The alignment of CMC language learning methodologies with the Bridge21 model of 21C learning

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Abstract. This paper explores the intersection of learning methodologies to promote the development of 21st century skills with the use of Computer-Mediated Communication (CMC) tools to enhance language learning among adolescent learners. Today, technology offers a greater range of affordances in the teaching and learning of second languages while research shows that student classrooms still continue to concentrate on linguistic competences rather than communicative competences (Gilmore, 2011). The Bridge21 model, which is technology-mediated, team-led and project-based, brings a particular 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 include spatially-separated teams, based in Ireland and Germany, learning together and enhancing the use of oral and aural skills for second language acquisition. Thirty-six students worked on project-based tasks during a six day workshop focused on the usage of authentic materials and CMC tools. 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.

Keywords: 21C learning, CMC, native speakers, collaboration, authentic materials.

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1.   Introduction

This paper explores the intersection of a team based, technology mediated, collaborative model of 21st Century (21C) learning (Bridge21) with a Computer-Mediated Communication approach to second language learning in order to explore the efficacy of the resulting intervention in terms of both language and 21st century skill development.

There is a strong trend in the literature and with policy makers in various jurisdictions to move towards a model of teaching and learning which is labelled 21C. While the concept is not without its critics, in essence, the 21C learning agenda promotes the acquisition of key skills, such as problem solving, collaboration and creativity in addition to mastering curriculum content (Gewertz, 2008; Silva, 2009).

Bridge21 is a particular model of 21C teaching and learning which is being adapted for use in Irish second level schools (Conneely, Lawlor, & Tangney, 2013). The model uses a collaborative learning approach within a social constructivist framework to allow groups of learners, in cooperation with expert mentors, to achieve learning goals through the creation and presentation of shared artefacts.

This study extends the Bridge21 model for use in a distance-based collaborative scenario between German and English language learners. Many of the core principles of the Bridge21 model are mirrored in the affordances of CMC for language learning, in particular the facilitation of student-led activities with a focus on collaborative inquiry and knowledge construction (Kern, Ware, & Warschauer, 2004). Technology is viewed as both a means and an end in the learning process as a key aspect of "everyday dimensions of competent social and professional activity" (Thorne & Black, 2007, p. 149). Chun (2011) provides an excellent overview of the impact of CMC on aspects of language development. This study aims to explore the impact of the collaborative, authentic setting provided by the CMC-mediated Bridge21 model.

2.   Method

The project was conducted as an exploratory case study in 2013 over a three week period and involved students located in the Bridge21 learning space in Trinity College Dublin and a post-primary school in Germany. The Irish-based students (n=17) and German-based students (n=20) were divided into four local teams and each team was then paired with a remotely located team. Teams self-

organised selecting a team name, lead and assigned roles through the project as per the Bridge21 model. Communication between the spatially separated students took place using Skype and interactions occurred for approximately two hours each day over six days. The objectives of the project were to develop participants' collaborative skills as well as their L2 communicative competence in both written and spoken forms. The projects were structured so as to require local and remote teams to interact in their L2 to co-create some artefacts. Over the two weeks, participants completed four tasks to create multimedia digital artefacts based on information gathered through dialogue (Skype voice and chat functions) with their paired team.

The introductory task involved each team in their L2 creating a "Getting to know you" video of their paired team based on criteria they developed locally during brainstorming. Task 2 involved teams creating an L2 podcast using Audacity based on local radio station themed content with information populated from the spatially-separated team. Task 3 provided an opportunity to reflect on the experience to date. Each team created a website and added materials produced during the workshop. An on-line document was shared between paired teams providing explicit written feedback on their L2, with each native-speaker correcting a non-native speakers' L2 output. The final task involved each team creating a video containing information content researched on-line and outdoors on their local tourist areas. A written blog reflection in their L1 was added to the website by all team participants to complete the project in full.

The data collected included student questionnaires, teacher/mentor interviews and observations, focus group interviews with students and written reflections from task 3. The questionnaires adapted an existing Bridge21 tool focusing on collaborative and creative skills (Lawlor, Conneely, & Tangney, 2010) to include items related to language learning and spatially separated collaboration. The intervention was too short to assess language gains, however the data collection instruments do focus on student attitudes and experience of learning and as Centra and Gaubatz (2005) argue "[w]hen a student rates overall instruction as effective, there is a correspondingly high perception of learning, as well as 'actual' learning as measured by course exams" (p. 19).

This paper reports a synthesis of an Etic Coding and Theming investigation (Creswell, 2002) of the student questionnaires, focus groups and interactions to analyse the students' overall experience, attitudes to teamwork and technology, collaboration at a distance, and communication with native speakers over the internet.

3.   Discussion

The process in general was an overwhelming endorsement of the workshops and the methods used for the learning experience with 100% of students rating it "Good" (9) or "Excellent" (23).

Table 1.   Themes on the overall experience

Themes 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

As seen in Table 1, the themes emerging from the responses reinforced the positive experience that most of the students shared in the workshops. What is interesting here is that the responses illustrate the integration of language learning with social and collaborative dimensions of the experience:

> "It was a fun experience and has definitely improved my social skills and team skills".

> "I have now more trust in teamwork".

> "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".

Similarly, in response to the question "Does communicating with native language speakers improve oral fluency?", students responded overwhelmingly positively (30 out of 31 positive responses) and their comments illustrate the integration of language, collaboration, and confidence-building (see Table 2). In terms of the impact of the collaborative, project-based intervention, a review of student output from the digital artefacts showed paired teams sharing information in L2 and creating content. In particular, students felt motivated and supported 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 other students helped us if we were stuck, we'd ask them and together we made the topics".

Table 2. Language learning with authentic materials

Themes	Codes
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 suggest that using the Bridge21 learning model afforded students greater opportunities than the regular classroom environment to improve communicative competencies using L2 and authentic materials, e.g. native speakers, music, radio, web content, etc. Students found that communicating with native speakers in an authentic setting, and sharing roles within the group was conducive to language learning and enhanced fluency.

Students reported teams as a very effective way of learning, both locally and remotely, commenting, "It was great to have everybody bringing different skills that enhanced our projects" and "It is a lot easier as part of a team because then you can focus on certain aspects of a project". For example, 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".

4. Conclusions

A review of 21st-century literature shows that we have moved away from an industrial society to an information society (Voogt & Pelgrum, 2005); students need to use skills which promote critical thinking and problem solving and to work in teams with student-directed learning. The students, by using the Bridge21 model, became active learners and embraced a communicative and collaborative setting for language learning. Students commented "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", reinforcing the benefits of providing a real-life environment to participate more in the target language.

In respect to language learning, students commented, "If there were 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 the findings of Gilmore (2007) and the lack of diverse learning methods in the classroom.

5.   Acknowledgements

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