Publications	Data collection instruments used	Sampling procedures used	Data analysis techniques	Number of participants	Research Question 1: Can an online 3D multiuser virtual world be implemented to create additional opportunities for meaningful interaction in the language being learned for, in particular, non-background beginner level learners of Chinese within the constraints of a traditional tertiary foreign language curriculum and foreign language classroom? (Chapter 5, Publications 1-3)	Sub-question1: What issues does the incorporation of such an approach potentially create for assessment in the formal curriculum? (Publication 3)	Research Question 2: What impact does the Chinese Island approach have on learner interaction and foreign language anxiety in language learning? (Chapter 6, Publications 4-7)	Sub-question1: What practical issues arise for implementation of learner interaction with "expert" or native speakers? (Publication 4 & 7)	Sub-question2: Can learner interaction with programmed non-character players activate any of the mechanisms postulated in the Interaction Hypothesis that can create conditions for acquisition? (Publication 4)	Sub-question3: What impact does an approach like the Chinese Island approach have on foreign language anxiety as one of the important affective factors in foreign language acquisition? (Publications 5, 6, 7)	Research Question 3: What are the barriers to the wider adoption of a model like the Chinese Island approach by other interested foreign language educators? How can they be reduced? (Chapter 7, Publication 8)
					How each article addresses the relevant research question						
Publication 1	- Review of relevant literature - Anecdotal & observational data collection - Student written output - Post-lesson analysis of logged dialogues	- Examination of all learner output during lesson - Examination & analysis of logs of all student conversations with virtual characters	- Discourse analysis	Not available	Addresses this question by analysing the needs of the students involved with the initial trials of the virtual world and investigating the ways in which the virtual world environment could meet these needs. Looks at infrastructure needed for and other trends in online use conducive to the use of such a platform. Looks at how principles of language acquistion can be incorporated.	N/A	N/A	N/A	N/A	N/A	N/A
Publication 2	- Review of relevant literature - Student feedback surveys (one direct, two reported from other papers published by author & colleagues)	- Voluntary participation in anonymous online survey - Entire student cohort in the subject offered opportunity to undertake survey	- Descriptive statistics (measures of frequency)	n = 112	Outlines limitations of formal curriculum/classroom that can be addressed by 3D virtual world. Uses theoretical framework of constructivism to analyse existing curriculum and how lessons in 3D multiuser virtual world can be integrated into and compliment it.	N/A	N/A	N/A	N/A	N/A	N/A
Publication 3	- Review of relevant literature - Student focus groups data - Interviews with lecturer - Subject artefacts - Case study notes	- Voluntary participation in anonymous online survey & focus groups - Entire student cohort in the subject offered opportunity to undertake survey	- Qualtiative (content) analysis in the light of the conceptua framework established for the study: Affordances, Processes and Policies	n = 21	Focus is on the incorporation of formal assessment into the virtual world lessons and reporting on strengths and weaknesses of the approach from both instructor, learner and formal curriculum perspectives. The study concludes that both incorporation of such an approach is viable, that it can provide additional opportunities for meaningful interaction, and that formal assessment can also be incorporated in the virtual world environment on the proviso that measures are taken to align instructor and learner expectations.	The study highlighted a problem of mis-alignment of expectations between instructor and students in relation to assessment conducted in the 3D virtual world environment. It also proposes a possible means of ameliorating this problem.	N/A	N/A	N/A	N/A	N/A
Publication 4	- Review of relevant literature - Conversations between students and NPCs logged	- Random sample - Conversation logs analsyed in detail (discourse analysis)	- Discourse analysis - Descriptive statistics (measures of frequency)	n = 54	Addresses this question by demonstrating that authentic conversations with NPCs in authentic scenarios provided learners with oppotunities to make important form-function links in the target language without interrupting the flow of communication, to notice differences between their interlanguage and the language modelled by the NPCs, and to produce modified ouput.	N/A	Based on a review of the literature, the paper postulates that the use of an avatar as the embodied self in the virtual environment aids in the reduction of foreign language anxiety.	The paper highlights the difficulty of using non-education-focused native speakers extant in the virtual world to engage in learning with a specific focus. Moreover, problems arise with coordinating time constraints of formal curriculum with availability of native speakers.	Instances of communication breakdown, feedback, and repair were found during analsyis of conversation logs. This suggests that the mechanism of negotiation of meaning was activated during interaction.	N/A	N/A
Publication 5	- Review of relevant literature - Online pre and post-lesson surveys	- Voluntary participation	-Descriptive statistics (measures of frequency) - Quantitative analysis (2-tailed Pearson Correlations) - Qualitative analysis (content analysis)	n = 55	N/A	N/A	See sub-question 3	N/A	N/A	Factors likely to cause anxiety in the classroom were identified & quantified. Students were found to experience less foreign language anxiety in relation to similar factors in the virtual environment. However, issues such as the need to provide more support to older and inexperienced learners in the virtual environment were also identified.	N/A
Publication 6	- Pre and post-lesson surveys	- Voluntary participation	-Descriptive statistics (measures of frequency) - Quantitative analysis (2-tailed Pearson Correlations) - Qualitative analysis (content analysis)	Pre: n = 62 Post: n = 55	N/A	N/A	See sub-question 3	N/A	N/A	Addresses the sub-question with two findings: - students experience less FLA in the 3D MUVE environment than in the face-to-face classroom setting. - the more students feel the two worlds of the virtual environment and the real word are similar, the more motivated they are to engage with the classes and communicative activities in the virtual world but at the cost of feeling more anxious.	N/A
Publication 7	- Pre and post-lesson surveys	- Voluntary participation	- Quantitative analysis (2-tailed Pearson, Cronbach's alpha, paired T-tests, eta^2) -Descriptive statistics (measures of frequency)	Pre: n = 35 Post: n = 33	For students who may not have the opportunity to participate in study abroad at all, task-based learning in the MUVE environment could potentially provide an opportunity to experience target language use in contexts that are as close to authentic settings (the world outside the classroom) as possible but with reduced FLA and potentially fewer disincentives to engage.					Addresses the sub-question with the following findings: - all groups in study experienced reduced foreign language anxiety in the virtual environment (albeit of different degrees) - belief in the authenticity of spoken interaction in the virtual environment was a key factor in the level of reduction of foreign language anxiety	

| Publication 8 | - Review of relevant literature'
- Case study
- Online survey of Chinese language educators
- Pre & post workshop surveys
- Student & instructor focus groups | - Purposive / expert sampling
- Voluntary participation | -Descriptive statistics (measures of frequency)
- Qualtiative (content) analysis | Chinese language educators: n = 15
Pre-workshop: 16
Post- workshop: 15
Focus group - students: 12
Focus group - teachers: 6 | | | | | | | The following barriers to adoption were identified:
- educators not knowing where to start in terms of setting up such a model
- the perceived difficulty of developing resources from scratch
- lack of familiarity with virtual worlds

The following suggestions were offered as ways to overcome such barriers:
- rather than start from scratch, build up existing environments, tasks & expertise (such as the resources developed for the Virtually Enhanced Languages project)
- collaborative development where resources, ideas and experience are shared among educators
- conceiving of learning activities in virtual as tasks to allow for their modularisation and hence eas of modification, adaptation, and sharing |