are more likely to be explicit values in a school's charter. This was evident when researchers for this project met Chinese school principals. At these meetings, teachers who were likely to be involved in the project were not invited to be present. It seemed from the principal's point of view that calling the teachers into the meeting was unnecessary because usually the teachers would just do what the principal asked them to do. Nor did the Chinese teachers feel disrespected by the principal's failure to consult. School principals provided relevant course coordinator's contact details through social media Wechat to the facilitator who later explained the procedures and requirements of the project to the school coordinators. It was through the school coordinator that the project was explained to students and parents. It was also the coordinator who, in liaison with the IT department in the school, facilitated the online meetings. This kind of linear hierarchical working style isolated the project facilitator from personal contact with the teachers, because she had to reach them through the school principals.

In contrast, Australian teachers were called into the first meeting by school principals, in which the researchers informed the schools of the details of the experiment. The opinion of the teachers was solicited and respected. In one case in a private school in Melbourne, the teacher of Chinese language held a contrary view about the feasibility of the experiment and chose not to take part in the project. The principal accepted her decision and advice not to proceed with the experiment. The Australian students and parents also had more liberty in deciding whether to join the experiment or not. One parent even joined the

Zoom meeting with the student to gather more information about the experiment. More freedom in decision-making on the Australian side made recruitment and retaining students for the experiment more challenging, but equally it indicated an alignment between this approach to decision-making and the principles of peer learning.

Traditionally Chinese students are taught to respect authority. This sheds light on the process as well as in the ongoing sessions of the experiment with regard to the behaviour of school management teams and students' interactions in the cross-national online space. As indicated in the case of Li and Gao (above), despite the personality clash, Li's behaviour of playing guitar in front of Australian girls also runs counter to traditional Chinese culture of modesty and value for group effort over individual performance. This explains why, very often, the Chinese students appeared to be more reticent in conversations. However, with the rapid influence of globalisation on China, these traditional values are changing among some but not all. This change was suggested in the tensions that arose amongst the Chinese students themselves over the ways in which they should behave in a transnational space.

In a transnational setting, the cultural differences between Australian and Chinese students became evident. For example, when the facilitator withdrew from the open-ended or semi-structured sessions, Australian students usually provided a 'leader' to start the conversation and play the role of 'facilitator', whereas Chinese students would be reluctant to appear to take an on a leadership role. By and large, the Australian students were more assertive, and perhaps even confident. In a project committed to the principles of peer learning, such cultural differences in students' behaviour had to be interpreted and managed in online space so that the learning opportunities for students from both sides were maximised. The question of how and to what extent should transnational groups be managed is of utmost important in examining the potential of transnational learning spaces. Should open-ended or semi-structured meetings be conducted in ways that are more directed? Should students be trained with relevant intercultural skills? Should a group leader be nominated in order to ensure that personality or cultural differences do not

become excessive? What should be the limits of the autonomy that is given to the students?

These issues underline the challenging role played by the facilitator in an online transnational learning space. Issues relating to workload, the management of online sessions, the design of online reciprocal learning, and intercultural awareness demand a highly experienced and adept facilitator. Clearly the facilitator must herself be bi-lingual and bi-cultural, and have highly developed communication skills. She must also be familiar with principles of teaching and learning for different age groups, experienced with technology, and able to solve problems by troubleshooting and providing advice when they occur. Furthermore, the facilitator needs to understand students of different school levels in different countries, including their common and unique features, and their needs and subject matters that may be significant in participating in the online project. Different personalities of students and level of interpersonal skills may have an impact on the online sessions as indicated in the previous sections. The facilitator thus needs to be able to identify and manage possible cultural and personality clashes in order to manage the online meetings.

This project was based on the assumption that to design online learning activities, students should be given maximum autonomy in their interactions during online sessions. The principles of peer learning dictate as much. However, the findings of the experiment indicate that teacher intervention is perhaps essential most of the time, especially with younger children, and student autonomy can be provided gradually under certain circumstances. Thus, the facilitator needs to decide whether intervention is needed for particular sessions, how much intervention is appropriate for different kinds of students, and when this intervention must take place. This is a challenging task for the facilitator as excessive intervention may damage the spirit of peer learning, while inadequate intervention may jeopardise the principles of effective learning.

As outlined, the differences between China and Australia remain stark, despite the impact of globalisation and China's rapid modernisation in recent decades. Chinese society and its education system are however undergoing constant

changes that provide opportunities for innovative pedagogy, and experimentation of the kind upon which this project is based. Nonetheless, the facilitator must be aware of the cultural differences in school environment and the society as a whole in order to be able to work with teachers more efficiently to facilitate online learning in a transnational space. In this case, the facilitator must know Chinese and Australian social protocols to be able to approach school principals and access support from the school. Different values systems and ways of doing things in China and Australia, and the school structure, administration system and practices also form a challenge for the facilitator to manage with a repertoire of different strategies.

Rethinking the Potential

Overall, the emergence of new information and communication technologies, and in particular synchronous platforms, offers potential to address a major problem in pedagogy – making good use of intercultural and transnational resources, and thereby maximizing the possibilities of global interconnectivity for enriching education. Exploring these possibilities, this project examined a form of peer-based or reciprocal learning of an additional language through an innovative use of technology in transnational space. However, the experiment conducted as part of the project suggested that the transnational learning space represents something much more: a tool for breaking through what appears to be a rather unimaginative approach to cultural diversity in many countries. It suggests instead a pedagogic approach in which the learning of an additional language is seen as inextricably tied to the project of intercultural understanding within a transnationally connected space.

There are some urgent imperatives for pedagogical change in language teaching. These challenges are prominent in the minds of many language teachers and their organisations, so that today many organisations are exploring the possibilities of innovation so that the learning of an additional language is not only seen in technical terms, but also in terms of its cultural and political potential. To realize this potential, much remains to be done in finding approaches that address the issue of how learning in a transnationally connected

space can contribute to intercultural understanding in ways that lead to reciprocal benefits for students working in increasingly diverse, multi-cultural and multi-linguistic communities.

However, the suggestion that digital pedagogy and transnational spaces are self-evidently good and necessary must be resisted. Rather, it is important to demonstrate precisely how the use of emerging technologies might provide a way through the challenges of learning a second language. In Australia, the challenges facing learners of Chinese, as well as other target languages, have been widely discussed. One of these challenges relates to the perception that it is difficult to teach Chinese in classes that have both Chinese background and non-Chinese background students, and that the Chinese background students have an unfair advantage that intimidates students who lack this linguistic and cultural background. This project has shown this view of language learning to be fundamentally mistaken. It has shown how to bring together students from different levels of Chinese and English (native speaker versus beginner) is an asset rather than liability, not only transnationally, but also within nations. It points to the possibility of looking beyond a narrow and mono-cultural view of teaching and learning in which homogeneity is assumed to be essential. On the contrary, this project shows linguistic and cultural diversity to be a major advantage in learning designed for both communicative efficacy and intercultural understanding.

Despite its limitations, this project has suggested, when combined with other technologies and pedagogical tools, peer learning in a transnational space might not only provide a contemporary, culturally-inclusive form of pedagogy for language learning, but might actually utilise cultural diversity rather than conceptualising it as a problem. At the level of teacher professional development, this is an important finding – one that we might say was not envisaged at the outset of the study, which focused on students to the exclusion of teachers. It suggests that if additional language teachers could be ‘trained’ in their understanding of the principles of peer learning and the use of new technologies in forging transnational learning spaces, it would overcome the one-sided and

culturally privileged view of what is necessary to improve the performance of teachers in an additional language classroom.

Wang and Hay (2010) have shown that teachers, and principally native speaker teachers of Chinese are not unaware of the problems of their own location within a different cultural background; they do not lack enthusiasm for new pedagogical approaches, and they are hungry for support to implement new and innovative approaches to teaching. What they lack is some guidance and resources. It would be most instructive to involve teachers, in China and elsewhere, in this use of 'synchronous platforms', focusing on this peer-centred (not necessarily peer-led) and reciprocal approach to language and culture teaching and learning in a new form of professional development. This project has provided a basis for this form of professional development. In light of this Orton's (2016a) documentation of the critical need to build "Chinese language capacity in Australia" can be advanced with the judicious use of the approaches documented in our study.

In both China and Australia, commitment to the principles of internationalization and intercultural communication has become ubiquitous. These principles have not been fully implemented into curriculum and pedagogy, often under the weight of the equally pressing imperatives of exit examinations and high-stakes testing. This project shows however that it should not be difficult to integrate these two aims. A promising avenue here lies in an integration of technologies with arts-based approaches to teaching and learning, as was tried within one of the transnational groups in this project. This group used drama and storytelling techniques to engender an interest in learning an additional language and in learning from students who came from a different cultural background. Through these techniques, it was possible to enable students to take further control of their learning and employ a number of approaches that they initiate themselves.

There was an expectation inherent in the research question of this project that a form of student-led pedagogy might be validated, which would transcend both national boundaries and classroom confines, simply via the medium of transnational space negotiated by an electronic communication tool. This has not

proved to be the case. What we have found instead is a method and medium that might best be integrated with aspects of conventional classroom imperatives and practice. Furthermore, it is clear from the conduct of the project that teacher support and intervention should not be regarded as contrary to the aims and approach of peer learning and reciprocity, but as crucial elements.

Chapter 6

Conclusions

Sponsored by the International Baccalaureate Organization (IBO), this report has explored the potential and challenges of using the emerging synchronous technologies for the teaching and learning of Chinese and English. The project is based on the belief that the principles of peer learning can be readily applied to transnational spaces, the creation of which has now become entirely possible through the use of new technologies. The data upon which the discussion in this report is based is derived from these main sources: a survey of teachers of Chinese and English in Australia and China respectively, designed to determine the nature and extent of their use of new technologies in the teaching of additional languages; a review of a number of recent educational interventions that use the new technologies and social media to pursue pedagogic reforms and build professional networks among teachers of additional language; and a report on a pedagogic experiment that involved the creation of a technology-driven 'transnational learning space' across schools in Australia and China in which students with Australian and Chinese language and cultural backgrounds were encouraged to assist each other in developing their additional language capabilities along with their intercultural competence. Through a discussion of this experiment, the project thus explores the potential and challenges of learning and teaching additional languages in transnational settings, based on the principles of peer learning and intercultural understanding.

The survey of teachers of English and Chinese in China and Australia revealed that while they used social media extensively in their private lives, they were less adept and confident in using the emerging technologies in their professional work. While they could readily acknowledge the potential of these technologies in creating transnational spaces for the teaching and learning of additional languages, they were reluctant to experiment with them. The mid-career teachers in Australia appeared to be more enthusiastic about the innovative uses of the emerging technologies than both early career and older teachers. Teachers of English in China expressed concerns about the pedagogic use of

technologies in terms of the issues relating to firewall, reliable connectivity and privacy. In both Australia and China, those teachers who used technologies in their classrooms nonetheless did so largely in support of the traditional didactic methods of teaching. Teachers seldom experimented with the new technologies, thus failing to realise the potential of peer learning across national and cultural borders. These findings suggest the need for pursue more vigorously the professional development of teachers that helps to develop not only their technical proficiency but much more importantly their ability to re-think and re-imagine their pedagogic approaches, experiment with the creation of transnational learning spaces and explore the possibilities of peer learning.

A review of a number of initiatives that have utilized the emerging technologies to realize their potential in the teaching of additional languages indicates an endless range of possibilities, with teacher activists around the world experimenting with new ideas, challenging traditional modes of teaching, and building highly effective professional networks. However, these initiatives are seldom scaled-up and institutionalized across the whole of schools and educational systems. Nor do they enjoy longevity, often abandoned once the activists lose interest or are exhausted with the hard work and time that is required in sustaining such projects. What is clear is that the projects that lasted --and were widely accepted -- needed on-going institutional support, together with reliable supply of funding. Moreover, many of the projects reviewed in this chapter were largely teacher directed. They did not encourage the exercise student autonomy, even as their architects realized that young people now take social media and the new technologies for granted and can work with them in a range of creative ways. This review thus suggests the need for schools and systems of education to think more seriously about the ways in which young people can be permitted and encouraged to explore new ways of learning with the use of the new technologies, helping them grow their sense of creativity and confidence, as well as responsibility and accountability.

With this in mind, this project created an experiment that explored how students in Primary, Middle and Senior school age groups in Australia and China could be brought together as peers to learn Chinese and English respectively. The

students used Zoom and other social media platforms to participate in various conversational and other activities, facilitated by a bilingual teacher who guided them in both the use of the technologies and the management of their learning. The experiment indicated a range of pedagogic possibilities associated with peer learning in transnational virtual spaces. For example, the students were able to hear an additional language spoken by native speakers in conversational settings. They were also learned about each other's cultural traditions and everyday life. Most students reported enjoying the transnational sessions, and felt that their confidence had grown. Their teachers also found the sessions helpful, noting that the interest that the students displayed in learning additional language had increased.

At the same time, it became clear that the creation of transnational spaces for peer learning was not as simple as was initially assumed. The cooperation of schools in both China and Australia proved difficult to achieve. There were also many impediments in the recruitment of students: their continuing participation could not be guaranteed, especially in Australia. Many teachers were also hesitant, perhaps even distrustful, of the experiment. These difficulties indicated a deep-seated conservatism in educational institutions, which do not always welcome the possibilities of innovation, regarding them as disruptions to the routines with which they are mostly happy. The reluctance to join the experiment also indicated how most students, parents and teachers are preoccupied with external examinations, leading some to regard any out of schools learning to be a distraction, even when it potentially contributes to success in examinations and to the enhancement of learning. What this realization suggests is that schools and educational systems need to consider more seriously and extensively the nature and potential out-of-school learning experiences that the emerging technologies have clearly made possible -- together with the issues of how such experiences might be encouraged, supported, monitored and integrated into the formal aspects of the school curriculum.

Once the transnational sessions were established for this experiment, a number of practical issues emerged that are instructive in an assessment of the

challenges and potential of peer learning in transnational spaces powered by the emerging technologies. To begin with, as efficient as these technologies have become they are still not entirely reliable. Also, Internet connectivity is uneven across different sites, leading to long buffering and reconnection times, making it difficult to assume continuous and organic conversations. The much-feared firewall problems did not eventuate in China, with Chinese schools appearing much better equipped with networking systems than the Australian schools. Indeed, many Australian students found it easier to log into the sessions from home than from their schools. Of course, these technical issues are beginning to be resolved rapidly, and the potential of the next generation technology systems are more likely to afford seamless connectivity, making it easier to sustain conversations in a transnational learning space.

Despite these impediments, most sessions proved highly productive. Even the sceptical students and teachers began to acknowledge the potential of transnational learning spaces for learning of additional languages in particular. From the perspective of the experiment, it became possible to draw a number of inferences. To begin with, it became clear that despite major shifts that are currently taking place among young people in both Australia and China towards a globalising culture, the differences between cultural and academic traditions in Australia and China remain significant. These differences were evident in the ways students displayed their motivation and interest, and the seriousness with which they engaged in the conversations and learning activities. The Australian students were much less reticent in expressing their views and speaking up than their Chinese colleagues who nonetheless felt the sessions to be more beneficial. Yet the sessions provided the students in both countries an opportunity to discuss these differences and how they might be interpreted and negotiated. Issues of intercultural communication and understanding thus became a major focus of their conversations.

It was also possible to infer from the sessions that it takes time and training for students to become independent learners in transnational communicative settings. This suggests that the principles of peer learning cannot be assumed but that the students have to be trained to learn from each other, and their

confidence in exercising autonomy takes time to evolve. This implies the need to gradually open up the possibilities of peer learning, rather than expecting them from the beginning, and at any age. Indeed, relatively 'closed' instructional sessions are appropriate for younger age groups; and even for the older students, online learning needs to be 'structured' in ways that serve the broader purposes of learning. The students need to be guided into a topic or questions for discussion. Furthermore, they need to develop the basic skills to become familiar with the use of synchronous platforms, to participate in online interactions, through the gradual development in the skills of addressing questions, inviting others to join the conversation, providing feedback, seeking elaboration on viewpoints expressed and so on.

This highlights the importance of the role of the facilitator in transnational learning spaces that are designed to encourage peer learning. This is a challenging role not only for the online sessions, but also for other aspects of cross-cultural communication, building relationships among students with different personalities, upbringings and cultural underpinnings. Different communicative style and personality need to be managed well in order to retain students' interest and stimulate their participation. Over time, through this training, the students could be prepared to establish and manage sessions on their own, without a facilitator's presence. In learning of additional languages, the presence of a bilingual facilitator would appear necessary, especially with the younger students, who can not only translate across difficult concepts but also intervene when pedagogic intervention becomes helpful in the development of intercultural understanding.

This project has shown that the possibilities of the emerging synchronous technologies in imagining and enacting new ways of teaching and learning of additional languages are considerable. Even as many impediments persist, it has demonstrated how the principles of peer learning and intercultural understanding can indeed be realised in transnational spaces facilitated by these technologies. This project is located within the context of major concerns in Australia and China about the learning and teaching of Chinese and English respectively. It has shown that the emerging technologies can be usefully

employed to create transnational spaces for peer learning in ways that have the potential to address some of these concerns. In realising such a potential, IB can play an important role, especially in view of its commitment to the values of student-centred learning and internationalization. It can encourage its World schools to continue to explore the always growing possibilities of the emerging technologies in promoting intercultural communication and understanding through the learning of languages in transnational spaces in which students are provided opportunities to learn from each other across national and cultural borders.

With respect to language policy, the analysis presented in this report is instructive, both for state education authorities and organizations such as IBO. It is worth recalling, for example, that there have been three key aims to recent Australian language education policy: first to recalibrate offered languages so they would reflect national priorities, second to greatly expand enrolments and third to improve learning outcomes. While the first appears to have been largely achieved it is a salutary lesson of policy history that the national priorities themselves change, but the long term nature of school language learning cannot allow for frequent changes to which languages are taught, so that while Asian languages are now well established in education many scholars call for a rebalance among these (Orton, 2016a). Second the expansion of enrolments appears to be a more complex aim than many realise. As Lo Bianco and Slaughter (2009) show the states which offer the greatest number of languages have the largest overall enrolments and the best retention, a finding which seems to invalidate the desire of many policy makers for 'greater efficiency' by offering fewer languages in schooling. This is clear from the most recent documentation of languages provision in the state with the most robust enrollments, Victoria, whose 2017 report shows that practically all primary schools offer languages, but for short periods of time and with methodologies and program designs that need improving, that the spread and range of offered languages is strong and extensive, but continuation rates into the final years of schooling remain serious challenges (Victoria, 2017). Finally, as the present report shows, the recurring problem of attained proficiency which is the most

persistent of all stumbling blocks in language education policy, not only in relation to state authorities but also IB schools.

Emerging technologies have considerable potential to tackle all of these challenges, as shown by the peer learning of Chinese and English documented in this study, and the application of these initiatives to transnational learning spaces also opens the possibility to wholly new and stimulating practices that offer potential for enhancing learning outcomes. IBO could well use this report as a guide to develop its views and pedagogic prescriptions regarding the considerable potential that its World schools in particular have to experiment with peer learning of languages across national and cultural borders.

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