21st Century Learning at a distance:

Extending the Bridge21 model

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A dissertation submitted to the University of Dublin, in partial fulfilment of the requirements for the degree of Master of Science in Technology and Learning.

2013

Declaration

I declare that the work described in this document is, except where otherwise stated, entirely my own work and has not been submitted as an exercise for a degree at this or any other university.

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Acknowledgements

I'd like to thank the students who took part in this project both in Ireland and Germany for all your enthusiasm, dedication and hard work. You made it a fun and enjoyable experience.

I'd also like to thank my supervisor Brendan Tangney who from the start offered me guidance, encouragement and confidence to finish the job.

The Bridge21 team, Claire and Kevin, you both have been my structure and my scaffolding.

To my classmates who I have come to know and care about, I thank you all for being there.

To my German friend and teacher Stevie who made it all happen and my German cousins, Karl-Heinz, Walter and especially Jutta who made it all possible.

Finally to my wonderful family, Gráinne, Kate and Greg, thank you so much for all your love, patience, support and just being there for me.

"Believe and you can make it happen"

Contents

Abstract

A significant component of 21st century learning focuses on collaborative learning which is based on interaction among a group of students where experiences are shared, roles are assumed and the goal is to solve a common task with total interdependence. Collaborative learning has in recent years developed and extended into collaborative distance learning or telecollaboration. Telecollaboration is an educational endeavour that involves people in different locations using internet tools and resources to work together. Students today have many opportunities to be exposed to differing opinions, perspectives, beliefs, experiences, and thinking processes. They can compare, contrast and combine similar information collected in dissimilar locations, communicating with a real audience, using text and imagery and expanding their global awareness (Harris, 1999). It can also be seen that, in today's workplace, there are opportunities for organizations to use virtual teams which can challenge current work processes and explore areas of team effectiveness and satisfaction (Szewkis et al., 2011).

Today technology offers many opportunities to allow for a greater range of affordances in the teaching and learning of second languages. It has been well documented that the best way to attain oral fluency is to be immersed in the target language (Freed, 1995). Computer-mediated communication (CMC) tools offer students synchronous and asynchronous methods of communication which allow them to communicate with native speakers, in the target language, in their home country. Research shows us that student classrooms continue to concentrate on a linguistic competence and not on a communicative competence (Gilmore, 2011).

Further research shows that students can, using the theoretical framework of social constructivism, have success in language learning, by using the constructs of their own dialogue and in turn by negotiation of meanings and reinforcements with their peers (Huifen & Yueh-chiu, 2010).

The Bridge21 model, which is technology-mediated, team-led and project-based brings a particularised approach to 21st- century learning and is distinguished by the mixture and

focus of scaffolding and consistency in the application (Lawlor, Conneely, & Tangney, 2010).

An exploratory case study was designed to extend the Bridge21 model to encompass team members collaborating at a distance to promote collaborative engagement and to enhance the use of oral and aural skills for second language acquisition. Each workshop involved students from Ireland and Germany cooperating together on project-based tasks focused on exploiting the use of authentic materials to improve second language acquisition. Thirty-seven students participated in two three day workshops based in Ireland and Germany using the CMC tool Skype for face-to-face video and aural communication. Data collection involved student questionnaires, teacher/mentor questionnaires, observations, focus groups and analysis of the student learning experiences including blogs, videos and presentations.

This study is an exploratory case study which investigates the extension of the Bridge21 model to operate at a distance.

The findings suggest that using the Bridge21 learning model succeeded in allowing students to collaborate at a distance and to participate in second language acquisition. Most students found that using technology to collaborate, in their own groups and with the native speaking groups, was conducive to language learning and enhanced fluency. The use of the Bridge21 model re-enforced how students adapt and perform in a particularly positive way when confronted with a 21st century learning experience.

1.0 Introduction

An emphasis on what students can do with knowledge, rather than what units of knowledge they have, is the essence of 21st-century learning (Silva, 2009). Advocates of 21st-century learning, point to a new workforce reality that demands workers who are independent thinkers, problem solvers, and decision makers. They argue, that schools should not only focus on academic skills but equally on a range of intellectual, social, and life skills needed to excel in college and the workplace (Gewertz, 2008).

Collaboration is regarded as an essential component of 21st-century learning (Bruns, 2007), however the ability to share, socially interact and consider other points of view is not promoted in an individualised model of learning. Vygotskian and Piagetian researchers reason that "development may occur when two participants differ in terms of initial level of competence about some skill or task, work collaboratively on it, and arrive at shared understanding" (Tudge, 1992). A collaborative approach, through group work, would not only provide today's students in the classroom with an authentic learning experience but would develop generic skills in communication, collaboration and team building (Allen, Crosky, McAlpine, Hoffman, & Munroe, 2006).

Extending from the classroom, telecollaboration (Harris, 1999) is an educational endeavour that involves people in different locations using internet tools and resources to work together. In today's workplace there are many opportunities for organisations to explore areas of team effectiveness and satisfaction where the use of virtual teams can challenge current standard working processes (Szewkis, et al., 2011).

The Bridge21 learning model is grounded in a social constructionist philosophy of learning. The key components of the model are, a highly structured team-based pedagogy, physical space organised to support collaboration, the use of mentors to support learning, sharing of ICT resources, team and individual reflection and the adoption of a strategic approach to scaffolding a team's work (Lawlor, et al., 2010).

Today classrooms are no longer limited to the four walls surrounding them. Technology offers many opportunities for students and teachers alike, to extend 21st-century learning outside of the classroom. The use of Web 2.0 and computer-mediated

communication (CMC) tools allow students to communicate and collaborate with their peers in spatially separated locations anywhere around the world.

This research investigates extending the Bridge21 model for use in a distance based collaborative scenario, in which teams are spread over two locations and work on tasks which ensures cooperation and collaboration both locally and with the remotely located team members.

Language learning was chosen as the topic of study as it lends itself to exploring student's attitudes to collaborating at a distance, while engaging with native-speaking students in their second language.

The research was implemented over a three week period and involved students located in the Bridge21 learning space in Trinity College Dublin and the Bischof von Lipp Schule in Mulfingen, Germany. The Irish-based students (n=17) were divided into four teams and in Mulfingen the German-based students (n=20) were also divided into four teams. Communication between the spatially separated students took place using the CMC tool, Skype and interactions occurred daily for approximately two hours over six days. Projects were based on second language acquisition with both sets of students having to complete tasks while speaking, reading and writing using their second languages.

1.1 Research Objectives

This study is an exploratory case study which investigates the extension of the Bridge21 model to operate at a distance.

1.2 Issues arising

1. Was the combination of teamwork, technology and project-based learning effective for collaboration at a distance?
2. Were conditions of collaboration achieved locally and between spatially separated teams?
3. How did the students find collaborating at a distance?

4. Did the students find if communicating with native speakers in their second language can improve oral fluency?

The research was conducted within a qualitative tradition, in this case exploring the perspectives of students, triangulated against observation, questionnaires, examination of student project work and documentary data (Hammond et al., 2009). The data collection techniques included pre and post questionnaires, student project work, observations, semi-structured notes and interviews.

The findings suggested that students can learn in a collaborative environment working in teams with spatially separated peers. They want to work with technology while engaging with native speakers not only to improve communicative competences but to share cultural exchanges using authentic materials.

1.3 Dissertation Roadmap

The literature review initially discusses and argues the case for 21st-century learning and its various components. Collaboration, as a key 21st-century skill and the use of telecollaboration are explored and investigated. The Bridge21 learning model is looked at and also how language learning is moving toward greater use of communicative competences in the classroom. To conclude there are some examples of collaborative language learning at a distance.

The design chapter is based on outcomes from the literature review and describes how the learning experience was designed.

The methodology chapter discusses the exploratory case study methodology used in this study, details of the research questions and the various data methods used to collect data for each of them.

In the data analysis chapter the data collected is analysed and the various findings explained. This is followed by the discussion chapter which reviews the findings.

The conclusion to the research study looks at answering the research questions; that the Bridge21 model succeeded for students to collaborate at a distance, that participating in second language learning was achieved, that using technology can enhance collaborative

learning and second language acquisition and that students in both locations were engaged and motivated by the experience.

2.0 Literature Review

2.1 Introduction

This study explores extending the Bridge21 model of learning where teams are based in spatially separated locations. In particular the model will be extended to implement collaborative-based tasks where non-native speakers engage with native speakers to communicate at a distance and create team-led projects together.

This literature review will look at how 21st-century learning continues to be underutilised in the classroom and how proponents of it advocate for greater collaboration and utilisation of technology in regard to student learning. It will also investigate the use of Web 2.0 and computer-mediated communication (CMC) tools and how they can bring more authentic learning materials into the classroom. Social constructivism and how it relates to collaborating learning is discussed. Finally it will examine language acquisition and how students can benefit from regular language practice and interactions with native speakers when learning a second language. The next chapter will discuss how the concepts considered here were applied and implemented in a collaborative student-led language learning experience.

2.2 21st-century Learning

It is argued by many researchers and policy makers that an information age society requires an information age pedagogy. In Table 1 a number of educational elements are outlined that show the characteristics of a pedagogical approach expected to dominate in this information society (Voogt & Pelgrum, 2005).

Table 1 Information v Industrial Society (Voogt & Pelgrum, 2005)

Aspect	Less (pedagogy in an industrial society)	More (pedagogy in the information society)
Active	Activities prescribed by teacher Whole class instruction Little variation in activities Pace determined by the program	Activities determined by learners Small groups Many different activities Pace determined by learners
Collaborative	Individual Homogenous groups Everyone for him/herself	Working in teams Heterogeneous groups Supporting each other
Creative	Reproductive learning Apply known solutions to problems	Productive learning Find new solutions to problems
Integrative	No link between theory and practice Separate subjects Discipline-based Individual teachers	Integrating theory and practice Relations between subjects Thematic Teams of teachers
Evaluative	Teacher-directed Summative	Student-directed Diagnostic

(Voogt & Pelgrum, 2005) argue that students need to develop competencies for lifelong learning brought about by major changes to school curriculum.

Around the world there are moves to revamp education practices. These include; students collaborating with peers in other countries, high school students having to produce and present in-depth research projects and teachers trained to introduce and impart teamwork and creativity into mathematics, social studies, and other core courses (Gewertz, 2007). These and many others ensure that student not only possess academic skills, but also a range of intellectual, social, and life skills for the future.

In recent years, Ireland has embarked on a Government-led reform agenda for the Junior Cycle focusing on key areas of learning, curriculum and assessment (NCCA, 2010). It is envisioned that students should be are at the centre of the educational experience, participating in society and their communities, and being resourceful and confident learners throughout their lives. An essential part of the reform will focus on short courses and the need to give schools opportunities to connect with their communities, strengthen student learning and include new and different ICT led learning experiences (NCCA, 2011a). For this reform to achieve its goals more collaborative-led learning experiences will need to be the focus of schools, principals and, of course, students.

Critics (Gewertz, 2008) argue that so-called 21st-century learning is a meaningless term and a distraction from the more important work of teaching core content. They contend that there is nothing new about this learning, and that excessive emphasis on it will end up weakening standards and teaching. However, as (Silva, 2009) argues even the harshest of critics agree that learning factual knowledge and being able to apply, analyse and create new knowledge go hand in hand and, that significantly, the best educators understand that higher-order thinking and problem solving must be emphasised in order for students to learn how to learn for themselves.

2.3 Social constructivism

John Dewey, an American philosopher and educator, now viewed as a social constructivist, developed a pragmatic/instrumentalist approach to epistemology. According to Dewey's view, learners do not learn in isolation and an individual learns by being part of the surrounding community and the world in general. Dewey proposed a triangular connection for the social construction of ideas among these three components. He believed that ideas are meaningful only if they are (a) a segment of an acceptable theory, (b) instrumentally useful for creating good, (c) constructed by participants in society, and (d) related to the reference points provided by society (Oxford, 1997).

The underlying nature of social constructivist pedagogical theories has, over the last thirty years, underpinned the philosophy of social constructivism with real-world consequences for learning and instruction. Furthermore, classrooms with social constructivist principles emphasise the importance of knowledge construction and

learning through peer to peer interactions. Students are viewed as active participants rather than passive knowledge recipients and instructors facilitate the learning process rather than distributing knowledge (Driscoll, 1999; Gagne, 1987).

According to Oxford (1997): ‘‘Collaborative learning has a ‘social constructivist’ philosophical base, which views learning as construction of knowledge within a social context and which therefore, encourages acculturation of individuals into a learning community’’ (p. 443). And along with Vygotsky’s (1978) theory of social cognition , the zone of proximal development (ZPD) refers to ‘‘the distance between the actual development level as determined by independent problem solving and the level of potential development as determined through problem solving under adult guidance or in collaboration with more capable peers’’ (p.86).

A third dimension is now appearing in the ZPD in an online context - the dimension of mediating technology. As internet technologies integrate more into standard education, especially distance education, it is important to maximise collaborative learning in the context of online learning (Wang & Chen, 2012).

It is suggested that for collaborative learning to flourish more learner-centred methods of instruction can play an increasingly prominent role in the classroom, regarding approaches to. Also, learning technologies are considered as potential aids in understanding instructional scenarios where learners can take part in activities without being left to their own devices. Computer-supported collaborative learning (CSCL) combines both in order to improve learning and instruction in various areas of education and uses many different communication tools including text based, audio based, video based with synchronous and asynchronous software (Dillenbourg & Fischer, 2007).

2.4 Collaboration

As noted by Voogt (2005) a major driving focus for classroom change is to have students engaged in the acquisition of collaborative skills in school-wide curriculum . It has been suggested (Slavin, 1991) that to enhance student achievement, the most successful cooperative learning approaches have incorporated two key elements: group goals and individual accountability. Where this is the case encouraging results are found in areas

such as self-esteem, intergroup relations, attitudes toward school, and ability to work cooperatively.

For collaborative learning to flourish the following conditions must exist (Szewkis, et al., 2011).

Common goal: For a situation to be collaborative a common goal must be present. Members of a collaborative group achieve learning through the generation of social interactions.

Positive interdependence: This is defined as “the perception that we are linked with others in a way so that we cannot succeed unless they do” (Johnson & Johnson, 1999). The effect is greater when, even with a common goal, team-mates interact among themselves and that success is achieved only when all peers are successful too.

Coordination and communication: Coordination is managing interdependencies of activities accomplished to achieve a goal and ensures interactions happen in the right sequence and in correct chronological order. This ensures a focus on avoiding the loss of communication and cooperation.

Individual accountability: When a group member performs a task which is an observed outcome by other members they are duly accountable among their peers for this task and each individual’s role is reinforced.

Awareness: To be successful in collaborative tasks there must be the ability for each group member to check on peers contributions to the joint task and for all members to receive common feedback.

Joint rewards: As all group members jointly receive rewards or punishments they will together generate a joint utility of action and collaborative outcomes.

Collaborative learning where students, working together, socially construct knowledge supports the transfer of responsibility to students, while also evolving important workplace skills such as working in a team and understanding discipline-based communication. Furthermore, a collaborative approach, through group work, provides the students with an authentic learning experience developing generic skills in

communication, collaboration and team building and also assisting teachers in classroom management (Allen, et al., 2006).

Teachers are reluctant to change their practice and Galton (2009) argues there a number of reasons including: already being under too much pressure; curriculum demands; lack of preparation time and lack of class control. However, results have shown that students overwhelmingly prefer group work to individualised work in the classroom, although as Galton (2009) argues collaborative group work should not necessarily replace whole class teaching but offer a more complementary approach in advancing conceptual and metacognitive learning and the improvement of peer relationships.

2.5 Team-based, technology mediated learning

Learning systems, both individualised and teacher-led continue to militate against collaborative and peer-peer learning and the possibilities of technology to enhance teaching and learning for the 21st century remains underutilised (J. Lawlor, C. Conneely, & B. Tangney, 2010).

Studies have shown that in England, secondary teachers use groups specifically to facilitate for social, practical, or convenience motives but not for academic outcomes. This is surprising given that in other places, especially in the US and Israel, there have been a multitude of comparative studies setting the use of cooperative and collaborative groupings against more conventional classroom environments. Results in these studies not only showed social and attitudinal improvements but also academic gains as well (Galton, et al., 2009).

To realise the potential of technology in education it is necessary to better understand the most effective use of implementing technologies and that due to the pedagogy and praxis applied there is complexity in exploiting this technology in the classroom. (Conole, 2004; Conole, Dyke, Oliver, & Seale, 2004). One example of team-led and technology-mediated research in action is the Bridge21 programme.

2.6 The Bridge21 Model

The Bridge21 model, developed over the last five years, offers an innovative 21st-century learning experience to designed to release the potential of ICT and student-led

collaborative learning and equip students with the skills they need to live, work and learn in the challenging world of the 21st-century (Conneely, Girvan, & Tangney, 2012).

Table 2 Components of Bridge21 Model (Conneely, Girvan, & Tangney)

Components of Bridge21 Model	
Technology	Technology as an integral tool in the learning process
Cross-curricular	Delivery of content through cross-curricular, thematic projects
Learning space	A physical learning space designed and configured to support team-based learning
Team-based	A structured team-based pedagogy
Key skills acquisition	A pedagogical approach which focuses on key skill acquisition & content knowledge
Social context of learning	A focus on the social context of learning to increase student motivation and engagement
Facilitating	Adult support that seeks to guide and mentor, with teachers orchestrating and scaffolding team activities.
Reflection	Incorporation of team and individual reflection as a regular part of the learning

The Bridge21 model of teamwork is derived from the Patrol System of the World Scout Movement. The Scout Patrol contributes to the bonding of the patrol members by sharing objectives and challenges. Other factors which contribute to bonding including; building success through group task achievement; execution of individual internal roles; consensus building in planning activities and reflection as a group (Bénard, 2002). Bridge21 using a similar model encourages the consistent development of the team dynamic through collaboration and cooperation. The learning space configuration has been designed to promote teamwork, collaboration and a suitable communal setting to reinforce peer-peer learning (Lawlor, et al., 2010). It is essential for social learning to facilitate and stimulate and to provide for group learning through breakout areas and alcoves (Lackney, 2011). Each team is presented with scaffolded challenges rich in media

and designed to deliver product to a deadline (J. Lawlor, et al., 2010). Volunteer mentors provide a support mechanism which facilitates the students rather than accentuating direct instruction (Sullivan, 2012).The projects are framed by a guided instruction rather than a pure discovery approach. This allows for the construction of useful knowledge with engagement in exploratory, self-directed learning while providing sufficient guidance (Mayer, 2004; Papert, 1994).

2.7 Technology and Computer-mediated Communication

The internet continues to evolve in a fluid and dynamic way and with physical boundaries no longer barriers to communication, allowing technology to become more efficient and accessible. Recent studies suggest that as the internet moves from a unidirectional environment, opportunities for teachers have opened up in the latest multi-user domain. The arrival of Web 2.0 has opened up a world of sites where user groups co-create and interact with each other and with the tools of the site as well (Goertler, 2009). A sense of democracy has arrived as Web 2.0 and the internet offers multiple users multiple authoring and contributing rights (Warschauer & Grimes, 2007) . CMC should not be used to replace live instruction but to complement it. Teacher-orchestrated CMC may augment f2f (face-to-face) learning by providing an additional place to practice and reinforce f2f instruction (Meskill & Anthony, 2005).

Research in the area of CMC has shown great potential for its use in the foreign or second language classroom and is conventionally divided up into synchronous and asynchronous CMC. In particular, synchronous CMC occurs in real time (i.e. in a manner similar to face-to-face conversation, in which interlocutors can expect immediate responses from one another), in such contexts as IRC MOOs (Internet Relay Chat, Multi-Object Oriented), internet chat rooms and other online chat systems (Razagifard, 2012). However it is noted that the greatest benefit of technology is not its function of the tools but more so the effective engagement in meaningful interactions and real intercultural engagements it brings to the language learning experience (Bhatia & Ritchie, 2009) .

2.7.1 Synchronous CMC Technology in action (Examples)

Studies have shown that using a technology which can provide both audio and visual communication between parties similar to Skype© and Google chat, (voice over Internet

Protocol, VoIP), can offer learners opportunities to interact, communicate and collaborate with others over the internet.

- (Jaime, Domínguez, Sánchez, & Blanco, 2012) analysed data from 255 students divided into different groups based in two Spanish universities to compare academic results and satisfaction derived from a collaborative learning experience. They also compared results from the telecollaborators use of communication tools and the associated level of success attained. Overall, the telecollaborators achieved better academic results but had low levels of satisfaction while students preferred day-to-day tools and social networks.
- The Media Communications class at Kanda University of International Studies (KUIS), Japan, and the Japanese Studies class at Károli Gáspár University (KGU), Hungary, conducted telecollaboration over a two year period (2008-2010). The main purpose was to foster digital literacy and intercultural competence. It additionally allowed students in Hungary to improve their sociolinguistic ability in Japanese. A less obvious objective was to foster reflective, critical and analytical attitudes among students through collaborative activity with peers and students with different cultural and linguistic backgrounds. It concluded that the project-based internationally collaborative learning class gave students opportunities to actually utilise various Web tools for a practical purpose (Aoki & Molnar, 2011).
- In a recent study in Japan, a school started video conferencing with a school in the United States using Skype©. It was found that the students spoke more English during the web conferences than usual and that they also began playing more active roles in normal classes after the introduction of the web conference lessons. However, in general there are of course many barriers to classroom communication in this manner including class schedules, time zones, type of CMC usage, teacher preparation and content preparation (Tsukamoto, 2009).
- In other studies there were less positive outcomes where little or no change was observed in oral skills improvement between Chinese students although the authors attributed this to students' having similar abilities and a lack of native speakers or highly proficient Chinese interlocutors (Yang & Chang, 2008).

2.8 Language learning at a distance

Computer-Assisted Language Learning (or CALL), "the search for and study of applications of the computer in language teaching and learning" (Levy, 1997). CALL originates from the sixties and three distinct historical phases have been identified as follows: “Behaviouristic: conceived in the 1950s and implemented in the 1960s and 1970s. Communicative: 1970s to 1980s and Integrative: embracing Multimedia and the Internet 1990s. (Mark Warschauer, 1996) and (Warschauer & Healey, 1998). In a review of CALL trends Goertler (2009) highlights significant changes that have occurred in recent years in relation to pedagogy, theory and technology.

Collaborative language learning mediated through technologies has also, in recent years, received increasing attention from (CALL) researchers. The positive effects of collaborative learning have been long recognised in second language acquisition in studies conducted in the physical face-to-face classroom. This has led to the coining of terms ‘‘telecollaboration’’ and ‘‘e-Tandem’’ denoting the collaboration of learners via Internet-based technologies at a distance (Wang & Chen, 2012). Telecollaboration is a collaborative activity involving the use of Internet tools with people spatially separated in different locations, (Jaime, et al., 2012). Web 2.0 tools and social networking methods give unique opportunities for students across national borders to communicate and collaborate fostering intercultural understanding as well as 21st century skills in an authentic setting for students (Aoki & Molnar, 2011).

Research into language acquisition has long supported the benefits of student interaction, which include useful language practice. In the context of computer-mediated communication, (Huifen & Yueh-chiu, 2010) state that “a virtual social learning environment is created where a foreign language is learned through interaction, negotiations, and accommodation to each individual and his or her peers” (p. 716).

2.9 Exploring Language learning and fluency

2.9.1 Fluency

Fluency is a commonly used notion in foreign language teaching and yet is a difficult concept to define precisely (Chambers, 1997). Chambers maintains that as a frequently

used descriptor of oral performance it requires greater agreement on how we constitute fluency., the most common of which is related to 'high proficiency', that is, an excellent grasp of the vocabulary and grammar of a language, defining fine fluency as a performance phenomenon related to 'flow, continuity, automaticity, or smoothness of speech'(Koponen & Riggenbach, 2000).

The two main characteristics of a fluent performance are accepted as speed and effortlessness. yet it is understood how relatively easy it is to measure speed but effortlessness, smoothness and ease are considered qualitative judgements. For language learners it is clear that speaking fluently in the target language continues to be a much sought after goal. These learners should be able to express their thoughts more easily, concentrating on meaning rather than form in any given situation and they further emphasize that language learners ultimately want performance fluency. This however is dependent on the cognitive fluency of the learner which relates in turn to their own knowledge and skills (Nel de Jong & Perfetti, 2011).

2.9.2 An overview of fluency and oral fluency development

In the seventies research first highlighted the difference between the ability to use language and actual language knowledge. It was stated that what a person knows about language is language knowledge whereas a person's potential to perform a language task is the ability to use language (Hymes, 1972). Current research into fluency and fluency development include planning, task repetition, learning contexts and language instruction. These include studies of immersion, study abroad, and language instruction in the home country (Nel de Jong & Perfetti, 2011). These studies favoured immersive settings which clearly emphasised the limitations that classroom settings offered to learner and that the home-country language courses showed the least progress in the measurement of rate of speech and length of runs (Freed, Segalowitz, & Dewey, 2004). A further study noted that a majority of (study abroad) students make measurable progress in speaking, especially in terms of fluency and in the programs of longer duration. The author did however point out that due to the limited quantity and quality of opportunities for proceduralisation and automatisation rule use, students failed to reach perceived levels of expectation with regard to fluency (DeKeyser, 2007).

2.9.3 Using Authentic Materials

A recent study examining language learner preferences drew attention to students who offered a choice between text books or authentic materials (films, web-based sources, novels, songs, or newspapers) not only chose the authentic materials but were also highly motivated when using the materials for learning purposes in the target language (Gilmore, 2011). Research also demonstrated how in recent years that although text books have improved in quality and content they still do not in many cases reflect well on the target language and to remedy this, more language models must in the future be partially or exclusively based on authentic discourse (Gilmore, 2007a, 2007b).

Also in other studies it was found that learner texts were sorely lacking in consciousness raising activities with fewer than 50% included in any textbooks at all. It was also proposed that more contact activities be initiated to assist learners in developing fluency outside their ESL courses (Rossiter, Derwing, Manimtim, & Thomson, 2010).

2.10 Conclusion

This literature review discusses 21st-century learning and educational elements expected to dominate in our emerging information society. It highlights how students, in order to move towards this information society need to develop lifelong competencies and become resourceful and confident lifelong learners. It is also argued that to achieve these aims collaborative learning must take on greater significance and become more of a focus for schools and students. It shows how this collaborative learning, based on a social constructivist approach can enhance student achievement by incorporating learning that includes group goals and individual accountability. The Bridge21 model, offers an approach to learning which encapsulates student-led collaborative learning underpinned by the use technology. Technology continues to open many possibilities for greater learning outside the classroom and Web2.0 communication tools today offer students the means to communicate and interact with their peers around the world. This is even more apparent for second language learners and opportunities to converse with native speakers in their target language are readily available.

3.0 Design

3.1 Introduction

This chapter discusses the design of a collaborative learning experience. Informed by the literature it discusses how the Bridge21 model was adapted for use with spatially separated groups in a classroom based language learning project.

3.2 Design of the learning experience

The literature review has suggested that for students to flourish in our information society we must develop competencies for lifelong learning and have students engaged in the acquisition of collaborative skills (Voogt & Pelgrum, 2005) . It was also argued that it is essential that, for the future, students acquire a range of intellectual, social and life skills and not just only academic skills (Gewertz, 2007).

Students continue to have few opportunities in the classroom to interact and collaborate in groups. A constructivist learning model involving "learning by doing" and the use of technology could allow students the means to devise create and plan activities to enhance collaborative learning and extend out of the classroom to engage with students in other locations. Today technology allows for fundamental changes in how we teach learn and communicate around the world. The use of a computer-mediated communication tools (Skype, iChat, Google+) permit the design of a virtually created learning experience without geographical boundaries. They offer synchronous and asynchronous communication using VoIP technology, allowing for communication by face to face video, audio and text and with the arrival of Web 2.0 allowing user groups to co-create and interact over the internet (M. Warschauer & Grimes, 2007).

Traditionally in language learning classrooms, schools concentrate on grammar and comprehension with little time for speaking or conversing in the target language. Despite having access to a host of online authentic materials, schools continue to focus predominantly on the use of text books in the classroom. The literature review highlights how the history of teaching a second language has emphasised the development of a linguistic competence rather than a communicative competence (Gilmore, 2007a, 2011). The best approach for achieving a speaking fluency is in an immersive language learning

setting but few language learners get to experience studying abroad or participate in any form of immersion in the target language (Freed, 1995) .

Extending the Bridge21 model out of the classroom allowing teams of students studying a second language to connect with each other from spatially separated locations and work together in a virtual immersion environment underpinned the design of this experience. They would be able to work in a highly structured team-based environment using authentic materials and communicating with native speakers in their target language.

Students studying a second language were formed into teams and given the task of communicating with native-speaking students of the target language located in their home country. As the workshops extended over two weeks, three cooperative project tasks, one for each day, were prepared for week1. In week2 a collaborative task involving greater integration of the spanned teams was envisaged. By extending the Bridge21 model to spatially separated locations this offered an opportunity for a collaborative distance learning experience with students sharing teaching and learning roles at the same time. They worked on tasks which focused on speaking and interacting in both languages while concentrating on communicative competences rather than standard classroom linguistic competencies.

The students (n=17) located in Dublin, Ireland were 4th Year transition students (15-16 years old) and in Mulfingen, Germany the students (n=20) were second year junior high school students (13-14 years old). The native language of Irish-based students was English and the native language of the German-based students was German.

3.3 Workshop content and implementation

The research study was designed to extend the Bridge21 collaborative model to explore communication and collaboration between spatially separated groups focusing on language learning projects and interaction between native and non-native speakers. Workshops were implemented over 3 weeks with (n=37) participating students, (n=20 Germany, n=17 Ireland), divided into 4 teams (n=5) in Germany and 4 teams in Dublin, 3 teams (n=4), 1 team (n=5).

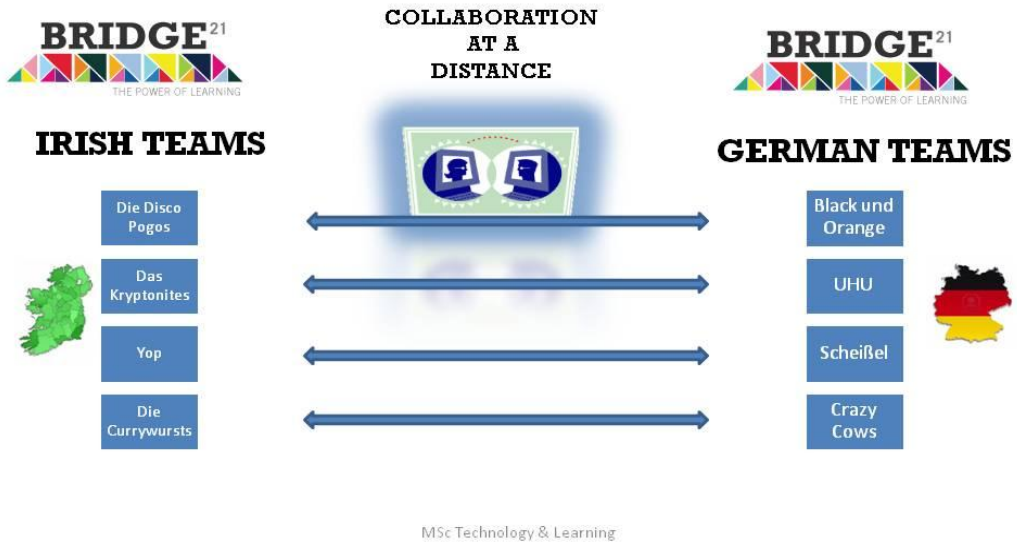

Figure 1 Collaboration at a Distance

From the start of week1 each Irish-based team was twinned with a German-based team spanning both locations. Teams communicated and worked with their spanned team for the duration of the study. For week2, two Irish and two German students from the existing spanned teams, formed partnerships to afford greater levels of collaboration for the project task.

3.3.1 Bridge21 workshop in Germany

As standard procedure for all Bridge21 activities, the researcher implemented an introductory Bridge21 workshop. For the Irish students this took place in the Bridge21 collaborative learning space in Dublin and for the German students in Mulfingen Germany. The German workshop, with English as the predominantly spoken language, was based over three days and concentrated on the core components of team work, technology-mediated and project-based learning activities. The German teacher, who would be facilitating the upcoming language collaboration workshops in the school, was available at certain times to observe but was unable to attend throughout. The participants, (n=20), were randomly divided in to 4 teams of 5 students. The learning

space was a large assembly room in the School with standard tables and chairs. Teams were spaced apart in separate areas around the room. Initially, each team had to choose a team name and team leader and create a team charter. This was followed by a brain-storming session of idea formation using paper and pens. The main project on Day 1 involved students creating a story and using technology to produce a movie. Each team brain-stormed various scenarios, picked an idea, created a storyboard, wrote a script and, using a digital camera, took pictures and video footage. Teams then downloaded the camera content into Windows Movie Maker, a free to use Microsoft product, and created a movie. Teams then had to present and show their movies to all other teams. The project on Day 2 involved all teams designing a multimedia advertisement campaign (consisting of a TV Advertisement, Radio Advertisement & Poster Advertisement) to market a technology invention of the future. On Day 3, a third project focussed on student presentations relating to likes and dislikes of attending school. Each student presentation was restricted to images only and no text was allowed within the presentation content. All students had to speak and present in their second language (English) on each chosen topic. These tasks were chosen to reinforce elements of 21st-century learning including problem solving, creative thinking, innovation, collaborating and achieving together.

A final session involved preparations for the upcoming collaborative workshops. Students logged on to computers using the CMC tool Skype with either an existing account or by generating a new Skype account. Although all students were in close proximity and could see each other, they engaged in synchronous communication using Skype to practice and assess the quality and sound of their interactions with a view to understanding what level of communication would be possible with the students in Ireland (Luppicini, 2007).

3.3.2 Bridge21 workshop in Dublin

A similar introductory workshop was held for Irish based students over 1 day and unlike the German students they were supported by an experienced facilitator and team mentors for the duration of the workshops The Irish students were located in the Bridge21 learning space based in Oriel House, TCD, Dublin. This learning space provides

breakout areas and alcoves essential for facilitating social learning and allowing for information exchange, peer interaction and reflection between students (Lawlor, et al., 2010).

The students (n=17) were again randomly divided in teams with each team requiring a team name and leader. A project based on language learning in the future, using technology (digital cameras, Audacity and Windows Movie Maker software) similar to the German workshop was completed by all the teams with a presentation and showing of each team movie.

3.3.3 Collaboration at a distance workshop

The Irish-based students remained in the Bridge21 learning spaces for the duration of the workshops. The German team used their classroom and the assembly room at various times. Each group had two computers with Skype installed along with webcams and microphones. The computers allowed for oral and aural synchronous communication including visual face to face (f2f) sessions. The use of f2f communication (Meskill & Anthony, 2005) is the cornerstone of standard teaching in the classroom and being able to extend that to CMC can act to enhance the shared experience. The project required Web 2.0 and communication tools for the students, to interact and to issue tasks and schedules and to collaborate together providing a repository for deliverables (Domínguez & Jaime, 2010). Dropbox, a free service that allows sharing of files over the internet, was used to store all data created by both sets of teams. Google Apps, a cloud-based productivity suite, also freely downloadable was used to allow students to share and collaborate on content over the internet.

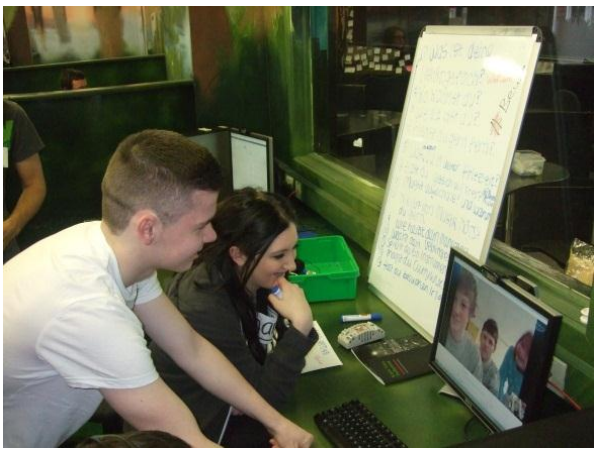

Image 1 - Bridge21 Pod Space

In order to maximise the learning opportunities for all students it was necessary to agree a specific time for interaction between both sets of students in both languages. Each

segment was staggered and consisted of a 10 minute cycle with both sets of students speaking in one language at a time. This allowed for native speakers to mentor non-native speakers and correct mistakes without losing an overall flow to the conversation.

As also noted gains can be achieved in oral performance through procedures that theoretically affect the processes of fluent production and using task repetition can free up additional resources for example, supporting speakers' selection of words, morphemes, and grammatical structures (Nel de Jong & Perfetti, 2011).

The initial task involved all team members using Skype to communicate and introduce themselves to each other. The researcher selected which teams would be paired together and introduced them to each other. Skype accounts were exchanged between spanned teams before commencement of communications. Each team was allocated 20 minutes and students communicated for 10 minutes in German and ten minutes in English. This provided structure to the exercise and reinforced classroom practices (Young, 2003). The design incorporated a constructivist approach of 'learning by doing' as the learners were viewed as active participants and not passive knowledge recipients (Driscoll, 1999). Students participated in peer to peer interactions and were encouraged to speak, listen and use written dialogue conversations using Skype messaging during communications.

The opening project was designed to encourage group interaction within each team and with the spatially separated twinned team as speaking to native speakers provides an authentic setting and platform for learners to improve their fluency (Tsukamoto, 2009).

Table 3 Project Title: Getting to know you

Project Title: Getting to know you	**Actions**
Briefing	Twinned teams ask each other questions about themselves and produce a video with the resulting answers
Brain storming	What questions do I want to ask to get to know you?
Required	Each team agrees on 20 questions to ask twinned team.
Communication	Twinned teams use Skype to communicate and collaborate with each other asking questions.
Task	Using the acquired information each team creates a

	Windows Movie Maker video titled Getting to know you
Presentation	Presentation of project made in target language and video shown.

The Day 2 project involved creating a radio podcast which focused on teams working with authentic materials. The software application Audacity, a freely available sound recording tool, was used by each team in order to complete the task. Twinned teams communicated and shared ideas for content and completed the task by presenting and playing the podcast for all teams in each location.

Table 4 Project Title: Radio Broadcast

Project Title: Radio broadcast	**Actions**
Briefing	Create podcast of radio station music show with DJ commentary and various segments (e.g. weather, traffic update, news and discussions) in second language (SL).
Brain storming	What content will we put in radio podcast?
Required	Content from the internet consisting of authentic materials from SL country
Communication	Twinned teams use Skype to communicate and collaborate with each other asking questions.
Task	Using Audacity software teams produce podcast of authentic material
Presentation	Presentation of project made in target language and podcast played.

On Day 3, Irish-based teams using Google Apps set up a Google document (Appendix J) and team web page (Appendix K) to share with their twinned German teams. In their second language, both Irish and German students wrote comments on their workshop

experiences to date, using different headings, with a native-speaking peer correcting their work. Movie and podcast artefacts from earlier shared projects were added to the web pages. Reflections and comments were added by all team members.

In the second week a final project (Appendix F) over 3 days of the collaborative experience focused on mixing twinned teams to create videos promoting their own regions to teenagers.

Table 5 Project Title: Teenagers on the go!

Project Title: Teenagers on the go!	**Actions**
Briefing	The task is to promote the Hohenlohe region and Dublin region to teenagers. What is it you want to promote about your area? Twinned teams will collaborate over the next three days to produce themed videos.
Brain storming	Design a travel marketing campaign. The task is to promote Germany and Ireland to teenagers. Twinned teams will collaborate over the next three days to produce promotional materials Teams decide on what themes are to be used for video content.
Required	Content from the internet consisting of authentic materials from SL country
Communication	Twinned teams use Skype to communicate and collaborate with each other asking questions.
Task	Using Audacity software teams produce podcast of authentic material
Presentation	Presentation of project made in target language and podcast played.

Throughout the workshops the focus was on richer input provided by authentic materials combined with appropriate awareness-raising and practice activities, allowing for greater discourse features leading to enriched development of their communicative competence (Gilmore, 2011) .

3.4 Summary

These workshops allowed students to take part in a learning experience where they had opportunities to create and share in projects which encouraged communication with native speakers in their second language. They were exposed to new software applications, worked in a collaborative cloud-based environment and developed new technical skills. The learners were highly motivated and enjoyed speaking and interacting with their spatially separated partner teams.

4.0 Methodology

This project is a case study exploring a collaborative experience extending the Bridge21 method of 21st-century learning to spatially separated groups. It explores to the resulting level of collaboration and cooperation under the headings outlined by Szewkis (2011): a common goal, positive interdependence, coordination, and communication, individual accountability, awareness of peers' work, and joint rewards. It will also explore student perceptions interact and speak with native speakers for second language learning. This chapter will discuss the research strategy, and how and what data was collected for evaluation and analysis.

4.1 Research strategies

A single exploratory case study encompassing three Bridge21 workshops over three weeks forms the basis for this research.

A case study is an in-depth exploration of a bounded system (e.g., an activity, event process or individuals) based on extensive data collection. *Bounded* meaning that the case is separated out for research, in terms of time, place, or some physical boundaries (Creswell, 2007). A case study will typically focus on one or a few instances of a particular phenomenon and is considered when, (a) answering "how" or "why" questions; (b) behaviour of those involved cannot be manipulated; (c) contextual conditions need to be covered as they are relevant to the phenomenon under study; or (d) the boundaries between phenomenon and context are unclear (Denscombe, 2002; Yin, 2003).

Case studies make contributions when outcomes are unclear or ambiguous and the event, project or innovation tells a story as it evolves over time (McKernan, 1996). McKernan further suggests that case studies have advantages including: reproducing the phenomenological world of participants through detailed description, using multi-methods to corroborate and validate results. Disadvantages include: the suspension of results before conclusion, cases are idiosyncratic and interpretative by nature and researchers usually supply the database. For this study, a multiple case study although capable of enhancing the findings was considered but not chosen due to time considerations (Yin, 2003).

4.2 Research ethics

Bridge21, through the School of Computer Science and Statistics has been granted ethics approval for its activities and this case study is part of the Bridge21 research programme. As all students taking part in the research are under eighteen years of age the researcher sought and received permission from parents and students to participate in the study.

4.3 Researcher bias

The researcher, currently the Bridge21 interim Director was involved in facilitating all workshops in Dublin, Ireland and the initial Bridge21 workshop in Mulfingen, Germany. Qualitative researchers however do not typically use the word *bias,* they contend that all research is interpretive and the researcher should be self-reflective about their role in the research, including the interpretation of findings (Creswell, 2007).

4.4 Rigor and validity

Triangulation is the process of corroborating evidence from different individuals (e.g. a principal and a student), types of data (e.g., observational field notes and interviews), or methods of collection (e.g., documents and interviews), in descriptions and themes in qualitative research (Creswell, 2008). In this study triangulation was based among the different sources of data collection including; pre questionnaires (Appendix A), and post questionnaires (Appendix B), student project work, and observations (written and on video).

4.5 Participant selection

The participants are secondary school students based in Ireland and Germany. The Irish-based students (n=17) were aged between 15 and 16 years old, and were required to have achieved a grade of C or higher in the subject German, for Junior Certificate examination. They are all transition year students currently attending 1 of 4 schools, based in Dublin. The German students (n=20), who began learning English from the age of 8 years, were aged between 13 and 14 years old, and are all pupils from the same school and class in Mulfingen, Germany. The school is non-State funded and promotes holistic personal and social education.

4.6 Data Sets

A variety of data collection tools were used including questionnaires, observations, student focus groups, individual interviews, presentations, student work and documents. The questionnaires were based on Bridge21 questionnaires currently used in action research by the Bridge21 team and modified to include elements of language learning and collaborative learning at a distance. Observations were taken with unstructured notes by the researcher. In the interviews the researcher chose both closed-ended questions which allowed for predetermined closed-ended responses useful to support theories and concepts in the literature on one hand and also open-ended responses which permitted exploration of reasons beyond that of the responses to closed-ended questions (Creswell, 2008).

The research set out to answer several sub questions using the following data collection criteria to analyse the relevant data.

1. Was the combination of teamwork, technology and project-based learning effective for collaboration locally and at a distance?

In the post questionnaire, questions were asked about the shared experiences of the students in their own teams and with the distant teams. Students also responded to questions in Google docs and participated in focus groups.

2. Were conditions of collaboration achieved locally and between spatially separated teams?

The researcher observed students during project tasks, analysed video, reviewed teacher and mentor observations for individual contributions and student output. The conditions of collaboration included; common goals, positive interdependence, individual accountability, communication and coordination, awareness of peers work and joint rewards.

3. How did the students find collaborating at a distance?

One of the questions both in the pre and post questionnaire referred to, “Do you think working with student groups from other schools, would be effective for learning in the classroom”?. This topic was also discussed during the focus groups and student blogs made several references to it.

4. Did the students find if communicating with native speakers in their second language can improve oral fluency?

One question in the post questionnaire asked if communicating with native language speakers in their second language can improve oral fluency. Also, the focus group questions and blog content referred to this question.

4.7 Methods of Data Analysis

In understanding the social world, researchers collect data and analyse it using the constant comparative method where reviewing the data again and again is the constant and comparing each element, phrase, sentence, paragraph with the other elements is the comparative (Thomas, 2010). The researcher followed a qualitative path of developing a general sense of the data and then coding description and themes about the central phenomenon leading to an initial analysis of subdividing the data but with a final goal of generating a larger consolidated picture (Tesch, 1990). Due to the small database it was not necessary to use a computer to collate the data and all analysis was done by hand.

Summary

This chapter described why an exploratory case study was chosen as the research strategy for this study. It highlighted the data collection methods used to answer the sub questions and the form of data analysis which was used to extract findings which will be disclosed in the next chapter.

5.0 Data Analysis

This chapter highlights the methods used to collect analyse and present the data findings.

5.1 Data Sources

The following methods of data collection were used in this study.

1. Student questionnaires (pre and post).
2. Student project work.
    a. Google doc's content.
    b. Movies and podcasts.
    c. Google sites content.
    d. Presentations.
3. Researcher observations (video and direct).
4. Teacher written observations.
5. Mentor written observation.
6. Mentor interview.
7. Researcher Notes.

The researcher was primarily based in Dublin, for the duration of the study and facilitated and led the Irish-based students during the distance collaboration workshops. This allowed for close up observation of the Irish-based students including taking notes and video recorded observations. The German students were led by their class English teacher throughout the study however the researcher did travel to Mulfingen to implement a three day introductory Bridge21 workshop for the students and the teacher.

5.2 Data Analysis and Findings

The researcher used pre and post-questionnaires to analyse the students overall experience, attitudes to teamwork and technology, collaboration at a distance, and communication with native speakers over the internet. In analysing the data the researcher took each question from the pre and post questionnaires and performed an Etic Coding and Theming investigation of the data (Creswell, 2002). All responses were entered into a Microsoft Excel spread sheet and were read through a number of times in

order to gain an initial understanding to the responses. Data points were extracted from the data and this was further divided into codes. A further analysis of the codes led to emergent themes which underpinned the findings.

To investigate if conditions of collaboration were achieved and to analyse student project work and student attitudes to technology during the workshop, the researcher performed an Emic Coding and Theming examination of data collected from observations, student focus groups, informal teacher discussions, student project work including Google apps documents, Google sites content, teacher written observations, and mentor written observations (Creswell, 2002) . Each data set was individually analysed and read a number of times by the researcher. Student Focus groups voice recordings were transcribed and entered in Microsoft Word. Researcher observations and informal notes were written into Microsoft Word. Data collected was entered into MS Excel, analysis was performed and data points extracted to develop codes and themes.

5.3 Questionnaires

5.3.1 Overall experience

In the post-questionnaire students were asked to respond to how they would rate the overall experience of the study, ranging from, Poor, Fair, Average, Good to Excellent. The results in general were an overwhelming endorsement of the workshops and the methods used for the learning experience with 100% of students rating it "Good" or "Excellent", 23 students rating it "Excellent" and 9 students rating it "Good".

Table 6 Overall Students

Participants		Poor	Fair	Average	Good	Excellent
Students	n=32	0	0	0	9	23

The geographical breakdown showed a higher satisfaction rating with the Irish-based students than the German based students.

Table 7 Overall Irish v German

Participants		Good	Excellent
Irish-based students	n=17	2	15
German-based students	n=15	7	8

The students were also asked to explain why they felt this way and in order to analyse the reasons given, 49 data points were extracted and collated into codes and themes.

Table 8 Overall Codes

Codes from open ended question on the overall experience			
Improved fluency (6)	Using technology (1)	Mentors were very helpful (1)	I have more trust in teamwork now (1)
Trying new technology (4)	New learning (2)	More confident with technology (1)	Improved my German (6)
German teams was fun to work with (3)	Fun/good experience (6)	Working with new people (3)	Friendly atmosphere really helped my learning (1)
Made new friends (3)	Improved my English (8)	Working in groups to do the projects (2)	

Table 9 Overall Themes

Themes from open ended question on the overall experience	
Social	Fun/Good experience, Working with new people, Made new friends,
Learning	New learning, Friendly atmosphere really helped my learning,
Technology	Using technology, More confident with technology, Trying new technology was good
Collaboration	Working in groups to do the projects, German teams were fun to work with, I have more trust in teamwork now
Language	Improved fluency, Improved my German, Speaking the language, improved my English

The themes emerging from the responses reinforced the positive experience that most of the students shared in the workshops as typified by post-questionnaire comments to this question such as “It was a fun experience and has definitely improved my social skills and

team skills" and “It was a great experience and I learned a lot of new things and also met new people”.

Further comments from the post-questionnaire question included:

“It was great to use technology too";

"I used computer programmes I have never used before".

For team work:

"I have now more trust in teamwork";

“I enjoyed working with new people".

And finally language learning:

“We learned German";

“I feel over the course of the two weeks I improved on my German and made new friends in both Ireland and Germany”;

"As I could understand the Irish students well, I became better and more secure in my English".

One student did not find some projects as challenging;

“I found some of the activities to be rather uninteresting"

5.3.2 Teamwork

The design of the study was a collaborative team-based experience and in the post questionnaire, students were asked if they had liked working in teams during the workshops?

Question: Do you like working in teams?

Table 10 Teamwork

n=32	YES	NO
Participants	26	6

77% of the students answered that they liked working in teams while 23% did not. The geographical breakdown was similar with Irish-based students 79% and 75% of German students approving of working in teams.

Students were asked why that felt this way and in order to analyse the reasons given, codes and themes were obtained from the data.

Table 11 Teamwork Codes

Codes from open ended question on the overall experience		
combined skills better learning (5)	work is divided up evenly (4)	more ideas created (2)
greater workload achieved (1)	quicker and easier (2)	more enjoyable (3)
achieving with less pressure (5)	shared understanding (6)	Communicating (2)

Table 12 Teamwork Themes

Themes from open ended question on the overall experience	
Achieving	greater workload achieved, achieving with less pressure, quicker and easier
Learning	combined skills better learning, work is divided up evenly, more enjoyable
Collaboration	Communicating, shared understanding, more ideas created

Responses to the post-questionnaire question reinforced that most students found working in teams to be beneficial. As one student stated “I feel when working in teams there are more ideas created within the group and deadlines are easier to achieve". The team setting was also a factor in creating a positive and upbeat learning environment, “the brainstorming in the team was not only fun but it also helped me to realise different ideas and see different points of view". Students were also constantly engaged in collaborative processes, "You don't have to do everything yourself.” “It makes work funner. You can get more done everyone has things they are especially good at".

Six students however felt that teamwork was not for them with comments including," I'm not able to judge people's abilities or trust them" and "I would rather do everything myself so no errors are made" as they felt threatened by the group dynamic and sharing of the work.

A further question asked the students about team work in their group.

Question: How well did your team work together during the workshop?

Table 13 Teamwork together

n=32	Never	Only now & again	Sometimes	Nearly always	Always
We enjoyed working together	0%	3%	19%	41%	38%
We took turns when talking to each other			25%	41%	34%
We discussed things and did not argue			25%	44%	28%
We were well organised	3%	13%	25%	34%	22%
We were interrupting & cutting each other off when speaking	22%	53%	25%		
We got on well together			6%	50%	44%
We tried to help one another		3%	9%	38%	50%
Some team members tried to boss others	44%	28%	16%	9%	3%
We listened to one another	3%		13%	41%	44%
I liked being in my team		6%	13%	31%	50%

The data showed that the students liked being in teams and key components of teamwork were realised including working together, listening to each other and helping each other and organised. One student comment from the post-questionnaire good and bad question stated, “As one can understand better through being with their classmates in teams”

Irish-based teams showed a more positive outlook to team work compared to the German-based teams.

Table 14 Teamwork Irish v German

n=32	Irish-based		German-based	
	Nearly always	Always	Nearly always	Always
We enjoyed working together	29%	71%	53%	0%
We took turns when talking to each other	41%	59%	40%	7%
We discussed things and did not argue	47%	41%	7%	47%

We were well organized	35%	24%	33%	20%
We got on well together	76%	24%	80%	7%
We tried to help one another	24%	71%	53%	27%
We listened to one another	24%	71%	60%	13%
I liked being in my team	24%	76%	40%	20%

As can be seen the difference was notable between the Irish-based students and German-based students in a number of categories. Irish-based students were more inclined to offer higher ratings in most of the questions asked and German-based students were less inclined to pick the highest value. In respect to the question of, how well organised they were, both Irish and German-based teams answered similarly in their responses.

Table 15 Teamwork Irish v German 2

n=32	**Irish-based**		**German-based**	
	Never	**Only now and then**	**Never**	**Only now and then**
We were interrupting & cutting each other off when speaking	35%	65%	7%	40%
Some team members tried to boss others	65%	29%	20%	27%

Again students differed significantly with 100% and 94% of Irish-based students opting for "Never" and "Only now and then" for each question and 47% from the German-based students for both responses.

5.3.3 Technology

Technology was extensively used by the participants throughout the study. A pre-questionnaire question asked the students how often they used different technologies and for how long in a typical week.

Table 16 Technology

n=32	**None**	**< 1 hour**	**1-5**	**> 5**

			hours	hours
Using a computer	3%	22%	43%	30%
Using a mobile phone (calls, text, internet)	5%	24%	38%	32%
Playing computer games (PC, console, online, handheld)	27%	24%	35%	14%
Social Networks (Facebook, Twitter, etc.)	16%	16%	35%	32%
Searching (Google etc.) for info, not school related	8%	65%	24%	3%
Multimedia activities (Moviemaker, photo editing, sound editing)	57%	32%	8%	3%
Maintaining a blog or website	84%	11%	5%	0%

The findings highlight that students regularly use technology, with 73% using a computer and 70% using smart phones for up to 5 hours or more in a normal week. However, the students predominantly use the technology for social networking (67%) compared to more creative activities like multimedia activities and maintaining blogs (11% and 5% respectively).

5.3.4 Collaborating at a distance

Students were asked both on the pre and post questionnaires how they would find working with students outside of their classroom based in other locations. A closed ended Yes or No question was followed by an open-ended question to explain the reasons why they would think working with student groups from other schools, would be effective for learning in the classroom?

Question: Do you think working with student groups from other schools, would be effective for learning in the classroom?

Table 17 Collaborate at a distance

Participants		Pre-questionnaire			Post-questionnaire	
		YES	NO		YES	NO
German-based students	n=20	14	6	n=15	15	0
Irish-based students	n=17	13	4	n=17	15	2
Totals	n=37	27	10	n=32	30	2

The findings show a change to the student responses before and after the workshop experience. On the pre-questionnaire 37% of the students did not think working with other schools would be effective for learning in the classroom. Following the workshop experience only 7% of those students participating in the post questionnaire did not think working with other schools would be effective for learning. 5 German-based students did not complete the post-questionnaire; due to a school trip, however the 6 German-based students who originally answered NO in the pre-questionnaire to this question did complete the post questionnaire and answered YES to the question.

This was a very positive outcome for the learning experience regarding spatially separated students with 30 out of 32 answering "Yes" to the question. 43 data points were extracted from the data. In order to analyse the reasons given, codes and themes were obtained from these data points.

Table 18 Codes C at D

Codes from open ended question collaborating at a distance		
I learned by doing (4)	learn from them (5)	sharing language learning (4)
learn at the same pace (5)	less likely to mess (1)	We started to compete (2)
learn different things (2)	new learning (3)	working with experienced learners (3)
learn from peers (4)	shared ideas (4)	native speakers (6)

Table 19 Themes C at D

Themes from open ended question collaborating at a distance	
Collaboration	I learned by doing, learn from peers, shared learning, shared ideas, learn from them
Learning	learn at the same pace, learn different things, new friends, we started to compete, working with experienced learners, new learning, less likely to mess,
Language	sharing language learning, speak better in Target Language, native speakers

The students were very positive on new ways of learning - “new people can always make things more interesting", "we swap ideas and ways of learning" and collaboration, "when we work together we use different ideas". Getting to speak and communicate with native-speakers and using language learning as the basis of the collaborative project especially appealed to the students, "you learn to speak English better", "because we can be speaking to native speakers" and "everyone's German could be put together to make great German sentences".

Of the students who answered “NO” one felt that there would be a possible lack of discipline, “because they would be a lot of messing and relaxing going on which wouldn’t happen in a classroom?” Another student highlighted that there would be the potential for too much loss of time, “You must first overcome the 'getting to know each other' barrier and that is very time consuming”.

5.3.5 Communication with native speakers

From the post-questionnaire students were asked to respond, Yes or No, to if communicating with native language speakers in their second language can improve oral fluency?

Table 20 Communication with NS

YES	NO	Unanswered
30	1	1

They were also asked why they felt this way, and to analyse the reasons given, codes and themes were obtained from the data.

Table 21 Codes C with NS

Codes			
Improved my fluency (7)	Spontaneous (3)	Peer to peer (1)	Local common phrases (1)
I got to speak a lot (12)	Pronunciation (3)	Will correct you (1)	Improvisation (3)
Working on projects in German (1)	Conversation is possible (1)	Mistakes ok (1)	New vocabulary (3)
Speaking with natives (2)	Confidence (3)	More understanding (2)	Encouragement from others (1)

Table 22 Themes C with NS

Themes	
Native speakers	Speaking with natives, Local common phrases,
Fluency	Conversation is possible, Improved my fluency, I got to speak a lot, Spontaneous, Hearing pronunciation, Confidence, Improvisation,
Learning	Conversation is possible, Mistakes ok, More understanding, New vocabulary, Will correct you,
Collaborating	Working on projects in German, Peer to peer, Encouragement from others

The findings show that students learning a second language clearly understand that speaking to native speakers will improve their fluency, " I got to speak with the people that know the languages very well and I could speak to them confidently", " I learned new things about the German language and country when I started communicating with Germans" and " I only spoke English with the Irish students. Through that I improved my English".

Image 2 Communication

Students also were cognitive of the fact that they were engaging on a more natural and fluid level, "One can talk freely", " As I spoke so much English, it improved my linguistics" and "Even hearing how they speak and pronounce the words helps with my fluency". From a learning perspective a student stated, "I find it better as you could improve if you made a mistake" and another commented "Because I have learned new vocabulary and how to speak certain words from Skyping with them". Collaborating was also a significant factor and as one student said "Speaking with natives and working on projects in German definitely helped me learn and improve my fluency", and another "It's made me more

confident to speak it even if I'm not saying it right because I know they were the same with English".

5.4 Non-questionnaire data

5.4.1 Student project work

The students were asked to collaborate on projects both within their own team and with a twinned team in another location. The projects were initially designed to allow for cooperative learning in the first week and for more collaborative learning in the second week. Content from the projects including videos, podcasts, blogs and shared documents were analysed. The artefact data were replayed a number of times and observations were written down and entered into MS Excel. The online documents were printed and marked for entry into MS Excel as well. 47 data points were extracted and 15 codes emerged into three themes.

Table 23 Project Codes

Codes			
Shared (8)	Content (8)	Confidence (4)	Authentic materials (2)
Taking risks (2)	Motivation (3)	Learning by doing (2)	More projects in school (1)
Think on your feet (2)	Improved fluency (4)	Innovative (3)	Learning without knowing (1)
Positive outcomes (2)	Organised (4)	Brainstorming (1)	

Table 24 Project Themes

Themes	
Fluency	Authentic materials, Improved fluency,
Collaboration	Shared, Motivation, Learning by doing, Learning without knowing, Organised, Brainstorming
21C learning	Content, Confidence, Taking risks, More projects in school, Think on your feet, Innovative, Positive outcomes,

Finished project content showed that collaboration took place within locally based teams and to a lesser degree with twinned spatially separated teams. Due to technology failures

and incomplete work due to time constraints, the researcher was unable to review any of the work from the German-based teams and concentrated on the project data, collected and analysed from the Irish-based teams.

Collaboration was evident by observing the actions of individuals, their interactions within the team and across spanned teams. A review of student content showed by completing the first video task and second radio podcast both Irish and German teams shared information and this information was produced in the video. From written content in Google shared documents students commented, “They helped us if we were stuck, we'd ask them and together we made the topics”. One student commented, “I definitely think there should be more of that (workshop) in school, communicating with native speakers and doing interesting things like making movies”. As students were required to brainstorm ideas, create content and use technology, 21st-century skills were observed and viewed throughout each project and students were motivated to complete their tasks, “When you are being pushed it is easier to learn and be motivated by people around you in a group even more so than the activity itself”.

The students communicated in their second language. As it was outside of the remit of the study no measures were recorded for student fluency. The researcher however, who has a limited knowledge of German, (CEFR A2.2 qualification) and the German-based teacher both observed enhanced fluency taking place over the course of the workshop. , “Speaking to a native speaker gives you confidence”, and “Speaking with the natives gave you huge motivation, you want to see how much you know and get better. You are not going to learn anything unless you speak”.

One student however stated about the project work, “More emphasis on different projects and not just on movies and or media. I would expand from that” and another student thought “I only picked up a few phrases”.

5.4.2 Collaboration

The researcher investigated if conditions required for collaboration were achieved during the study including, common goal, positive interdependence, coordination and communication, individual accountability, awareness of peers' work and joint rewards

(Szewkis, et al., 2011). Data was collected from questionnaires, focus groups, student online project documents and presentation of completed projects team work.

5.4.2.1 Common goal

Students were divided into teams and had clearly identified shared goals for all projects they participated in during the study. In analysing presentations and team project content the majority of students worked towards a common goal as demonstrated by the high level of task completions, (28 out of 32) and visual presentations which included all members of the team. A small number of students did not share in all tasks and there were variations in the level of work achieved by each team. As one student stated from the recorded and transcribed student focus groups, "I found it easy to make friends in an environment where we were all concentrating on the same goal".

5.4.2.2 Positive interdependence

Positive interdependence is defined as “the perception that we are linked with others in a way so that we cannot succeed unless they do” (Johnson & Johnson, 1999).

There was active participation by team members throughout the workshop. The projects were designed to ensure that the students needed to have a high level of interaction with each other in order to complete tasks. From a student focus group conversation an Irish-based student commented and reinforced the opinion that students were linked together sharing success together, "In teams, we can help and support each other".

Figure 2 Original v Corrected

A sample extract from one of four online Google documents which members of spanned teams individually contributed to on day 3 of the first week shows one Irish student's work being corrected by a German student.

5.4.2.3 Coordination and Communication

Students had to communicate and coordinate their actions in order to engage and complete each project. They had to speak to each other using Skype and share online Google app resources in order to achieve team goals. Different time zones and school hours had to be negotiated to ensure goals were accomplished. Through researcher observations and student feedback it was clear that technology breakdowns contributed to a lack of communication and coordination. However some students used Facebook to continue communications outside of the workshops.

5.4.2.4 Individual accountability

Each student had a shared responsibility within the team and each task required input by all team members. During presentations each team member had to explain the role they

were responsible for in each project. Again a small number of students did not partake in all group tasks especially when communicating at a distance and were not accountable to their team members.

5.4.2.5 Awareness of peers work

All projects required each team member to work directly with the team and display their work for all to see at a local level. Each project was designed to produce an artefact showing the students work. All teams created movies, podcasts and online documentation which were available to all members to see and review. During collaboration at a distance between local and remote twinned teams, some content was inaccessible between teams due to technology difficulties and a small number of projects were not completed. However, in an online comment, regarding any like/dislikes which the students were asked to record in a Google document, an Irish-based student commented, “Working on projects together with the Germans, one becomes better in the language”.

5.4.2.6 Joint rewards

Students in both locations were able to interact together and jointly share in helping each other to achieve a common goal. This was especially evident during the communicative exchanges when students spoke in their native and second languages together, as one student responded during a recorded and transcribed student focus group, “Well we mutually helped each other and could solve the tasks together”.

5.4.3 Technology used during workshops

Technology use throughout the workshops was necessary in order for the students to complete the various tasks and projects assigned to them. Data was collected from researcher observations, voice recorded focus groups transcribed and content posted by teams to Google blog pages. This data was analysed and coded in Table?

Table 25 Technology Codes

Codes			
New technology use (3)	Contingency (3)	Using technology (2)	I like the Skype idea (2)
Good content output (1)	Make best of it (3)	Broadband slow (3)	Lack of tech skills (2)
Skype quality sometimes poor (6)	Skype was fine (2)	File transfer poor (2)	Lack of technology in classroom (1)

Table 26 Technology Themes

Themes	
Quality	Skype quality sometimes poor, Broadband slow, File transfer poor, Lack of tech skills, Lack of technology in classroom
Resilience	Contingency, Make best of it,
Embracing	New technology use, Good content output, Skype was fine, Using technology, I like the Skype idea,

In themes emanating from student attitudes to technology, students were disappointed at times with the quality of communication, as stated by an Irish-based student “better video chat needed because Skype barely ever works”, on his blog page. Another German-based student commented on a Google online document, “Skype quality not good”. Nonetheless students showed a lot of resilience and teacher and mentor written observations praised the students for their understanding and acceptance during technology failures. One Irish-based student commented during a focus group that “technology is never going to work as planned”. The students however were observed to continuously embrace and use the technology at all times, in particular when the broadband was poor the following students in their own team online Google site pages wrote, “if voice quality not good using text box helped”, “I love Skype it is simple to use “, “the videos from all groups were good” and “getting us technology for learning is good”. The broadband signal was at times very poor and this contributed to incomplete projects. Also the German-based teacher had little previous knowledge with some of the technology used in the workshops and commented in a teacher observation document "if

I had the "black belt" in using Movie Maker, Audacity, Gmail or Dropbox, a lot of chaos would have been avoidable... (Nevertheless I´ve learned many things)."

Summary

Data was collected by using different data sets. The data collected was analysed by using the constant comparative method, where the data was constantly reviewed and compared. Further analysis using etic and emic, coding and theming was used to extract findings.

6.0 Discussion

6.1 Introduction

This study investigated the extension of the Bridge21 model to operate at a distance - where teams are split between two locations. It looked to see if the combination of teamwork, technology and project-based learning was effective for collaboration locally and at a distance. It explored if the conditions of collaboration according to Szewkis (2011) had been achieved and also how students found collaborating at a distance. It finally examined if the students communicating with native speakers in their second language had improved their oral fluency?

6.2 Bridge21 explored

6.2.1 Working in teams

In analysing the data the students based in teams for the duration of the workshops found being grouped together to be a very effective way of learning both locally and remotely as stated in their online Google content and during student focus group sessions. As two Irish-based students commented, “It was great to have everybody bringing different skills that enhanced our projects” and “It is a lot easier as part of a team cause then you can focus on certain aspects of a project”. During Skype communications, one Irish-based student noted when speaking to German students, “In the team you have a variety of who you talk to. You're not just talking to the same person over and over again”.

The group dynamic allowed the students to share problem solving, perform critical thinking, share ideas, divide up the workload, help each other and combine learning to accomplish project tasks. These skills compare favourably with the 21st-century skills identified by (Trilling & Fadel, 2009). The students both in Ireland and Germany noted that when in school they spent little time in groups and normally learnt on an individualised basis. The experience of working in teams over an extended period of time created an environment of positive and focused learning for the students and they agreed that this would clearly be welcomed in school classrooms. This is in keeping with the Government-led reform agenda for the Junior Cycle in Ireland (NCCA, 2011a). The

combination of excellent social interactions and learning achievement throughout the study compared well with studies where not only social improvements occurred but so too academic gains as well (Galton, et al., 2009). In this study the researcher did not measure academic gain. There was however an observable difference between the German and Irish based students regarding teamwork, and this can in some way be attributed to the students being younger and belonging to the same class. The German teacher noted in his observations email that many of his students were young and immature compared to the Irish-based students. In the post-questionnaire all Irish students, for the question, "did we enjoy working together?" replied in the affirmative for "always" or "nearly always" while only 53% of the German students replied similarly in those categories.

6.2.2 How did technology work?

Technology was in employed throughout the study and students were very comfortable with all aspects of its use. For example a typical response was (from one Irish-based student in the post-questionnaire) to the effect that, “I'm skilled with computers”. Although not all students were familiar with some of the software applications, they were very quick to learn and showed a high level of usage during the workshops, as one German-based student noted on a post-questionnaire question translated into English, “Computer skills/technology - I am now better at using movie maker and audacity”. Within each team, students shared and pooled their knowledge and experience on each of the various tools, and comments similar to “we all were able to help each other” were recorded in Google shared team blogs.

The CMC tool Skype was the main means of communication between the two sets of spatially separated students and contributed to successful interactions between both locations, reinforcing how internationally collaborative project-based interactions offer students the opportunity to utilise various Web based tools for practical purposes (Aoki & Molnar, 2011). The researcher through visual and written observations saw students who were stimulated and engaged when using technology, especially during Skype communications with their peers. As one student commented, “Towards the end of the

course, the Germans could understand me better and I could understand them better. I learned lots of commonly used phrases I had never heard before".

However technology did cause a high level of frustration at times and all students were irritated by the poor broadband connection between Ireland and Germany. The German school is in a rural location and although expectations were high for reasonably fast and consistent connection speeds this was not always the case. Transferring larger data files between both locations was not successful and more testing during preparations for the workshops could have lessened the impact of this breakdown. From a practical perspective the difference between time zones and school hours was a barrier to classroom communication and caused delays to student interactions as previously noted by (Tsukamoto, 2009). Students however also accepted technology breakdowns as "occupational hazards" and dealt with them well. The students did at times move away from the official Skype communications and some contacted each other on Facebook although this was on a small scale and unlike other studies (Jaime, et al., 2012) did not become the communication of choice for the students.

6.2.3 Student project work

Throughout the workshop various artefacts were created by the students including team videos, podcasts and online Google documentation content. The researcher in analysing the findings found that cooperation was achieved between the Irish and German-based teams during the initial projects with greater collaboration occurring in local teams. The "getting to know you" video assignment on the first day provided evidence that both spanned sets of teams had interacted and provided content material for each other's finished movies. These movies were presented and shown to the local students in each location. This was in keeping with Slavin's (1991) thoughts on group goals and individual accountability. However not all students took part in exchanges between the teams and a small number of German students did not engage or speak during Skype sessions. These students according to the German teacher were perhaps "too young, with others having problems with inner motivation".

The second project focused on creating a radio podcast and this was considered the most successful task by the Irish-based students for learning German during the workshops. As

commented in a post-questionnaire question, regarding good and bad moments during the workshops, one student commented, “The radio ad day was the most productive day”. The students had to, along with the initial brain storming of ideas for content in the podcast, interact with their counterparts, collect data and produce a podcast exclusively in the second language. One Irish-based student commented on this task during a student focus group interview, “It put me in a position where I had to speak German off the top of my head, and that helped”. The following day a third task involved students creating content online using Google Apps including Google docs for collaborative document sharing and Google Sites to create web blogs. Only a small amount of content was generated by the German-based students again due to technical and time issues.

This highlighted a number of significant differences between both locations and how important scaffolding and support played in the performance and outcomes from both sets of teams. The researcher facilitated the workshops based in Ireland and led a team of 3 mentors on workshop days. The teacher facilitating the workshops in Germany was working alone and had little training with the technology on hand. Although the researcher implemented and completed a three day Bridge21 workshop for the German-based students, this proved to be insufficient when issues arose during the collaboration at a distance workshops and not enough scaffolding and structure was sustained for communication in CMC (Luppicini, 2007). This technology breakdown contributed to insufficient time being available for students to complete the final task as originally planned with teams from both locations collaborating on a shared project "Teenagers on the go!”. Students were disappointed that they were unable to collaborate with their counterparts to complete this final task. The teams did complete the task but on a more localized level.

The German-based teams were, however, under-resourced and had no mentors and a facilitator lacking experience in the Bridge21 model of learning. Nevertheless, the teacher performed an excellent job under the conditions. In Dublin, the mentors were a significant contributing factor to the smooth running of the workshops, providing sufficient guidance and allowing for the construction knowledge in line with Mayer (2004) and Papert (1994).

The workplace in Dublin was also a major factor with its configuration designed to promote collaborative, team-led and project based learning as noted by Lawlor (2010). The German-teams were allocated workplaces that did not have these advantages and included a general purpose room and small classroom.

6.3 Collaboration

Achieving conditions of collaboration, as noted by Szewkis (2011), occurred in local teams and, to a lesser degree, with Irish and German-based spanned teams throughout the workshops. Common goals were fully achieved in the initial two projects, with both teams sharing content for the video and radio artefacts. The interaction between the student teams was observed by the researcher with teams showing high levels of motivation and enthusiasm to complete both tasks. The final project task was not completed as planned due to time and technical issues. For positive interdependence, student teams both in Ireland and Germany were aware, by the design of the projects, that they could not have success unless both sides had success. In the post-questionnaire students answered a question on what was good and bad, with students commenting “It is fun when we can learn together with the Germans” and “Students from other schools could have learned different things to what you have learned so you could learn a few different things from them”. Teams were quick to praise and complement each other when they succeeded together and sensed little achievement of success unless shared with their twinned team as happened when the final project was not completed. The researcher noted a sample comment from one of the Irish-based students “it’s better working with the Germans”. The Irish teams showed a high degree of positive interdependence during the workshops and again this was helped by the structure and scaffolding available to them. Two mentor reflection documents highlighted how team coordination and communication was evident throughout as teams were keen to communicate with each other on Skype, manage their interdependencies and coordinate their actions to complete tasks even when time and technology was not cooperating with them. One mentor commented “When video uploads and sharing began to go wrong it was interesting to note how students adapted their methods of communication.” In analysing the video and radio content from the students and shared documents the researcher could view individual accountability and awareness of peers’ work as all

students took roles and added to the content output of each task. This again was more obvious with the Irish-based teams as they also created web blogs and shared documents with all members contributing articles. As the students progressed through the workshops joint rewards were best highlighted during Skype synchronous interchanges as students involved in discourse had immediate and successful feedback correcting each other's speech and grammatical use.

6.4 Collaborating at a distance

The analysis of a pre and post-questionnaire question showed that both Irish and German based students enjoyed collaborating at a distance and viewed it as a positive learning experience. In the pre-questionnaire question “Do you think working with student groups from other schools, would be effective for learning in the classroom? 10 students (n=6 German, n=4 Irish) out of 37 did not think it would be effective. In the post-questionnaire only 2 Irish students out of all 32 students still agreed it would not be effective. Two German-based students commented in the post-questionnaire, “It helped me speak more freely in English and I have more trust in teamwork as I improved my vocabulary”, and I was able to speak more characteristically with them“. Technology breakdowns although causing disappointment at times showed a resilience on the part of the students as one Irish-based student noted in a post-questionnaire question, “The broadband was slow but we knew we had to make the best of it”.

However, the telecollaboration introduced novel aspects, as reflected by Jaime (2012), which included: students speaking to native speaking peers over an extended period of time; using technology to communicate and create projects and working in teams. The students were energised and engaged to work with students outside their classroom. As one German student stated from a post-questionnaire question, “I learned a lot of the rules of the foreign language and I had a lot of fun”. The ability to communicate and participate in a learning experience which involved social and cross cultural interactions is mirrored in Trilling's (2009) categories of 21st-century skills including digital literacy skills. The structure of workshop content based on language learning worked particularly well as both sets of students were able to see immediate results from communicating with each other and had a shared common theme of second language acquisition.

6.5 Communication with native speakers

For the post-questionnaire question “if communicating with native language speakers in their second language can improve oral fluency?” 30 out of 32 students agreed with this question and the ability to converse and communicate with native speakers was considered to be an overwhelming success by the students and fully concurred with other studies by Aoki (2011), Tsukamoto (2009) and Wang (2012). In observing the students visually and with written notes, were highly motivated to make use of discourse with native speakers and were very satisfied with using authentic materials especially for oral and aural communication. Again in the post-questionnaire question students commented, “If there was words you weren't sure of or how to pronounce them, when hearing the German speakers saying them it helps you learn” and “By native-speaking I obtained an impressive will to speak English” This drive to use authentic materials and not rely on text books mirrored Gilmore (2007) and the lack of diverse learning methods in the classroom.

6.6 Limitations of the study

This case study was broad based in its design and should be interpreted as suggestive rather than definitive in its outcomes. Students were asked to describe their perceptions of the learning experience and no formal quality measurement of learning or language level competencies were taken before the study commenced. The researcher has no formal background in language learning or teaching, and designed content on the basis of a cooperative and collaborative exercise rather than measuring language comprehension, grammar or fluency. A more intensive study focused on enhanced fluency in a second language would add weight to some of the findings in this study. There may also be value in extending the Bridge21 model to promote 21st-century learning outside the classroom with two schools sharing the same native language and focusing on collaboration without second language learning.

6.7 Summary

Extending the Bridge21 model to a collaborative learning at a distance experience has shown that students can succeed in an environment where they can incorporate 21st-century learning into everyday classroom activities. Students showed willingness for

creative thinking, problem solving, creativity and innovation. They were motivated to work in a flexible, adaptable way and thoroughly enjoyed working with an array of technology to communicate and collaborate with native speakers in their second language. This level of enthusiasm for team-led, project based and technology mediated learning cannot be underestimated and will in due course become part of every student's standard school curriculum.

7.0 Conclusion

The aim of this study was to explore 21st-century learning using a model of learning which is team-led, project-based and technology-mediated to engage students in a collaborative language learning experience. The Bridge21 model was extended to operate at a distance where teams were split between two locations and communication was through a computer mediated communication tool called Skype. A second undertaking was to ensure, that the requirements for collaboration listed by Szewkis were met by the project tasks.

A review of 21st-century literature shows that we have moved away from an industrial society to an information society (Voogt & Pelgrum, 2005) and students need to use skills which promote critical thinking and problem solving, and to work in teams with student-directed learning.

The findings suggest that students want to work in more collaborative based environments and share learning with their peers, whether inside or outside the confines of the classroom using technology as an everyday tool of learning.

The theme of second language learning (LL2) was investigated through the theoretical framework of social constructivism and using the constructs of their native language, students negotiated, communicated and reinforced meaning with their peers (Huifen & Yueh-chiu, 2010). Findings indicated that students were positively engaged to interact and converse with native speakers not only to improve communicative competences but to share cultural exchanges using authentic materials. The initial novel aspects of speaking to native speaking peers, by the students, was replaced by a clear understanding of the benefits to LL2 including, enhancements to their grammar usage and fluency during the workshops.

"Speaking with the natives gave you huge motivation, you want to see how much you know and get better".

The different learning locations had a role to play in how students adapted to their surroundings. The Bridge21 learning space offered the Irish-based students a richer working environment with semi-enclosed team pods containing two computers and an

adjoining multi-purpose room used for presentations and other work. The facilities for the German-based students did not offer the same level of productivity and nurturing of collaborative engagement. Further findings showed that there was an imbalance of experience regarding the structuring and scaffolding of tasks in both locations and this would need to be improved for future studies.

Technology was a major contributing factor throughout the study and was embraced by the students even when not always working as anticipated. The use of computers, CMC and Web2.0 tools was in dramatic contrast to normal classroom technology usage for all the students. The researcher would however recommend better testing of broadband equipment and signal strength before commencement of future similar case studies.

"I love Skype it is simple to use"

"Would have been nice if technology more reliable"

The students found that communicating and collaborating with native speakers was really enjoyable and a great learning experience. They were highly motivated and enthusiastic throughout the workshops.

And leaving the last words to the students...

"It was very easy to talk to the Irish students"

"I loved every minute of being in Bridge21. I made new friends and learned more German"

References

Allen, B., Crosky, A., McAlpine, I., Hoffman, M., & Munroe, P. (2006). *A blended approach to collaborative learning: Can it make large group teaching more student-centred.* Paper presented at the Proceedings of the 23rd annual conference of the Australasian Society for Computers in Learning in Tertiary Education: Who's learning.

Aoki, K., & Molnar, P. (2011). *Project-Based International Collaborative Learning using Web 2.0 Tools for Authentic Learning of Foreign Language and 21st Century Skills.* Paper presented at the World Conference on Educational Multimedia, Hypermedia and Telecommunications.

Bénard, D. (2002). A method of non-formal education for young people from 11 to 15. *Handbook for Leaders of the Scout Section*.

Bhatia, T. K., & Ritchie, W. C. (2009). *Second language acquisition: Research and application in the information age*. Bingley: Emerald.

Bruns, A. (2007). *Produsage: Towards a broader framework for user-led content creation.* Paper presented at the Creativity & Cognition.

Chambers, F. (1997). What do we mean by fluency? *System, 25*(4), 535-544.

Conneely, C., Girvan, C., & Tangney, B. (2012). Case Study Report for the NCCA.

Conole, G. (2004). E-learning: The hype and the reality.

Conole, G., Dyke, M., Oliver, M., & Seale, J. (2004). Mapping pedagogy and tools for effective learning design. *Computers & Education, 43*(1), 17-33.

Creswell. J. W. (2007). *Qualitative inquiry and research design: Choosing among five approaches*. Thousand Oaks: Sage.

Creswell. J. W. (2008). *Educational Research Planning, Conducting,and Evaluating Quantitative and Qualitative Research*. Upper Saddle River, New Jersey: Pearson.

Creswell, J. W. (2002). Educational research: Planning, conducting, and evaluating quantitative and.

DeKeyser, R. M. (2007). Study abroad as foreign language practice. *Practice in a second language:; Perspectives from applied linguistics and cognitive pyschology*, 208-226.

Denscombe, M. (2002). *The Good Research Guide: For Small-scale Social Research Projects*. Buckingham: Open University Press.

Dillenbourg, P., & Fischer, F. (2007). Computer-supported collaborative learning. *Zeitschrift für Berufs-und Wirtschaftspädagogik, 21*, 111-130.

Domínguez, C., & Jaime, A. (2010). Database design learning: A project-based approach organized through a course management system. *Computers & Education, 55*(3), 1312-1320.

Driscoll, M. (1999). *Pyschology of learning for instruction* (2nd ed.). Toronto: Allyn & Bacon.

Freed. (1995). What makes us think that students abroad become fluent. *Second language acquisition in a study abroad contxt, 9*, 123.

Freed, B. F., Segalowitz, N., & Dewey, D. P. (2004). Context of learning and second language fluency in French: Comparing regular classroom, study abroad, and intensive domestic programs. *Studies in Second Language Acquisition*(26), 173-199.

Gagne, R. (1987). *Instructional technology foundations*. Hillsdale, NJ: Lawrence Eribaum Assoc.

Galton, M., Hargreaves, L., & Pell, T. (2009). Group work and whole-class teaching with 11-to 14-year-olds compared. *Cambridge Journal of Education, 39*(1), 119-140.

Gewertz, C. (2007). Soft skills in big demand. *Education Week, 26*(40), 25-27.

Gewertz, C. (2008). States press ahead on '21 st-century-skills'. *Education Week, 28*(8), 21-23.

Gilmore, A. (2007a). Getting real in the language classroom: Developing Japanese students' communicative competence with authentic materials. *Unpublished doctoral dissertation*.

Gilmore, A. (2007b). Authentic materials and authenticity in foreign language learning. *Language Learning, 40*, 97-118.
Gilmore, A. (2011). Japanese Learners' Communicative Competence with Authentic Materials. *Language Learning, 61*(3), 786-819.
Goertler, S. (2009). Using Computer-Mediated Communication (CMC) in Language Teaching.
Hammond, M., Crosson, S., Fragkouli, E., Ingram, J., Johnston-Wilder, P., Johnston-Wilder, S., et al. (2009). Why do some student teachers make very good use of ICT? An exploratory case study. *Technology, Pedagogy and Education, 18*(1), 59-73.
Harris, J. (1999). First steps in telecollaboration. *Learning and leading with technology, 27*, 54-57.
Huifen, L., & Yueh-chiu, F. (2010). EFL Learners' Perceptions of Computer-Mediated Communication (CMC) to Facilitate Communication in a Foreign Language. [Article]. *World Academy of Science, Engineering & Technology, 66*, 714-721.
Hymes, D. H. (1972). *On communicative competence*. Uni of Michigan Publishing.
Jaime, A., Domínguez, C., Sánchez, A., & Blanco, J. M. (2012). Interuniversity telecollaboration to improve academic results and identify preferred communication tools. *Computers & Education*(0).
Johnson, D. W., & Johnson, R. T. (1999). Making cooperative learning work. *Theory into practice, 38*(2), 67-73.
Koponen, M., & Riggenbach, H. (2000). Overview: Varying perspectives on fluency. *Perspectives on fluency*, 5-24.
Lackney, J. A. (2011). New approaches for school design. *The Sage handbook of educational leadership*, 353-380.
Lawlor, Conneely, & Tangney. (2010). Towards a pragmatic model for group-based, technology-mediated, project-oriented learning–an overview of the B2C model. *Technology Enhanced Learning. Quality of Teaching and Educational Reform*, 602-609.
Lawlor, J., Conneely, C., & Tangney, B. (2010). Towards a Pragmatic Model for Group-Based, Technology-Mediated, Project-Oriented Learning – An Overview of the B2C Model. *Communications in Computer and Information Science, 73*, 602-609.
Levy, M. (1997). *Computer-assisted language learning : context and conceptualization / Michael Levy.*: Oxford : Clarendon Press.
Luppicini, R. (2007). Review of computer mediated communication research for education. *Instructional Science, (italics)*(35), 141-185.
Mayer, R. E. (2004). Should there be a three-strikes rule against pure discovery learning? *American Psychologist, 59*(1), 14.
McKernan, J. (1996). *Curriculum action research. A handbook of methods and resources for the reflective practitioner*: ERIC.
Meskill, C., & Anthony, N. (2005). Foreign language learning with CMC: forms of online instructional discourse in a hybrid Russian class. *System, 33*(1), 89-105.
NCCA. (2010). *Innovation and Identity: Ideas for a new Junior Cycle. Dublin: NCCA.*
NCCA. (2011a). *Towards a Framework for Junior Cycle. Innovation and Identity: Schools Developing Junior Cycle.*
Nel de Jong, V., & Perfetti, C., A. (2011). Fluency Training in the ESL Classroom: An Experimental Study of Fluency Development and Proceduralization. *Language Learning, 61*(2), 533-568.
Oxford, R. L. (1997). Cooperative learning, collaborative learning, and interaction: Three communicative strands in the language classroom. *The Modern Language Journal, 81*(4), 443-456.
Papert, S. (1994). *The children's machine: Rethinking school in the age of the computer*: Basic Books.
Razagifard, P. (2012). The impact of text-based CMC on improving L2 oral fluency. *Journal of Computer Assisted Learning*, n/a-n/a.

Rossiter, M. J., Derwing, T. M., Manimtim, L. G., & Thomson, R. I. (2010). Oral Fluency: The Neglected Component in the Communicative Language Classroom. *Canadian Modern Language Review/La Revue canadienne des langues vivantes, 66*(4), 583-606.

Silva, E. (2009). Measuring Skills for 21st-Century Learning. *The Phi Delta Kappan, 90*(9), 630-634.

Slavin, R. E. (1991). Synthesis of Research of Cooperative Learning. *Educational leadership, 48*(5), 71-82.

Sullivan, K. (2012). Learning Circles: A technology enhanced peer-teaching workshop.

Szewkis, E., Nussbaum, M., Rosen, T., Abalos, J., Denardin, F., Caballero, D., et al. (2011). Collaboration within large groups in the classroom. *International Journal of Computer-Supported Collaborative Learning, 6*(4), 561-575.

Tesch, R. (1990). *Qualitative research: Analysis types and software tools*. Bristol, PA: Falmer Press.

Thomas, G. (2010). *How to do your case study: A guide for students and researchers*: Sage Publications Limited.

Trilling, B., & Fadel, C. (2009). *21st century skills: Learning for life in our times* (Vol. 2): Jossey-Bass.

Tsukamoto, M. (2009). *Using Skype to connect a classroom to the world: Providing students an authentic language experience within the classroom.* Paper presented at the CamTESOL Conference on English Language Teaching.

Tudge, J. R. (1992). Processes and consequences of peer collaboration: A Vygotskian analysis. *Child development, 63*(6), 1364-1379.

Voogt, J., & Pelgrum, H. (2005). ICT and curriculum change.

Vygotsky, L. S. (1978). *Mind in society: The development of higher pyschological processes*. Cambridge, MA: Harvard University Press.

Wang, Y., & Chen, N. S. (2012). The collaborative language learning attributes of cyber face-to-face interaction: the perspectives of the learner. *Interactive Learning Environments, 20*(4), 311-330.

Warschauer, M. (1996). Computer Assisted Language Learning an Introduction. *In Fotos S. (ed.) Multimedia language teaching, Tokyo: Logos International:, 3*(20).

Warschauer, M., & Grimes, D. (2007). Audience, Authorship, and Artifact: The emergent semiotics of Web2.0. *Annual Review of Applied Linguistics, 27*(1), 1-23.

Warschauer, M., & Healey, D. (1998). Computers and language learning: an overview. [10.1017/S0261444800012970]. *Language Teaching, 31*(02), 57-71.

Yang, Y.-T. C., & Chang, L.-Y. (2008). No improvement-reflections and suggestions on the use of Skype to enhance college students' oral English proficiency. *British Journal of Educational Technology, 39*, 721-725.

Yin, R. K. (2003). *Case study research: Design and methods* (3rd ed.). Thousand Oaks, CA: Sage.

Young, S. S. C. (2003). Integrating ICT into second language education in a vocational high school. *Journal of Computer Assisted Learning, 19*(4), 447-461.

Appendices

Appendix A - Pre-questionnaire Bridge21 workshop

The purpose of this questionnaire is to collect information about your general experience of school, how you like to work and how you learn. It is to help with the evaluation and development of the Bridge21 programme, which your school is taking part in this year. We really value your honest opinion and want you to take your time to think about each question carefully and answer as best you can. All of the information collected on this questionnaire will be annonymised (all names will be removed) and stored safely in accordance with the Data Protection Act in Trinity College, University of Dublin. If you have any questions you can ask your teacher and they will contact the Bridge21 staff.

"Each question is optional. Feel free to omit a response to any question; however the researcher would be grateful if all questions are responded to."

1.	**Date:**	
2.	**Name :**	
3.	**School:**	
4.	**Age:**	
5.	**Mobile Phone No.:**	
6.	**Gender:**	
7.	**What is your first language:**	
8.	**Were you born in Ireland:**	
9.	**E-mail address:**	

10. In a normal week, how much time would you spend on the following activities?

	None	Less than 1 hour	1-5 hours	More than 5 hours

Using a computer	⬭	⬭	⬭	⬭
Using a mobile phone (calls, text, internet)	⬭	⬭	⬭	⬭
Playing computer games (PC, console, online, handheld)	⬭	⬭	⬭	⬭
Social Networks (Facebook, Twitter, etc.)	⬭	⬭	⬭	⬭
Listening to music	⬭	⬭	⬭	⬭
Watching tv shows/movies (on TV or online)	⬭	⬭	⬭	⬭
School work (homework or study)	⬭	⬭	⬭	⬭
Searching (Google etc.) for info, not school related	⬭	⬭	⬭	⬭
Multimedia activities (Moviemaker, photo editing, sound editing)	⬭	⬭	⬭	⬭
Maintaining a blog or website	⬭	⬭	⬭	⬭

11. This question is about how you learned at school in the last 2 years. Please select the box that best describes how often you did the following,

	More than twice a day	1-2 times a day	1-2 times a week	1-2 times a month	Rarely/ Never
I brainstormed ideas	⬭	⬭	⬭	⬭	⬭
I was given a chance to choose what I wanted to learn	⬭	⬭	⬭	⬭	⬭
I worked with two or more other students as part of a team	⬭	⬭	⬭	⬭	⬭
Other students helped me learn	⬭	⬭	⬭	⬭	⬭
I learned alone	⬭	⬭	⬭	⬭	⬭
I used ICT (computers, phones etc.) to share and swap work with other students	⬭	⬭	⬭	⬭	⬭

12. This question is about how you learn German in the classroom. In a normal week what percentage of time in the lesson would you spend on the following;

	100%	75%	50%	25%	Rarely/Never
Having conversations in English with 1 other person	⬭	⬭	⬭	⬭	⬭

Using computers and/or internet to learn English	⬭	⬭	⬭	⬭	⬭
Speaking to native speakers	⬭	⬭	⬭	⬭	⬭
Learning to speak English in groups	⬭	⬭	⬭	⬭	⬭
Learning English by using textbooks	⬭	⬭	⬭	⬭	⬭

13. **Do you think working with student groups from other schools, would be effective for learning in the classroom?**

Yes	No
⬭	⬭

14. **Why do you feel this way? / please explain your answer;**

15. **Do you think communicating with native German speakers can improve your oral fluency ?**

Yes	No
⬭	⬭

16. **Why do you feel this way? / please explain your answer;**

Appendix B - Post- questionnaire auf Deutsch

Name

Schüle

Gruppename

1. Wie würden Sie ihre Erfahrung dieses Workshops überall schätzen?

Prima Gut Mittel Ok Schlecht

Warum fühlen Sie so?

2. Hat dieser Workshop einen Einfluss auf Sie wie folgt gespielt?

	Lehne vollkommen ab	**Lehne ab**	**Unentschieden**	**Stimme zu**	**Stimme voll zu**
Ich habe meine Einstellung gegenüber Teamarbeit verbessert					
Ich habe meine Einstellung gegenüber Bildung verbessert					
Ich habe mein Vertrauen in Technologie erhöht	k				
Ich habe das Gefühl, das ich besser in der Schule durch Teamarbeit lernen konnte					
Ich konnte neue Freunde machen					
Ich habe meine Kommunications- und Präsentationsfähigkeiten verbessert					
Ich habe meine Selbständigkeit erhöht					

3. Arbeiten Sie gerne in Teams?

Ja ☐ Nein ☐

Warum?

4. Während der Lehrwerkstatt, wie gut konnte ihre Gruppe zussammenarbeiten?

	Nie	**Nicht viel**	**Manchmal**	**Oft**	**Immer**
Wir arbeiteten gern zusammen					
Beim Reden, haben wir uns miteinander abgelösen					
Wir haben miteinander diskutiert und argumentieren wir nicht					
Wir waren gut organisiert					
Beim Reden haben wir uns unterbrochen					
Wir haben uns gut verstanden					
Wir versuchten einander zu helfen					
Ein paar Teamleiter waren ein bisschen herrisch					
In dem Workshop hören Menschen einander zu					
Ich arbeitete gern in meiner Gruppe					
Wir versuchten außerhalb Skype, Englisch zu sprechen					
Bei Skype haben wir einander geholfen, Englisch zu sprechen					

5. **<u>3 Sachen, dass ich während dieses Workshop über mich selber und mein Lerntyp gelernt habe.</u>**

1.
2.

6. Interessieren Sie sich für die Teilnahme in anderen Sprachworkshops?

Ja ☐ Nein ☐

Bitte erklären Sie ihre Entsheidung…..

Bitte beantworten Sie auf die nachfolgende Erklärungen

	Lehne vollkommen ab	**Lehne ab**	**Unentschieden**	**Stimme zu**	**Stimme voll zu**
Dieser Workshop hat meine Interesse in Englisch erhöht					
Der Gebrauch von authentische Materialien (z.B. Muttersprachler, englische Music oder Radio) statt Textbucher verbessert mein Englisch					
Dieser Workshop hat mein Vertrauen in Technologie bei dem Erlernen von Englisch erhöht					
Dieser Workshop hat meine Interesse bei dem Erlernen von Englsich verbessert					
Die Benutzung von Skype is t eine gute Wiese, Englisch zu lernen					
Das Reden mit Muttersprachlicher ermutigt mich mit ihnen Englisch zu Sprechen					
Die Benutzung von Skype, um mit Muttersprachlicher zu sprechen, ermutigt mich mit ihnen Englisch zu Sprechen					
Die Benutzung von Skype messaging mit Skype voice/video kann mir helfen, besser in meiner zweiten Sprache zu kommutieren					
Die Benutzung von Skype messaging mit Skype voice/video bedeutet, dass ich nicht viel in meiner zweiten Sprache sprechen kann.					
I benutze Skype messaging lieber, weil ich weniger mit Skype voice/video sprechen kann.					
Die Benutzung von Web2.0 Tools (Skype, Google Apps, Dropbox etc.) hiflt in dem Erlernen von Sprachen					
Die regelmaßige Benutzung von Skype ermutigt mich, mehr English zu sprechen					
Ich möchte Skype im Klassenraum					

benutzen , um meine Flüssigkeit im Englisch zu verbessern.					
Während dieses Workshops, habe ich Google Translate benutzt, um meine Aufgaben zu vollenden					

7. Nach diesem Workshop, denken Sie, dass die Kommunikation mit englischen Muttersprachler ihre Flüssigkeit verbessert hat?

   Ja ☐ Nein ☐

8. Warum fühlen Sie so?/ Bitte erklären Sie ihren Antwort;

9. Nach diesem Workshop , denken Sie, dass die Zusammenarbeit mit anderen Studentengruppen von verschiedenen Schulen für das Erlernen im Klassenraum effektiv wäre?

   Ja ☐ Nein ☐

10. Warum fühlen Sie so?/ Bitte erklären Sie ihren Antwort;

11. Was würden Sie (wenn überhaupt) mit diesem Workshop ändern?

12. Weitere Bemerkungen?

Appendix C - Post-questionnaire

Name

School

Team Name

1. Overall, how would you rate your experience attending this workshop?

Excellent Good Average Fair Poor

Why do you feel this way?

2. Has the workshop impacted on you in any of the following ways?

	Strongly disagree	**Disagree**	**Unsure**	**Agree**	**Strongly agree**
Improved my attitude to working as part of a team					
Improved my attitude to education					
Increased my confidence using technology					
Made me feel that I would learn better in school as part of a team					
Allowed me to make new friends					
Improved my communication and presentation skills					
Increased my independence					

3. Do you like working in teams?

Yes ☐ No ☐

Why?

4. How well did your team work together during the workshop?

	Never	**Only now & again**	**Sometimes**	**Nearly always**	**Always**
We enjoyed working together					
We took turns when talking to each other					
We discussed things and did not argue					
We were well organised					
We were interrupting & cutting each other off when speaking					
We got on well together					
We tried to help one another					
Some team members tried to boss others					
We listened to one another					
I liked being in my team					
We tried to speak some German when we were not using Skype					
We helped each other to speak German when we were using Skype					

5. **Three** things I learned about **myself** and **how I learn** during the workshop…

1.
2.

6. Would you be interested in participating in other language learning workshops?

Yes ☐ No ☐

Please explain your decision…

Please respond to each of the statements below

	Strongly disagree	**Disagree**	**Unsure**	**Agree**	**Strongly agree**
The workshop increased my interest in learning German					
Using authentic materials (e.g. native speakers, German music, German radio) rather than just text books helps me learn German					
The workshop has increased my confidence to use technology when learning German					
The workshop has Improved my interest in speaking more German					
Using Skype to learn German is good					
Speaking to native speakers encourages me to speak German					
Using Skype to speak to native speakers encourages me to speak German					
Using Skype messaging with Skype voice/video, helps me to communicate better in the second language					
Using Skype messaging with Skype voice/video, means I do not speak as much in the second language					
I prefer using Skype messaging because I can speak less when using Skype voice/video.					
Using Web2.0 Tools (Skype, Google Apps, Dropbox etc.) helps language learning					
Using Skype regularly would encourage me to speak more in German					
I would like to use Skype in the classroom to improve my fluency in German					
During the workshop, I used Google Translate all the time to help me complete my tasks					

7. Following this workshop did you think communicating with native German speakers improved your oral fluency ? Yes ☐ No ☐
8. Why do you feel this way? / please explain your answer;

9. Following this workshop did you think working with student groups from other schools, would be effective for learning in the classroom?

Yes ☐ No ☐

10. Why do you feel this way? / please explain your answer

11. What would you change (if anything) about the workshop

12. Any other comments?

Thank you

Appendix D - Consent Form auf Deutsch

Sehr geehrte Eltern und Erziehungsberechtigte,

Die Bischof von Lipp Schule nimmt mit einigen Schülern am unten näher erläuterten Programm von **Bridge21** teil. Das Programm wird an der Bischof von Lipp Schule an ausgewählten Tagen zwischen dem 23. Januar und dem 7. Februar durchgeführt werden.

Bridge21 ist eine am Trinity College in Dublin/Irland angesiedelte, gemeinsame Forschungsinitiative des Forschungszentrums für die Benutzung von Informationstechnik im Unterricht, der Trinity Zugangsprogramme und der Suas Entwicklungshilfe im Bildungsbereich. Der Verantwortliche für das Projekt ist Brendan Tangney und die Projektleiterin ist Claire Conneely. Das übergeordnete Ziel des Programms ist es, jungen Leuten eine Lernerfahrung anzubieten, die es ihnen ermöglicht durch Nutzung moderner Kommunikationstechnologie und Teamwork zunehmende Selbstsicherheit beim Lernen zu erlangen. Das Programm versucht, die Schüler positiv einzubinden und sie anzuhalten, ihre persönlichen Lernbestrebungen zu steigern.

Bei der Durchführung von **Bridge21** werden sich die Schüler den Herausforderungen neuer Lernaktivitäten stellen. Diese schließen die Benutzung von digitalen Medien, Spielen, Animationen, Mobiltechnologie, und Web-Design ein und befassen sich mit einer ganzen Bandbreite von unterschiedlichen Themenbereichen. Als Teil des Programms wird ihr Sohn/ihre Tochter moderne Technologie verwenden, die den Zugang zum Internet und die Benutzung von Kameras einschließt. Die Schüler befinden sich zu jeder Zeit unter Aufsicht und werden von Erwachsenen angeleitet. Alle Aktivitäten entsprechen den Vorgaben des Jugendschutzes, der Schulordnung sowie den Richtlinien des Trinity Colleges in diesem Bereich. Dadurch wird gewährleistet, dass die Schüler die technologischen Lernmöglichkeiten sicher und effektiv nutzen können. Der Umgang mit fotografischen Abbildungen geschieht strikt nach Maßgabe der zuvor genannten Richtlinien.

Während des Programms wird ein Forscher vom Trinity College Dublin anwesend sein, um Informationen über die Lernerfahrungen der Schüler zu sammeln. Dabei werden die Aktionen und das Sprachverhalten der Schüler mit Hilfe eines Beobachtungsrasters aufgezeichnet. Weiterhin werden die Schüler vor und nach der Durchführung des Programms einen Fragebogen ausfüllen. Wenn die Studie abgeschlossen ist, *kann es sein*, dass das Forschungsteam die Schule noch einmal besucht, um mit ausgewählten Schülern Interviews zu führen.

Jedwede Erhebung, die das Forschungspersonal aufzeichnet, wird anonymisiert und im Einklang mit den Datenschutzbestimmungen des Trinity Colleges Dublin abgespeichert werden. Sollte es unerwarteterweise geschehen, dass während der Studie Missbrauch betrieben oder ungesetzliche Handlungen durchgeführt werden, so werden gemäß den Jugendschutzbestimmungen und der Schulordnung die zuständigen Behörden benachrichtigt.

Die Ergebnisse der Studien können in Vorlesungen, Vorträgen bei Konferenzen, Doktorarbeiten sowie Artikeln in Fachzeitschriften Verwendung finden. In diesen Fällen werden weder die beteiligten Schüler noch die Schule identifizierbar sein.

Wir würden uns freuen, wenn Sie Ihrem Sohn/Ihrer Tochter erlauben würden, an der Durchführung des Programms teilzunehmen und die angebotene Kommunikationstechnologie auf sichere und gewinnbringende Weise zu nutzen. Wenn es zweckmäßig erscheint, würden wir

gerne die von den Schülern geschaffenen Arbeiten veröffentlichen, sofern diese lernpädagogisch relevant sind und für andere Schüler oder Studenten nützlich sein können.

Wir bitten Sie ebenso um die Erlaubnis, dass Ihr Sohn/Ihre Tochter am Forschungsteil des Programms teilnehmen kann. Die Mitwirkung in diesem Teilbereich ist freiwillig und Sie können Ihren Sohn/Ihre Tochter jederzeit und ohne Angabe von Gründen aus dem Forschungsprojekt herausnehmen. In diesem Falle werden die bereits gespeicherten Aufzeichnungen nicht weiter verwendet. Sollten Sie wünschen, dass Ihr Sohn/Ihre Tochter aus dem Forschungsteil ausscheidet, so kann er/sie weiter am Programm teilhaben, jedoch ohne dass seine/ihre Daten in das Forschungsvorhaben einfließen.

Von Zeit zu Zeit kann es vorkommen, dass wir Videoaufnahmen und Bilder von Ihrem Sohn/Ihrer Tochter, deren Klassenkameraden und den Lehrern bei der Arbeit machen. Dieses Material wird in der Öffentlichkeitsarbeit des Programms und zu Werbe- und Marketingzwecken im Rahmen von **Bridge21** Verwendung finden. Die Benutzung des so gewonnenen Film- oder Bildmaterials wird von uns strikt im Einklang mit den Jugendschutzbestimmungen und allen weiteren, einschlägigen Richtlinien gehandhabt. Der Name Ihres Sohnes/Ihrer Tochter wird niemals in Verbindung mit Aufnahmen angegeben werden. Sollten Sie wünschen, dass Ihr Sohn/Ihre Tochter in keinem für Werbezwecke erstellten Material erscheint, so kann er/sie dennoch am Programm teilnehmen. Jedoch werden dann keine Aufnahmen von ihm/ihr benutzt werden.

Bitte geben Sie mit Ihrer Unterschrift auf dem beigefügten Formular Ihre Zustimmung und geben Sie das Formular so bald als möglich an die Schule zurück. Falls Sie noch Fragen haben, zögern Sie bitte nicht, Kontakt mit uns aufzunehmen.

Mit freundlichen Grüßen

Ciarán Bauer, Claire Conneely & Kevin Sullivan

Bridge to College Programme Team

Ciarán Bauer +353(87)2544266
Telefon: +353(1)8964099 /(1)8961397
Email: ciaran@bridge21.ie

Ich, _____ (Name des Erziehungsberech

tigten) stimme zu, dass mein Sohn/meine Tochter _____

am Programm des **Bridge21** Forschungsprojektes am _____ 2013 teilnimmt.

Den Informationsbrief, der die Aktivitäten erläutert, in die mein Kind eingebunden ist, der schildert, wie die Daten erhoben und verarbeitet werden und wie ich das Forschungsteam kontaktieren kann, habe ich erhalten und gelesen.

Mir ist bewusst, dass ich mein Kind jederzeit und ohne weitere Verpflichtungen aus dem Forschungsprojekt herausnehmen kann, wenn mir dies erforderlich erscheint.
Ich weiß auch, dass Bild- oder Videomaterial im Verlauf des Projekts zu Werbezwecken für **Bridge21** aufgenommen wird. Sollte mein Kind darin erscheinen, wird es nicht namentlich genannt werden.

Datenschutz: Ich habe nichts dagegen, dass das Trinity College, University of Dublin persönliche Daten meines Kindes archiviert, die im Zusammenhang mit dem Forschungsprojekt erhoben werden. Ich stimme zu, dass die Daten zur Auswertung für alle Vorhaben im Rahmen des Forschungsprojektes, so wie es mir beschrieben wurde, verwendet werden können.

Unterschrift des/der Erziehungsberechtigten: _____

Datum: _____

Unterschrift des Projektleiters (TCD): _____

Datum: _____

Beachten Sie bitte: Da in diesem Forschungsprojekt Computer benutzt werden, können Kinder mit Epilepsie weder bei den Lernaktivitäten noch am Forschungsteil des Projektes teilnehmen. Benachrichtigen Sie bitte die Schule, wenn dies bei Ihrem Kind der Fall ist. Sollte Epilepsie bei anderen Familienmitgliedern vorkommen, so kann Ihr Kind teilnehmen. Dies geschieht jedoch auf eigenes Risiko.

Appendix E - Consent Form

18/01/2013

Dear Parent/Guardian,

The school has arranged for some of the students to participate in the **Bridge21** programme on ***XXXXXXXXXXX***. The programme will take place in Bischop von Lipp Schule on selected days from 23rd Janruary - 7th February.

Bridge21 is a joint research initiative based in Dublin, Ireland between Trinity College's Centre for Research in IT in Education, Trinity Access Programmes and Suas Educational Development. The principal investigator is Brendan Tangney and the project leader is Claire Conneely. The overall aim of the programme is to provide a learning experience for young people to become confident learners through the use of technology and teamwork. The programme seeks to positively engage students and encourage them to raise their personal learning aspirations.

At **Bridge21**, students will engage in challenging learning activities involving digital media, gaming, animation, mobile technology and web design, across a range of subject areas. As part of the programme, your son/daughter will be using modern technology, which will include access to the internet and use of cameras. They will be under the supervision and guidance of adults at all times. All activities will comply with best practice in Child Protection and the policies of the school and Trinity College in this area to ensure that students benefit from the learning opportunities offered by technology in a safe and effective manner. Management of photographic images will be strictly in compliance with the above policies.

During the programme, researchers from Trinity College, Dublin, will be present to collect information about the students' learning experiences. During the activities, interactions between the students working together will be recorded using observation tests. The students will also complete a pre- and post-questionnaire. When the programme is over, the research team *may* visit the school at a later date to conduct an interview with a selection of students.

All information that is collected by the researchers will be anonymised and stored in accordance with the Data Protection Act at Trinity College, Dublin. In the unlikely event that information about illegal activities should emerge during the study, the researchers will follow the school's Child Protection policy and inform the relevant authorities. There may be lectures, PhD theses, conference presentations and peer-reviewed journal articles written as a result of this project, however the students and school will not be identified.

We wish to seek your permission for your son/daughter to participate on the programme and to use the technology available in a safe and effective manner. Where appropriate, we would also like to publish work they may create during the programme that would be of educational benefit to other students.

We also wish to seek permission for your son/daughter to participate in the research part of the programme. Participation in this part of the programme is voluntary and you may remove your son/daughter from the process at any time, for any reason, without penalty and any information already recorded about them will not be used. Should you wish your son/daughter to be omitted from the research part, they can still participate in the programme, but none of their information will be used in the research.

From time to time, we may also record video footage and images of your son/daughter and their classmates and teachers at work – this will be used in communications and promotional/marketing material about **Bridge21**. Use of video footage and images will be strictly in accordance with best practice in Child Protection policies and guidelines. Your son/daughter's name will not appear alongside any images/video footage. Should you wish your son/daughter to be omitted from promotional material, they can still participate in the programme, but no images/video footage of them will be used.

Please sign below to indicate your consent and return the form to the school as soon as possible. If you have any questions in relation to this, please do not hesitate to contact us.

Kind regards,

Ciarán Bauer, Claire Conneely & Kevin Sullivan

Bridge to College Programme Team
Phone: (01) 8964099 / (01) 8961397

I _____ (name of parent/guardian)

consent to _____ (name of child) taking part in the **Bridge21** programme on **XXXXXXXXXXXXXXX**.

I have been provided with an information letter which outlines the activities my child will take part in, how research data will be collected and stored and how I can contact the research team. I understand that I may withdraw my child from the research project at any time should I wish to do so for any reason and without penalty.

I also know that images/video footage of my child may be used for promotional material about **Bridge21** programme but their name will not be identified.

Data Protection: I agree to Trinity College, University of Dublin storing of any personal data relating to my child which results from this project. I agree to the processing of such data for any purposes connected with the research project as outlined to me.

Signature of parent/ guardian: _____

Date: _____

Signature of Project Leader (TCD): _____

Date: _____

Please note: As this research involves the use of computers, children with epilepsy cannot take part in either the learning activity or research study, please inform the school if this is the case. If there is a family history of epilepsy the child may take part, but does so at your risk.

Appendix F - Project Briefing: Week 2

Teenagers on the go!

The task is to promote the Hohenlohe region and Dublin city and county to teenagers. What is it you want to promote about your area. Twinned teams will work in collaboration over the next three days to produce 2 videos (5 minutes per video).

- **Each team of eight will produce two videos.**
- **A combination of German and Irish students will produce each video.**
- **Each video will contain four themes.**
- **German students to provide content on Hohenlohe.**
- **Irish students to provide content on Dublin.**
- **Irish students will provide voiceover in German for Hohenlohe video.**
- **German students will provide voiceover in English for Dublin video.**

Day 1

- **Teams decide on what themes are to be used for video content.**
- **Plan: Why, where, who, what, how.**
- **Decide where to go**
- **Storyboard: Plot all content**

End of day: Teams agreed on content and ready to collect data

Day 2

- **Data collection**
- **Input and editing**
- **Preparation of voiceovers**

End of day: Teams have created video

Day 3

- **Voiceovers added to video**
- **Final preparations for presentation**
- **Presentations**

Appendix G - Workshop Schedule Week 1 Day 1

Bridge21 – Bischof von Lipp Schule Workshop

Week1 Day 1 Wednesday, 23rd January, 2013 Mulfingen, Germany Facilitator: Ciarán Bauer

Time	Activity	Resources
	Commencement **Ice-breaker games** (students divided into 3 groups): - *Cross the bridge* - *Tent pole challenge* - *Rock-Paper-Scissors*	Tent-pole, Length of string
	Divide into teams **Team formation activities**: - *Choose team names* - *Elect leader* - *Write up team charter*	Paper, pens
	Project Briefing: *Your team will create a short video* *Title: "Tell me a story"* *All members must take part in the video*	1 laptop per team with wifi access 1 digital camera per team Software required: Windows MovieMaker Audacity
	Phase One: Plan Storyboard Collect photos & video	
	LUNCH	
	Phase Two: Video editing Sound recording & editing Presentation preparation	
	Presentation of finished video movies: Introduction Brief summary of movie Each team member describes role within team Show video	Laptop & Projector Memory key
	Reflection: Each team completes a reflection sheet	Team Reflection Sheets
	Closeout – END OF DAY –	

Appendix H - Workshop Schedule Week 2 Day 1

Week 2 Day 1: 30th January 2013 **Oriel House, Dublin** **Facilitator: Ciarán Bauer**

Time	Activity	Resources
	Commencement **Ice-breaker games** (students divided into 3 groups): - *Cross the bridge* - *Tent pole challenge* - *Rock-Paper-Scissors*	Tent-pole, Length of string
	Divide into teams (pre-selected by teachers) **Team formation activities**: - *Choose team names* - *Elect leader* - *Write up team charter*	Name stickers, paper; Pens
	Brainstorming **Warm-up brainstorm activity**: *Things you can do with a paperclip* **Main brainstorm**: Language learning in the future (2050) 1. *Language learning inventions for the year 2050* 2. *Pick best 3 ideas* - *Pros & cons* 3. *Decide best idea*	Whiteboards x 5 Post-its & markers (1 set per team)
	Project Briefing: *Create a video of your language learning invention.*	
	Phase One: Plan Storyboard Draft scripts / role-plays Research Collect photos & video clips	1 digital camera per team **Programs required:** -Windows MovieMaker -Paint (or other graphic editor)
	LUNCH	
	Phase Two: Video editing Poster design & editing Presentation preparation	
	Mini Presentations:	Laptop & projector Memory keys
	Presentation of finished video clips: - 5 min presentation per team	Laptop Memory keys
	Reflection: Each team completes a reflection sheet	Team Reflection Sheets
	Closeout – END OF DAY –	

Appendix I - Workshop Schedule Week 2 Day 2

Week2 Day2 Wednesday 30th January Facilitators: Ciarán Bauer, Stephan Nacken

Time	*Activity*	*Resources*
10.40am CET 20 mins	**Introduction by facilitators:** Each facilitator will address own students before online communication begins. **Engagement using Skype online communication**; • *Alternating 5 minute sessions of both languages (English and German) during Skype sessions* • *Use Skype without restriction* • *Focus on fluency not on linguistic competency* **Divide into teams** • *8 teams, 4 Irish and 4 German (each Irish team will be twinned with one German based team)*	
11.00 CET 15mins	**Introduction by facilitators using Skype:** Welcome and general introduction to both sets of students.	Computer with Skype online
11.15am CET 5mins	**Project Briefing:** **Project Title: Getting to know you** Students use Skype to communicate and collaborate on creating a team produced video of "Getting to know you" facts about the other team members. Collecting and using the acquired information each team creates a video using Windows Moviemaker. Each team will present the movie.	
11.20am CET 40mins	**Brain storming:** • What questions do I want to ask to get to know you? • Each team agrees on 20 questions to collect details of other team members • All questions must be written and asked in target language	Whiteboards x 5, A3 Paper
12.00pm CET 40mins	**Communication with native speakers:** Each set of twinned teams will communicate with each other to acquire information.	Computer with Skype online 1 laptop per team with wifi
12.40pm CET	**BREAK**	
1.00pm CET 45mins	**Phase One** • *Discuss* • *Plan* • *Storyboard* • *Collect photos & video clips*	1 digital camera per team Computers Windows Moviemaker Audacity
1.45pm CET 40mins	**Phase Two:** • Video editing • Presentation preparation	
Next day Thursday morning	**Presentation:** - Presentation of movies made in target language - 5 min presentation per team	Laptop Memory keys
	Closeout – END OF DAY –	

Appendix J - Google apps shared document (Sample)

CurryWúrst - StyleXScreibwaren

1.Emotions
2.Like/dislike
3.Skype
4.Experiences
5.New Items
6.Friendship
7.Good/Bad Things
8.Did anything make you feel uncomfortable?

i have question: must we answere the questions 1-8 ??

yes you have to answer them in english and when you are finished we will help you to correct them:)
oh okay:)
1. it was very nice to speak with neative speakers;)

2. i like the link of the beer song
and sarah dislike the friendship status :((

3 i don´t like the connection. sometimes it was very bad

is this right ??
okay
yes they are both correct but you wouldnt say question at the end of the sentence
sarah dislike the frindship status:((,< that is better :D

okay thanks

whats the gmail of andy ??
domo want to writh with him

rob...we are finish with school :D we go home maybe we can writh about facebook
see you :D
okk see you guys on tuesday :D have a good weekend :)

thanks you too :D
Name: xxxxx
1.emotion---original
Ich bin gluchlich mit unser gruppe une unser gruppe ist ser sympatisch.

emotional---copy
Ich bin glüchlich mit unserer gruppe und unsere gruppe ist sehr sympathisch.

2.likes--original
meine groupe ist viel Spaß.
ich mochte unser gruppe. fügten wir sie auf facebook. sie waren lustig.

2.likes--copy
meine groupe ist viel Spaß.
ich mochte unser gruppe. fügten wir sie auf facebook. sie waren lustig.

3.skype--original
skypen mit ihnen war viel Spaß.

3.skype--copy
skypen mit ihnen machte viel spaß

4.expirience--original
ich lernte viel über Deutsch und wie man Deutsch sprechen.

4.expirience--copy
ich lernte viel über Deutsch und wie man Deutsch spricht.

5.friendship--original
Ich mag mein freundschaft mit unser gruppe,mein grupp ist sehr sympatisch.

5.friendship--copy
Ich mag meine Freundschaft mit unserer gruppe , die Gruppe ist sehr sympathisch.

6.good/bad aspects--original
Alle die aspekte ist sehr gut .stylex-schriebwaren ist mein liablinsdeutch personens.

6.good/bad aspects--copy
Alle Aspekte sind sehr gut Stylex-Schreibwaren ist mein Lieblings Personen.

7.did anythin make me uncomfortable--original
nur das Bild in der Zeitschrift machte mich unwohl

7.did anythin make me uncomfortable--copy

Appendix K - Google Site page personal blog (Sample)

My time in the workshop was an overall positive experience. On the first day I was unsure about how the next two weeks would be. We started with team building exercises which we were told we got a "record time on", Not a bad start! The atmosphere was tense on the first day, Each group kept to themselves.

On Wednesday we made our first contact with our German counterparts via Skype. Our German team's name was "UHU", and the members included: xxxx, xxxx, xxxx. xxxx, I was the first member of the team to make contact with the Germans and my initial conversation was with xxxxx. xxxxx was a team member who I formed a good friendship with. We also began are first project which involved learning about each teams culture.

On Thursday morning we were faced with the task of making a 6 minute radio broadcast entirely in German. The radio show had to include: German music, news, and DJ'ing. At first we were daunted by the task and thought it would be difficult to express exactly what we wanted to say in German, However as the day progressed and we began to put more focus onto the broadcast an entertaining, funny and informative video emerged.

On Friday we familiarised ourselves with Google Drive, Sites and Docs which we would use in the following week. And we dined in The Buttery, Trinity College.

Over the next week, which my Deputy Leader xxx will later go into detail about, I became much better friends with fellow Irish students also participating in this programme, Including xxxx pictured below.

(See video section).

Appendix L - Article in regional newspaper from Hohenlohe region

Ciarán Bauer in Aktion. Die Schüler müssen ihre Ergebnisse des Surival-Games natürlich auf Englisch vergleichen. Foto: Anna Franziska Schulze

Virtueller Schüleraustausch

MULFINGEN *Der Ire Ciarán Bauer unterrichtet Schüler der Bischof-von-Lipp-Schule*

Von Anna Franziska Schulze

Kaum setzt man den Fuß in die Bischof-von-Lipp-Schule, hört man im Flur jemanden Englisch sprechen. An sich nichts Ungewöhnliches an einer Schule. Der starke irische Akzent allerdings schon. Ciarán Bauer, geboren in Dublin, gestaltet heute den Unterricht der achten Klasse.

Der 50-jährige Ire, der Hohenloher Wurzeln hat, ist Programm-Manager des sogenannten „Bridge 21"-Projekts. Dieses wird unter anderem von der ältesten Hochschule Irlands, dem Trinity College Dublin, unterstützt.

Masterarbeit Bauer arbeitet momentan an seiner Masterarbeit und interessiert sich vor allem für den Zweitspracherwerb von Schülern. Er setzt sich dabei mit der Frage auseinander, weshalb viele Schüler, die an der Schule eine Fremdsprache lernen, diese nach dem Abschluss äußerst selten anwenden. Dies gelte hauptsächlich für englische Muttersprachler, sei aber auch übertragbar auf deutsche Schüler.

Um das zu erforschen organisiert er eine Kooperation zwischen zwei Klassen, einer in Mulfingen und einer in Irland. Die deutschen Schüler lernen Englisch, die irischen lernen Deutsch. Die Schüler sollen beim Projekt via Skype übers Internet miteinander kommunizieren. Man könnte das Ganze auch als einen virtuellen Schüleraustausch bezeichnen. Mit Fragebögen will Bauer den Fortschritt der Schüler überprüfen.

Über seine Wurzeln gelang es Ciarán Bauer, den Kontakt zu der privaten Bischof von Lipp Schule herzustellen und das Projekt zu starten.

Die Schüler müssen natürlich auf den Austausch vorbereitet werden, weshalb Ciarán Bauer vor kurzem in Mulfingen zu Gast war. Dort angekommen, gestaltete er den Englischunterricht einmal etwas anders als gewohnt.

Spielerisch wurden die Schüler an den Austausch herangeführt. Sie durften zum Beispiel in Gruppen eigene Videos drehen. Außerdem bestritten sie ein „Survival Game". Bei all dem wurde natürlich nur Englisch gesprochen. „Am Anfang waren die Schüler sehr verhalten, aber inzwischen lässt sich deutlich erkennen, dass sie sicherer werden," beschreibt Bauer die Fortschritte der Klasse, die er schon nach drei Tagen zu erkennen glaubt.

Kontakte Englischlehrer Stefan Nacken sieht in dem Austausch eine Gelegenheit, das Englisch seiner Schüler zu verbessern. „Ich erhoffe mir, dass die Schüler ihre Hemmungen verlieren," sagt er. Unterricht mit einem Muttersprachler ermögliche es außerdem, einmal ohne Schulbuch zu unterrichten. Im Austausch mit der irischen Klasse sieht er eine Chance für die Schüler, auch über den Unterricht hinaus, private Kontakte zu knüpfen.

Den Schülern gefällt Bauers Unterricht sichtlich. Die 13-jährige Patricia Brand strahlt: „English ist cool." Ein weiterer Schüler ergänzt, „dass wir ein Video drehen durften war am besten".

Maik Metzger hatte aber auch Bedenken. „Ich habe mich gefragt, ob man ihn versteht", berichtet der 14-Jährige. Das sei aber kein Problem gewesen. Doch Maik ist nicht der einzige, der sich über die Verständigung Gedanken macht. Bauer ermahnt die Schüler in den Videogesprächen Hochdeutsch zu sprechen. Mit einem Schmunzeln verspricht er auch, die Iren daran zu erinnern sich in „richtigem" Englisch auszudrücken. Das einzige Problem ist die Technik. Eine stabile Internetverbindung ist nötig für die Gespräche und das könnte eine Herausforderung werden.