Learning a minority language through authentic conversation using an online social learning method

Michael Henry a, Fiona Carroll b, Daniel Cunliffe c and Rita Kopd

a Communications Department, University of Missouri-Kansas City, Missouri, USA;  
 b Department of Computer Science and Creative Technologies, University of West of England, Bristol, England;  
c School of Computing and Mathematics, University of South Wales, Pontypridd, Wales;  
d Faculty of Education, Yorkville University, Fredericton, Canada.

Advances in technology are currently helping to speed up the globalisation of ‘super’ languages. One can argue that at the same time technology might be used to help reverse the decline of less widely spoken languages. Cada Dia (CD) is a social learning method which uses online web meeting platforms, in combination with asynchronous learning management systems, to enhance the language learning experience. CD provides an immersive learning strategy to encourage authentic conversations in a real time environment to create dynamic and meaningful learning encounters. Using a vignette data analysis technique in combination with a survey research method, this paper is a reflection on the analysis of learners’ experiences during an eight week Cada Dia Welsh (CDW) pilot study; its aim is to gain an understanding of online social learning methods for minority language learning. Central to the research was understanding online pedagogical practices with a particular emphasis on authentic conversation for minority languages such as Welsh.

Keywords: social learning; authentic conversation; online learning; Welsh language;

# 1. Introduction

Our increasingly interconnected world has had an influence on the use of languages. It has given rise to the increase in use of some super languages, for instance English, which is now spoken by one in four of the world’s population (British Council, 2017). This is having an impact on cultures, on national identities and on the learning of minority languages. UNESCO envisions English may take over less widely spoken languages as it spreads around the world through television, music, and film (Coanca, 2015). Conversely, as technology advances, people want to communicate in their native languages more and more (Zuckerman, 2013). One of the reasons proposed, is that most internet users produce content primarily in the language they are most comfortable in, which is their native language (Meyer, 2013). The impact of the internet and related digital services, such as social media, on minority languages has been a subject of debate for some time (Buszard-Welcher, 2001; Cunliffe, 2007). Online use has been observed for a number of minority languages, including Aragonese (Paricio-Martín and Martínez-Cortés, 2010), Balinese (Stern 2017), Catalan (Torres, 2004), Frisian (de Graaf et al, 2015), Irish (Lackaff and Moner, 2016), Jèrriais (Scott Warren and Jennings, 2015), Māori (Keegan et al, 2015), Niuean (Sperlich, 2005) and Welsh (Cunliffe, 2009).

The research presented in this paper aims to explore the potential of Cada Dia (CD) – an online social learning method – to harness an authentic minority language learning experience. In particular, it explores how CD connects learners from all over a city, a country or the world in real time to support, regenerate and sustain the sense of comfortableness and value in the language of the culture they inherited, speak or want to learn to speak. This paper reports on the findings of an eight-week pilot study which was a part of the Cada Dia Welsh (CDW) program. Using a post-course online survey in conjunction with a vignette analysis technique, this study explored different types of personas emerging from the CDW experiences as the learners participated, shared, learned and spoke the Welsh language using the social learning method. Thereby, providing a means to recognise and understand evolving behaviours, attitudes and aspirations of Welsh language learners.

## Technology advances & Language learning

As technologies are evolving, students and teachers are achieving many of the benefits of social interactions in synchronous and asynchronous computer-mediated communication (CMC) learning environments (Baird and Fisher, 2016). These environments (i.e. weblogs, iPod, RSS/XML, podcasting/audioblogs, wiki, chat tools and video conferencing etc.) are providing learners with new opportunities to potentially engage with authentic materials and in authentic conversations, thereby developing their communicative competencies (Gilmore, 2007). By making learners feel positive toward tasks and activities, Shomoossi and Ketabi, (2007) believe it will help authentic interactions to emerge. Substantive conversation – highlighted as key to authentic instruction (Newmann and Wehlage, 1993) – bound with intellectual substance, dialogue and sustained exchanges can now be facilitated through technologies to enable learners to develop and refine their language understanding and practice. Learners may also feel less inhibited in these unusual social and communicative spaces, reducing foreign language communication anxiety (Arnold, 2007). CMC can provide both practice and a positive communicative experience and can positively impact students’ general predisposition to anxiety in oral communication situations (Arnold, 2007).

Shared conversational learning spaces facilitated by CMC can be used not only for single learners but also for learning groups and communities (Sharples et al, 2006). Online communities of interests have developed that have led to Massive Open Online Courses (Willis et al, 2013) and the research and development of personal learning eco systems as alternatives to institutional learning management systems (Kop et al, 2016). In language learning classes, learners are encouraged to actively use learning objects, but also to communicate with people around the globe (Sun, 2014). What the new technologies have facilitated is a more active approach to learning. Participants in the learning process are no longer expected to sit back and let teachers be the most active in the transfer of knowledge. Instead, learners themselves are encouraged to be in control of their learning and to engage in activities with others, or with the technology itself. However, the literature suggests cultural differences might be challenging in a multi-cultural language learning environment in addition to high levels of self-regulation (Sun, 2014).

Teachers can use technology to create activities that connect more directly with the real world. Learners can learn a language through communicating in it. As Gilmore (2007) pointed out, the language presented to students in textbooks is a poor representation of the real thing and is inadequate in developing learners’ overall communicative competence. As a possible way forward for language learning, he suggested an approach that favours the use of authentic materials (Gilmore 2007). Reflecting on the characteristics of authentic materials and activities, Reeves et al. (2002) propose ten design characteristics. Of relevance to this paper are the characteristics that show authentic activities as having real-world relevance; as providing the opportunity for students to examine the task from different perspectives, using a variety of resources; as supporting the opportunity to collaborate; as affording the chance to reflect and finally authentic activities that allow for competing solutions and diversity of outcome.

While research into CMC and second language acquisition (SLA) clearly has relevance when considering minority languages, there are two characteristics of teaching minority languages which may be particularly salient in shaping any approach; firstly, the role of the speech community, and secondly, the extent to which materials and approaches need to be both linguistically and culturally authentic.

## 1.2 Welsh-language learning & the Cada Dia Welsh program

According to the 2011 UK census, Wales has a population of 3 million people; approximately 560,000 of them are Welsh speakers – some 19%. (StatsWales, n.d.). With very rare exceptions, these Welsh speakers are also fluent English speakers. In Wales, around 53% of Welsh speakers speak the language on a daily basis (Welsh Government, 2015). Young speakers are most likely to have learnt the language in school, while older speakers are most likely to have learnt it at home as a child (Welsh Government, 2015). Estimates suggest that there may be 110,000 Welsh speakers living in other parts of the UK (Jones, 2012). There is also a population of Welsh-speakers in Spanish-speaking Patagonia, estimated to be several thousand strong and smaller number of speakers in several other countries (Jones, 2012).

Current Government policy states that all pupils in Wales should study Welsh from ages 3-16, either as a first or second language. Approximately 16% of pupils in Wales attend Welsh-medium schools and study Welsh as a first language. In these schools Welsh is language of day to day communication, used by both the pupils and staff. In addition to this, 10% of pupils attend bilingual, dual-medium, or English with significant Welsh provision schools (Jones, 2016).

Welsh-medium education in higher education has been weak in comparison to schools (Williams, 2014). Since 2011 this provision has been coordinated through the Coleg Cymraeg Cenedlaethol, a virtual college which works with universities to plan and promote Welsh-medium provision. In 2014/15, 6,355 students at Higher Education Institutions in Wales received some of their teaching through the medium of Welsh (5.1%). Aside from the Welsh language and related subjects, the most popular subjects were: education, subjects allied to medicine, and social studies (Statistics for Wales, 2016).

Welsh for Adults is a Welsh Government supported education program, providing opportunities for adults to learn the language in their communities or workplaces. In 2013-14, nearly 16,000 adult learners were registered on Welsh for Adults courses in Wales (NCLW, 2016). In Patagonia in 2015, 280 people studied on Welsh for Adults courses, representing approximately 23% of Welsh learners (Kiff, 2015). In Wales, the main reasons adults give for learning Welsh are to use it with their family, to use it in their workplace, or because of a feeling of Welsh identity and community (NCLW, 2016). The majority of Welsh for Adults learners within Wales (44%) tend to be on entry or pre-entry level courses with only 8% on advanced courses (2011-12 figures; NCLW, 2016). Few adults who migrate into Wales succeed in learning the language. Of people aged 45 to 64 in Wales in 2001, only 5% of those born outside Wales could speak Welsh (Jones, 2012). It has been estimated that around 1% of the non-Welsh-speaking adult population in Wales are studying Welsh in any year (Jones, 2012).

The purpose of the CDW program is to gain an insight into online social learning methods for Welsh language learning. Central to the eight week pilot study was understanding online pedagogical practices with a particular emphasis on authentic conversation and the different types of personas (i.e. based on the Welsh language learners) that emerged. This research not only explores the potential of the CD approach for language learning but also what the Welsh language can tell us about using CD with a minority language. In detail, the CDW curriculum was developed as an informal approach to Communicative Language Teaching (CLT), using simple tasks in a facilitated online meeting. In line with the CLT approach and placing a strong emphasis on computer-mediated communication (CMC) and interaction, the goal of the study is to put the development of communicative skills at the forefront through online technologies. CDW makes use of task based instructions (TBI) that necessitate communication and in doing so aims to accommodate different Welsh language learning needs.

# The role of technology in minority language learning

One of the challenges in teaching minority languages can be a lack of materials, particularly materials which accurately reflect how a speech community actually uses its language (Villa, 2002). Technology has the potential to record and preserve authentic language use (Villa, 2002) including non-standard language varieties and dialects (Eisenlohr, 2004). When gathering such materials, there is a need to be sensitive to cultural boundaries (Villa, 2002) and it is important that the materials accurately reflect the speech community’s culture, perspective and world view (Warschauer et al, 1997). Working with speech communities, it is possible to capture the language being used in context rather than artificially constructing language for teaching, providing a more authentic and vital representation of the language (Hermes et al, 2012). Technology can act as an important bridge between minority language learners and the speech community through both virtual communities and linguistically and culturally authentic materials.

## 2.1. Computer-mediated communication (CMC)

The potential role of computer-based technology in maintaining and revitalizing minority languages has been recognised for some time (Buszard-Welcher, 2001). The potential extends beyond simply providing new domains for using the language and news ways of connecting speakers, to include increased prestige, association with modernity and enhanced appeal to young speakers (Eisenlohr, 2004). The long-term strategic integration of technology into minority language teaching and learning continues to be a key concern (Hugo, 2015). It may, however, only be practical to fully realise this potential in a limited number of minority language contexts where appropriate technological infrastructure exists and is accessible (Grenoble and Whaley, 2006, p191). Even where the infrastructure exists, developing appropriate applications can be challenging due to the great variation in the linguistic, cultural, social, technological, environmental and economic context surrounding each minority language (Galla, 2016). Any potential application will have a unique combination of pedagogical and technical options, financial and intellectual resources and anticipated lifespan and impact (Hugo, 2015). Villa (2002) cautions that no matter how well technology is employed, it cannot replace intergenerational transmission as the primary mechanism for language maintenance.

At least partly due to the additional constraints which often apply when working with minority and other lesser-resourced languages, the potential role of computer-assisted language learning for minority languages has been both little researched and under exploited (Ward and van Genabith, 2003). More recently there has been increasing interest in understanding and applying computer-assisted language learning in the widest sense to teach, maintain and revitalise minority languages, though as Galla (2016) suggests, there is still a lack of critical research in this area. It is however possible to draw some insight from work into technology-supported SLA of non-minority languages.

For instance, ‘flipped’ classrooms have been introduced in which learners are expected to do reading and preparatory case-study work at home using the Web, while in class the teacher would use communicative practices to ensure a deeper engagement with the concepts and resources. Learners have been able to make use of a far greater range of learning opportunities. Reinders and White (2016) suggest that technology is seen to have an important role to play in achieving the goal of language learner autonomy. Autonomous learners are characterised as being independent, they have direct access to learning resources, their learning is not constrained by time or location, and they will often learn informally and outside traditional learning structures. Social technologies are seen as playing a significant role in learner autonomy, facilitating networks of learners using a variety of CMC technologies. There is also much interest in CMC within more traditional, formal SLA contexts due to its ability to support interaction and communication between learners and between teachers and learners (Lin, 2014).

CMC comes in a number of forms with different characteristics which can enhance the CLT experience (Larsari, 2011). Smith et al (2003) posit that the principle dimensions of difference are temporality (synchronous vs asynchronous), anonymity, modality (oral, written, visual) and spatiality (the extent to which learners feel physically close) and that differences in these dimensions can have significant impact on learner behaviour in terms of social, linguistic and psychological expressions. Lin (2014) additionally suggests significant contextual factors impact the effectiveness of CMC in SLA; communication tasks that involve classmates/peers rather than native speakers or teachers as interlocutors are judged to be more effective; low proficiency learners are seen to benefit particularly from CMC; and the task types which are most effective in CMC may not be the same as those used in face-to-face teaching.

Another challenge in using CMC is the lack of an inherent pedagogical approach (Parmaxi et al, 2016). The interconnectedness of people has not only changed how they might use languages and what language they might choose to use for their day to day activities, but it has also influenced how educationists think that people learn. Where only fifty years ago the most prominent theories of learning were based on behaviorist and cognitivist perspectives, more recent theories are moving towards a situated perspective of learning that has led to social constructivist, connectivist and communities of practice perspectives becoming more prominent (Anderson and Dron, 2011). Parmaxi et al (2016), for example, propose a social constructivist approach in which learners collaboratively construct shared and meaningful artefacts through use of CMC. A similar approach is suggested by Cote Para (2015) who argues for a mutual, collaborative learning process in which learners share experiences and resources. The two-way interactions inherent in this social process provide an opportunity for learners to use the language naturally and in a meaningful context.

## 2.2. Studies on minority language teaching

In many minority language contexts, the speech community will be actively engaged in the maintenance of their language to an extent and in a manner which is not seen in most majority language speech communities. One of the important possibilities afforded by networked technology, whether these are internet or mobile phone-based, is the formation of virtual speech communities (Buszard-Welcher, 2001). These allow the speech community to meet virtually and interact through the minority language, facilitating participation and community building. Virtual communities can also allow local speech communities to share innovations and experiences (Grenoble and Whaley, p190) this can empower communities and lead to greater buy-in from the speech community (Eisenlohr, 2004). Virtual communities can further support collaboration between specialists, educators and members of the speech community (Ward and Genabith, 2003). These communities may also have a role in teaching the language, Mac Uidhilin (2013) highlights the potential for technologically facilitated social learning where learning occurs as a collaborative performance between fluent speakers and learners. Virtual communities may be particularly significant where speaker numbers or speaker density is low, or where isolated communities of speakers exist (Warschauer et al, 1997), and in the case of non-territorial minority languages (Ó Riagáin, 2012).

In 2016, following a review of Welsh for Adults in 2013 (Welsh Government, 2013), provision was brought under the auspices of a new organisation, the National Centre for Learning Welsh (www.learnwelsh.cymru). The Welsh Government has recently launched a new strategy to have a million Welsh speakers by 2050 (Welsh Government, 2017). Among the aims of Theme 1: Increasing the number of Welsh speakers, are the creation of “a statutory education system which increases the number of confident Welsh speakers” (p39) and the development of a “post-compulsory education provision which increases rates of progression and supports everyone, whatever their command of the language, to develop Welsh language skills for use socially and in the workplace” (p42). With regards to Welsh for Adults, the strategy recognises the opportunities to use technology and the importance of providing a range of different opportunities and methods for learning.

One of the many challenges facing adult Welsh language learners, both within Wales (Jones, 2015a) and beyond (Rosiak and Hornsby, 2016) is the lack of opportunities to use the language outside of the classroom context. One way in which Welsh learners seek to overcome this challenge is through the use of an increasing number and variety of digital resources. A study by Jones (2015a; 2015b) suggests that learners are engaging in a complex mixture of informal Welsh learning activities, often alongside more formal learning. The resources they make use of include social media, instant messaging, internet radio and other audio sources, online videos (such as those provided by *WelshPlus* 1 learning materials such as the *BBC’s Learn Welsh* 2 and *S4C’s Dal Ati* 3, vocabulary and grammar apps, apps specifically to support Welsh for Adults courses, audio courses such as *Cadw Sŵn* 4, online courses such as *Duolingo* 5 and blended courses such as *Say Something in Welsh* 6. Jones (2105b) suggests that these resources are important because they often provide access to authentic materials in which Welsh is used in a natural way. The use of a range of resources allows the learner to construct a personalised, flexible learning experience which can accommodate informal learning opportunities (i.e. unofficial, unscheduled, unplanned learning through participation and/or knowledge creation etc.) and mobile learning.

In light of the above discussion, it was felt that the CD social learning method could provide a valuable addition to the existing Welsh learning resources. As an approach, CDW encapsulates some of the environments and concepts mentioned above; it aims to channel authentic conversation through social interaction to create effective language learning, by connecting learners in a facilitated synchronous web meeting. Examples of CDW learning resources, presented in both the Canvas course site, as well as in the live web meetings is included in the Endnotes: CDW Activity Handout and Introduction Video 7, 8.

# 3. Cada Dia Welsh Pilot Study

## 3.1. Background and Description

The Cada Dia Welsh pilot was modelled after a demonstration study teaching Spanish to English speakers, using the same social learning method.  Cada Dia Spanish (CDS) was designed to improve motivation and confidence for individuals seeking to learn Spanish through social presence interactions in a web meeting (Henry and Marrs, 2015).  A community of learning was developed in a variety of social media sites, and participants posted responses asynchronously in a Learning Management System (LMS) and subsequently invited to share their responses with native language facilitators in a web meeting.  The course was offered through the Canvas Network.  Over 1,700 participants signed up for the online class and expressed an interest in the daily web meetings.  From this initial pool, 1,256 completed the pre-course assessment and survey.  A qualitative study of participants showed an increase in confidence and motivation to speak Spanish (Henry and Marrs, 2015).

Similar to CDS, the Cada Dia Welsh program and in particular the eight-week pilot study was designed to identify different types of Welsh learners as a means to understanding how one might strengthen the confidence, motivation and proficiency of the Welsh language learner, in general. Participants of all ages and proficiency were invited to come together to form a CDW community of learners on a variety of social media sites, including Facebook, Google Plus, and Twitter.  After posting informally in social media, participants were invited to join two online environments for learning: an asynchronous LMS (Canvas Network) and a synchronous web meeting platform (Anymeeting).  Participants were required to review the social learning activity instructions and learning activities.

## 3.2. Research methodology

### 3.2.1 Research design

The task-based instructions (TBI) (i.e. language learning tasks) in the Cada Dia Welsh pilot study were simple social engagement activities that a friend would possibly share with another friend on social media. Saying that, each activity provided opportunities for increasingly sophisticated responses, from limited, intermediate, to proficient.  Participants posted their responses in the Canvas Learning Management System, for asynchronous review and revision.  More skilled participants were encouraged to help refine and support individuals with less ability. These social learning activities included:

* Cân: Share a song and lyrics in Welsh;
* Geiriadur: Share a Welsh word and a sentence using the word;
* Stori: Share a short story and read the story in a web meeting;
* Berfau: Share a verb, conjugation and sentences using the verb;
* Sgwrsio: Share a conversation tip, and demonstrate how the tip will help others learn;
* Teithiau: Compose a short description of a trip you have taken or would like to take in Welsh;
* Teulu: Compose a short description of yourself, your family and friends.



**Figure 1.** Cada Dia Welsh social learning activities.

These activities were posted in the Canvas LMS, then participants were invited to share the activities with native language facilitators in a synchronous web meeting. As mentioned above, an example of the learning activities, provided as a downloadable PDF, is included in the endnotes. The web meetings were held nearly every day during the pilot at a time that was perceived to be convenient for as many regions as possible, as outlined in table 1 below.  Although it was impossible for all participants to attend all meetings synchronously, they were encouraged to listen to the recordings of the meetings at their convenience.  There were 139 individuals who listened to at least one of the web meeting recordings.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Day** | **UTC** | **Eastern US** | **Argentina** | [**Cardiff**](https://unimail.glam.ac.uk/owa/redir.aspx?C=J9RrOmKIngR7Hkjhpw7Q4o0bY6Vc1FlEkDpZ3yDya98Ln9tdqTTUCA..&URL=http%3a%2f%2fwww.timeanddate.com%2fworldclock%2fuk%2fcardiff)**, Wales** |
| Monday - Friday | [15:30](https://unimail.glam.ac.uk/owa/redir.aspx?C=klRbTo5297-KZkKgLZP7huVDY4XIWpNdYRhxM3c-6cELn9tdqTTUCA..&URL=http%3a%2f%2fwww.timeanddate.com%2fworldclock%2ffixedtime.html%3fcontinent%3deurope%26p1%3d1440%26iso%3d20160704T1530%26msg%3dCada%2520D%25C3%25ADa%2520-%2520Welsh%2520-%2520Mondays%26ah%3d1) | 11:30 AM | 12:30 PM | 430 PM |

**Table 1.** Meeting schedule demonstrating different time zones

The facilitators, who were native Welsh speakers, were trained in social language facilitation. CDW training materials included facilitation techniques, listening skills and appropriate response development, based on the participants’ language ability. Facilitators developed social language facilitation skills through 16 hours of training, prior to actual participant online meetings. They were not required to be certified language instructors. As mentioned, the facilitators invited participants to share their response with others in a synchronous meeting, and receive feedback from the facilitators, as well as other participants in the program.  The facilitators challenged participants to improve their responses, through phonetic reinforcement and suggestions related to meaning. Each web meeting had a panel of two Welsh language facilitators, several presenters sharing their responses and a number of viewers from the program, who listen and respond via text chat.

The facilitators began each web meeting in English.  They described the learning method as a virtual immersion, social learning experience. Participants were encouraged to share personal and cultural interests, making the conversation facilitated yet social and authentic.  Beginners, as well as proficient speakers were encouraged to participate according to their ability. This approach was adopted to build self-confidence academically and socially amongst learners. Following the introduction in English, the entire meeting was conducted only in Welsh.  Helper text cues were included alongside the Welsh, to support comprehension, but no English was spoken by the facilitators or the participants.  Web meeting participants were asked to respond to simple questions, in the text chat area.  These responses were to be typed in Welsh, although facilitators would provide help to those having difficulty, in English. Table 2 highlights some of the question prompts that were used.  There were 218 individuals participating in the asynchronous activities, and 33 individuals who attended at least one web meeting. The pilot was conducted from July 4 through August 26, 2016.

|  |
| --- |
| During the introduction in English:   * If you are a beginner, type: “Dwi’n gallu gwrando” - I can listen. * If you are intermediate, type “Dwi’n gallu darllen.”  I can read. * If you are advanced...“Dw i’n gallu ysgrifennu stori i'w rhannu” I can write a story to share. * If you don’t understand, type:   + “yn arafach” (slower)   + “Dwi ddim yn deall”(I don’t understand)   + “Helpwch fi” (Help me * If you understand, type:   + Dw i'n deall (I understand)   During the virtual immersion section in Welsh:   * Sawl diwrnod ydych chi wedi ymarfer ar Duolingo?   + How many days have you practiced on Duolingo? * Dywedwch "helo" i’ch ffrindiau   + Say “hello” to your friends. * Sut wyt ti?   + How are you? |

**Table 2** CDW Question prompts



**Figure 2.** Cada Dia Welsh template slide, illustrating the use of helper text during the web meetings, and question prompts for meeting participants.

### 3.2.2 The use of vignettes

To investigate how CD might influence the social learning experience, a qualitative research method was chosen. A post-course online survey was used in conjunction with a vignette data analysis method to explore participant’s perceptions, experiences and evaluations of the CDW experience. Qualitative research offers the opportunity for collecting rich data (Cohen, Manion and Morrison, 2007), while vignettes offer the opportunity of gaining insights into the authentic experience of participants. The aim was to achieve an ‘insider’ position on participant’s feelings, impressions and attitudes around the CD social learning experience. Jacobsen (2014) suggests that the vignette method will provide rich descriptions of educational practice, as through the participant narrative – details of the practice – the reader can become a co-analyst in the research. As Miles (1990) suggests it offers opportunity for respondents' to participate in the interpretation of their own actions and those of others. Gourlay, Mshana, Birdthistle, Bulugu, Zaba and Urassa (2014) used and investigated the use of vignettes as short stories about real life experiences as part of interview techniques and found it successful in extracting key assertions about the situation.

In detail, the vignette data analysis technique was applied to the data captured through the post-course online survey that participants filled out after participating on CDW. This provided a framework for thinking about the different types of personas emerging from the CDW experiences, and a variety of themes. It also provided a means to identify and evaluate future learner experiences (i.e. using the predictive component of the vignette technique to recognise and understand evolving learning behaviours).

## 3.3. Results

After completing the eight-week pilot study, all participants were asked to fill out the detailed post-course online survey. Eighteen participants completed the survey.

**Figure 3** Did the CDW experience support your learning of the Welsh language?

Figure 3 shows that most participants valued the CDW experience in support of their learning of the Welsh language. Participant 1. :

I believe that Cada Dia Welsh will enhance and support people's learning of the Welsh language. It will help them gain confidence as they have 3 options during the meeting of which they decide which option they feel most comfortable with. I think that this is a very SMART way of enhancing people’s use of the Welsh language outside of the classroom and through the use of technology they can use their Welsh in their household through joining such meetings at a convenient time for them.

However, participant 2. did not think it supported their learning of the Welsh language in any way:

I think a classroom environment is better because tasks can be carried out in small groups and face-to-face which is important for learning languages. You don't really get that on-line.

A number of themes emerged from the post-course online survey, such as fun (16 participants), interesting (16 participants), meaningful (14 participants), engaging (15 participants) that have been shown to be important to the participants’ learning. It has also given us an insight into what participants valued (i.e. live group interaction, the sharing of completed tasks, being able to practice their Welsh with people with the same goals, speaking and listening to other participant's stories etc.). From the data, some suggestions for improvement also emerged to better motivate and support the learning of the Welsh language.

The survey research method has enabled us to gather a variety of data on the experiences. However, to more deeply explore how participants experienced CDW, the researchers have synthesized the data from the survey into vignettes. The aim was to better represent and illustrate the survey data. Adhering to meaningful coherence (Tracy, 2010), the authors categorised the different voices in the survey data to encompass the variety of thoughts and feelings offered by participants. In doing so, to better understand the participant’s perceptions and attitudes with particular emphasis on the impact of the social learning method on their learning of the Welsh language as well as the scope for changes to improve the experience.

Seven vignettes were derived from the data which illustrate how the different personas experienced CDW. Table 3 shows the seven different types of personas drawn from the survey data. The personas represent both male and female and all had some further or higher educational background. The seventh column shows their level of proficiency in the Welsh language, through following categories: none, limited, medium, proficient or bilingual.

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| ***Type*** | ***Name*** | ***Age*** | ***Education*** | ***Occupation*** | ***Location*** | ***Welsh Experience*** | ***Contributing*** |
| *The excluded novice* | Linda Jones | 63 | Some College | Administrative Assistant | Erie, Pennsylvania, USA | None | 2 |
| *The engaged beginner* | John Allen | 47 | Master’s Degree | Engineer | Ottawa, Canada | Limited | 4 |
| *The offline learner* | Mike Thompson | 58 | Master’s Degree | IT Manager | Cardiff, Wales | Medium | 1 |
| *The engaged learner* | Emma Walsh | 32 | PhD | Lecturer | Aberystwyth, Wales | Medium | 3 |
| *The revitalised speaker* | Ffion Lewis | 55 | Some college | Social Worker | Swansea, Wales | Bilingual | 2 |
| *The accomplished learner* | Darren Kelly | 55 | Master’s Degree | School Teacher | Perth, Australia. | Proficient | 2 |
| *The Welsh tutor* | Sian Rivers | 37 | Batchelor’s Degree | Welsh for Adults Tutor | Bangor, Wales | Bilingual | 4 |

**Table 3:** Vignette Personas

Most participants had a personal interest in learning Welsh for themselves or for their students. As we can see from the following vignettes the CDW experience varied from persona to persona.

Vignette 1: The excluded novice

|  |
| --- |
| **Why were you interested in learning Welsh?** My family are from Wales originally, on my mother’s side. I’ve always been interested in that Welsh heritage, learning some of the language just seemed like a good way of making a connection with my roots.  **What was the Cada Dia Welsh experience like?** I have to say it was a big shock – talk about thrown in at the deep end! I’ve never spoken any Welsh before; I was totally lost within the first minute. Everyone else seemed to be able to speak Welsh already, I felt like I was in the middle of an advanced class. I wasn’t sure where to start or what to do, I just didn’t feel like I could take part at all. It was really awkward. I finally just gave up as I wasn’t learning anything. I think I was more confused at the end than when I started.  **What was the most positive thing about the experience?** I’m tempted to say “nothing”. I guess, at a push, it was interesting, but I’m struggling to find anything positive to say really.  **How will you take your Welsh learning** **forwards now?** Well, I certainly won’t be using Cada Dia Welsh again, that’s for sure! If I’m honest it’s shaken my confidence, maybe learning Welsh just isn’t for me after all. |

Vignette 2: The engaged beginner

|  |
| --- |
| **Why were you interested in learning Welsh?** I’ve always had an interest in languages, I’ve learnt a little Welsh before. This seemed like an interesting opportunity to learn some more.  **What was the Cada Dia Welsh experience like?** At first I was a bit worried as my Welsh is pretty limited, but even with unfamiliar sentences I was able to recognise some of the words and get the gist of the sentence. I definitely know more Welsh now, I’ve learned some new Welsh words and I think my grammar is a bit better too. It was good to be able to learn with other people, being part of a group made me feel more motivated somehow. I feel a bit better about using my Welsh with other people now too, though I’m not sure I am ready to use it in the real world yet! I’d have liked to have been able to spend more time using it, but the timings weren’t always good for me.  **What was the most positive thing about the experience?** I’ve enjoyed the whole thing really; it was good fun. I guess the main thing it has given me is the feeling that I want to learn more now.  **How will you take your Welsh learning** **forwards now?** Actually I’ve just enrolled in a Welsh class – it starts next week! Cada Dia made me feel a more confident, like I can actually learn this language, and I just wanted to keep it going. I’ve really enjoyed the whole Cada Dia experience, keep it up – diolch yn fawr! |

Vignette 3: The offline learner

|  |
| --- |
| **Why were you interested in learning Welsh?** I’ve learnt some Welsh before at evening class a couple of years ago and I thought this might be a good way to brush-up on my Welsh skills.  **What was the Cada Dia Welsh experience like?** It was a total waste of time – honestly – I learnt nothing. I just don’t think it works – seriously – how are you supposed to actually learn anything? There was nothing there I wanted to do; the whole set-up was just odd. There was literally nothing in it that was ever going to teach anyone any Welsh! The whole thing needs to be redesigned.  **What was the most positive thing about the experience?** Seriously?! Like I said, it was a total waste of time. I’m not even sure it was interesting; it certainly wasn’t educational.  **How will you take your Welsh learning** **forwards now?** It’s definitely back to evening classes for me, this online stuff just isn’t up to the job. |

Vignette 4: The engaged learner

|  |
| --- |
| **Why were you interested in learning Welsh?** I’ve learnt some Welsh before in staff development classes at the University, but it is hard to fit them in with my teaching. I thought this might be a good way to improve my Welsh in my own time.  **What was the Cada Dia Welsh experience like?** It was actually more helpful than I expected. There was a nice feel to the community too – supportive and friendly. It’s a shame there weren’t more people really. I enjoyed speaking with them and listening to their stories. Maybe I’ll be a bit more adventurous in using my Welsh with some of my friends now.I enjoyed writing and presenting my own work – it encouraged me to push myself a bit. Apart from that I’m not sure I’ve learnt all that much. I guess I’ve picked up a couple of new words, but I knew most of it already. If I was going to be critical, it was a bit repetitive sometimes. It would also have been useful to get more feedback on my Welsh; I can’t really see how I’m going to improve otherwise.  **What was the most positive thing about the experience?** It was definitely fun and an interesting experience – I guess the community element was what makes it different.  **How will you take your Welsh learning** **forwards now?** I’m already using a lot of different things to help with my Welsh, reading stuff, watching videos and things like that. I guess Cada Dia might fit in there somewhere. I still think the classroom is better though, because it is face-to-face you get more interaction with your tutor, say if you don’t understand something. |

Vignette 5: The revitalised speaker

|  |
| --- |
| **Why were you interested in learning Welsh?** I’m a Welsh speaker. I don’t really speak it much these days though, particularly since my mum passed away. Sometimes I feel like it is slipping away from me and I should use it more. I guess I was curious about Cada Dia as much as anything.  **What was the Cada Dia Welsh experience like?** It was rather bewildering at first, but after a few sessions I enjoyed it more and more. Overall it was a very positive experience, I feel sort of reenergised as a Welsh speaker. I knew most of the things already, but it was unused, buried almost, and this brought it all back to the surface. It was a bit of a struggle at first, but I gradually regained my fluency. I enjoyed the banter between the facilitators and learning about the other participants. It was interesting to hear different versions of Welsh being used too, I even picked up a couple of words that we wouldn’t use around here.  **What was the most positive thing about the experience?** It has given me the encouragement to start using my Welsh again, without the support of the group I think it would have probably just remained dormant.  **How will you take your Welsh learning** **forwards now?** Well, I’ve been introduced to Duo Lingo now, so I’ll be taking a closer look at that. I definitely think I will use my Welsh more socially and maybe in work too. I’ll pop into Cada Dia from time to time to give myself a boost of enthusiasm! |

Vignette 6: The accomplished learner

|  |
| --- |
| **Why were you interested in learning Welsh?** I’ve been learning Welsh for a number of years, through a combination of classes and my own efforts. I feel that I have a good grasp of the language now.  **What was the Cada Dia Welsh experience like?** It was definitely interesting, it’s nice to find a fresh delivery style to complement my other learning. I enjoyed speaking with real Welsh-speakers and I even learnt a few new words. It was a very supportive environment, I felt comfortable using my Welsh and that boosted my confidence. The activities helped me to think more deeply about my Welsh and the cultural activities helped me connect more with the language. It definitely enhances the classroom experience. It was also quite nice to be able to hide behind a computer screen!Overall I think it was useful for supporting my Welsh and I definitely feel more motivated now. It would have been nice to have more feedback on my Welsh to give me more specific things to improve on though.  **What was the most positive thing about the experience?** I certainly feel a lot more confident about using my Welsh now in real-life situations and with real speakers, not just other learners.  **How will you take your Welsh learning** **forwards now?** I think it will be much the same – a mixture of classes and my own efforts. I’ve connected with some of the learners from Cada Dia on social media so that should give me some new opportunities to practice. Perhaps I’ll chat with them in Cada Dia from time to time. Maybe a trip to Wales would be in order too! |

Vignette 7: The Welsh tutor

|  |
| --- |
| **Why were you interested in learning Welsh?** Errr… it’s not really about me, it’s about my students.  **What was the Cada Dia Welsh experience like?** It is certainly an interesting project and would be valuable for learners. It might suit learners who struggle in a traditional classroom, maybe hiding behind a computer will boost some learner’s confidence as they can contribute as much or as little as they like. I guess it might also appeal to young people as it is a fun, interactive environment.It will give learners the flexibility to learn when and where it suits them. It’s good how it encourages participation and sharing. Maybe learners will be able to develop social circles which can support their learning. The variation in Welsh skills among the participants is challenging though and it is sometimes difficult to provide feedback.  **What was the most positive thing about the experience?** Learners will definitely improve their Welsh language skills.  **How will you take your Welsh learning** **forwards now?** There is certainly a place for systems like Cada Dia, though the classroom offers more “accountability” in terms of production of “work”. We need to think carefully about how this fits into the learning “ecosystem”. |

## 3.4 Discussion

The vignette analysis approach reflects on a very personal and social learning experience as some participants shared their own learning styles, favorite songs, likes and dislikes as a way to strengthen social interaction. It is clear from the descriptions that the social learning method was positive for some i.e. *the revitalised speaker, the engaged beginner, the engaged learner, the Welsh tutor, the accomplished learner*, and was negative for others i.e. *the excluded novice, the offline learner.* Being a part of a group can be highlighted as something that motivated some of the participants to learn. Falling away or not succeeding in being a part of a group resulted in some participants disengaging with the experience.

When asked if the presence of others engaged in the same tasks in the CDW experience boosted their motivation for learning the Welsh language; thirteen participants to the survey felt that it had. One participant highlighted *‘I enjoyed being able to listen to the sessions, the activities made me think and research which helped my Welsh’*. Some participants felt that the CDW community was very supportive and friendly: ‘*It is good to hear the language used, in addition to seeing it written so one can learn to correlate both the written and verbal elements of the language’*. The concepts of the *group*, *activities*, *sharing, people, listening* and *interacting* feature frequently in the data. The ability to be able to practice their Welsh with people with the same goals was something that some noted as being important. As one participant stated ‘*The encouragement to take the step and start to speak again. Without the group it would have remained dormant indefinitely’*. Feeling a part of the group was an important motivator and was clearly underlying many of the comments encompassing the above vignettes.

On the other hand, we have also seen in the vignette descriptions, some participants who suggested that they were left behind, they felt isolated from the rest of the group and lost in the experience: ‘*It was fine but never speaking Welsh before, I got lost in the first minute I was there.* In light of this and focusing on the highly personal approach of the social learning method, the challenge is in helping participants to understand how to feel and be a part of the group. The concept of isolation is an important one in the sense that even though many participants were from very different parts of the world (often very removed from the Welsh language and Welsh culture), the CDW platform gave them the opportunity to overcome the physical isolation and to join with others to speak and learn the Welsh language. One participant felt *‘Initially I found it a little bewildering but after a number of sessions I found I enjoyed it more and more’*. However, overcoming the physical isolation was not the only hurdle to take as for various reasons, some participants were becoming isolated within the whole CDW learning experience. Some felt they could not align academically with the group and as a result were very quickly disengaged with the whole experience. As another participant points out, ‘*I finally gave up as I was not learning anything. I was more confused than before I started’*.

## 3.5 Recommendations and Conclusion

In contrast to the Cada Dia Spanish program, CDW had many fewer participants.  Minority languages by their nature are unlikely to attract similar numbers of participants to majority languages.  On reflection, the poorer-than-expected participant turnout could be attributed to bad timing, global time differences and misaligned expectations. It was hoped that the program would have supported the *National Centre for Learning Welsh*/ *Welsh for Adults education programme* by providing a platform for Welsh adult learners to ‘stay in touch’ with their learning during the summer vacation period. However, a combination of broken attendance due to holiday commitments, inconvenient timeslots catering for all time zones and a majority of traditional learners lacking in confidence using the technology all seemed to have had an impact on the overall engagement of participants.

For those that did engage, interestingly, many of the comments from participants on the CDW program showed a similar level of satisfaction and frustration with those on the Cada Dia Spanish program. Moreover, comments from both demonstrations showed a similar level of social engagement.  During the Spanish demonstration, learners felt that: they learnt better from the activities they shared; they had the flexibility and freedom to choose their own level of participation; they learnt a lot from the feedback from the more advanced students; the activities had helped them to improve their level of proficiency. A lot of these feelings are reflected in the comments from participants in the CDW pilot. In addition, the larger numbers of participants on the CDS also meant that there were more beginners, intermediate and advanced learners to support one another. In CDW, the low number of participants perhaps magnified the differences in the participant’s ability levels of the language and resulted in some participants feeling more isolated and disengaged. In terms of future recommendations, CDW could work more effectively if more strategically aligned to an offline program of classes. The research suggests that a blended approach where the CDW session supports a body of learners on an offline course (i.e. learners of a similar ability level and timezone) would more effectively reinforce a sense of community and in turn, the motivation to learn.

In conjunction with this, as social learning designers we need to recognize and cater for the variations in learning styles and abilities amongst participants. Designers need to think about how the same activities and material might be repurposed in a way that appropriately addresses the needs of all learners. Social learning encourages learning to happen with and through other people, as a matter of participating in a community. As mentioned earlier, it has the potential to record and preserve authentic language use (Villa, 2002). However, the activities designed need to be sufficiently versatile to learner’s abilities in order for these to act as anchors to nurture the social interactions and organically evolve the learning groups. Similar to the CDS experience *‘if a question was too difficult for me to answer, I could try a more simplistic answer and still participate’,* participants in CDW could pitch the activities they participated in (i.e. describing a word, sing a song etc.) at their own level of competence. The social learning approach aims to offer opportunities for versatility, ensuring that all the learners could engage with the activities and resources.

# 4. Conclusion

This paper has reported on a small study that investigated a range of different participants’ experiences on CDW. Using a combined post-course online survey and vignette research approach, the authors have synthesised a number of distinct personas in order to build an appreciation and understanding of the experiences that evolved during the study. To conclude, some vignettes showed quite positive experiences whilst others quite negative, the experiences varied considerably. The vignettes have provided us with a framework for thinking about learning design, in particular about participants and how we might more effectively design for them. As designers, we need to think carefully about the CDW target audience and the experiences that they expect. The challenge lies in understanding the potential of the group dynamics created through the social interactions, and anchored on authentic activities, and then how these might evolve and enhance the learning experience. As previously noted, it is about working with speech communities to capture the language being used in context (Hermes et al, 2012). In terms of the learning of a minority language, CDW has shown potential in encouraging learners scattered all over the world to leverage into groups to engage, motivate and drive their and one another’s learning. The research suggests that whilst some learners were curious and drawn to the different accents and backgrounds of the other participants, they also experienced a sense of isolation sometimes. However, others like an Australian participant who overcame all the timezone obstacles to wake up at 1am in the morning to take part in the CDW sessions suggests a high level of motivation and commitment. This magic hook of motivation could be seen through the authentic conversation she had with others on the platform; it not only gave her as an individual the motivation to learn but also impacted and pulled others along. As previously mentioned, this motivation and sharing of experiences can empower others (Grenoble and Whaley, 2006). At a micro level, this research has enabled the CDW designers to identify how authentic conversation channelled through a social learning approach can nurture active participants in the construction of their own language learning experiences. In terms of minority language learning, CDW can be seen an approach that can support learners in situations where there is an insufficient density of speakers or lack of resources to provide face to face teaching. Importantly, it is also an economical way to join individuals, it is platform-independent, makes use of available/ free software and there is no need for formally trained instructors. CDW was a relatively inexpensive and accessible learning experience. These are real-world issues that we have discussed as having an impact on minority language learning (Warschauer et al, 1997; Villa, 2002). At a macro level, the ability to understand how experiencing a language in a dynamic, social and authentic way can motivate learners (individually and as a collective group) in social interaction, knowledge sharing, and learning is empowering. It is something that all instructors and learning designers should consider embracing in order to understand and address the evolving needs of today’s language learners, and particularly, minority language learners.

Endnote

1. <https://www.youtube.com/user/welshplus/>
2. <http://www.bbc.co.uk/wales/learning/learnwelsh/>
3. <http://www.s4c.cymru/en/entertainment/dal-ati/>
4. <http://www.cadwswn.com/>
5. <https://www.duolingo.com/>
6. <https://www.saysomethingin.com/welsh>
7. <http://cadadiawelsh.com/CDW-Activities.pdf>
8. <https://youtu.be/zrmGM6eFlug>

**References**

Anderson, T. and Dron, J. (2011).Three generations of distance education pedagogy, *The International Review of Research in Open and Distributed Learning*, Vol 12, No 3 (2011) Special Issue - Connectivism: Design and Delivery of Social Networked Learning, Retrieved from: <http://www.irrodl.org/index.php/irrodl/issue/view/44>

Arnold, N. (2007). Reducing foreign language communication apprehension with computer-mediated communication: a preliminary study. *System,* 35, 469-486.

Baird, D. and Fisher, M. (2016). Neomillennial User Experience Design Strategies: Utilizing Social Networking Media to Support “Always on” Learning Styles. *Journal of Educational Technology Systems*.Vol 34, Issue 1, pp. 5 – 32. 10.2190/6WMW-47L0-M81Q-12G1. Retrieved from: http://journals.sagepub.com/doi/abs/10.2190/6WMW-47L0-M81Q-12G1?journalCode=etsa

British Council (2017). The English Effect. Retrieved from: https://www.britishcouncil.org/sites/default/files/english-effect-report-v2.pdf

Buszard-Welcher, L. (2001). Can the web help save my language? In L. Hinton and K. Hale (Eds.), *The Green Book of Language Revitalization in Practice*. Academic Press: 331-345.

Coanca, M. (2015). Trendy and Cool Terms in the Digital Age. In Loveday, L. and Parpal, E. *Contextual Identities: A Comparative and Communicational Approach.* Cambridge Scholars Publishing, P146. Retrieved from: <https://books.google.co.uk/books?id=EorWCgAAQBAJ&printsec=frontcover&source=gbs_ge_summary_r&cad=0#v=onepage&q&f=false>

Cohen, L., Manion, L., and Morrison, L. (2007), Research Methods in Education, Sixth edition, Routledge, London and New York.

Cote Para, G. E. (2015). Engaging foreign language learners in a web 2.0-mediated collaborative learning process. *Profile*, 17 (2), 137-146.

Cunliffe, D. (2007). Minority languages and the internet: new threats, new opportunities. In: M. Cormack and N. Hourigan (Eds.), *Minority Language Media: Concepts, Critiques and Case Studies*, Multilingual Matters, Clevedon: 133-150.

Cunliffe, D. (2009). The Welsh language on the internet: linguistic resistance in the age of the network society. In: G. Goggin and M. McLelland (Eds.), *Internationalizing Internet Studies: Beyond Anglophone Paradigms*, Routledge, New York: 96-111.

de Graaf, T., van der Meer, C. and Jongbloed-Faber, L. (2015). The use of new technologies in the preservation of an endangered language: The case of Frisian. In Jones, M.C. (Ed.) *Endangered Languages and New Technologies*, Cambridge University Press. 141-149.

Edwards, H.E. (2013). Raising our Sights: a review of Welsh for Adults. The Welsh Government. Retrieved from: <http://gov.wales/docs/dcells/publications/130712-review-welsh-for-adults-en.pdf>

Eisenlohr, P. (2004). Language revitalization and new technologies: cultures of electronic mediation and the reconfiguring of communities. *Annual Review of Anthropology*, 33, 21-45.

Galla, C.K. (2016). Indigenous language revitalization, promotion and education: function of digital technology. *Computer Assisted Language Learning*, 29 (7); 1137-1151.

Gilmore, A. (2007). Authentic materials and authenticity in foreign language learning. *Language Teaching*, 40; 97-118.

Gourlay, A,. Mshana, G., Birdthistle, I., Bulugu, G., Zaba, B. and Urassa, M. (2014). Using vignettes in qualitative research to explore barriers and facilitating factors to the uptake of prevention of mother-to-child transmission services in rural Tanzania: a critical analysis, *BMC Medical Research Methodology* 2014 (14), 21 doi:10.1186/1471-2288-14-21

Grenoble L.A. and Whaley, L.J. (2006). Saving Languages: An Introduction to Language revitalization. Cambridge University Press.

Henry, M. and Marrs, D. (2015). Cada Día Spanish: An Analysis of Confidence and Motivation in a Social Learning Language MOOC. *IADIS Press*. 105-113. Retrieved from <http://files.eric.ed.gov/fulltext/ED562095.pdf>

Hermes, M., Bang, M. and Marin, A. (2012). Designing indigenous language revitalization. *Harvard Educational Review*, 82 (3), 381-402.

Hugo, R. (2015). Endangered languages, technology and learning: Immediate applications and long-term considerations. In M.C. Jones (Ed.) *Endangered Languages and New Technologies*. Cambridge University Press. Pp95-110.

Jacobsen, A.J. (2014) Vignettes of interviews to enhance an ethnographic account. *Ethnography and Education,* Vol. 9, No. 1, 3550, Retrieved from: <http://dx.doi.org/10.1080/17457823.2013.828475>

Jones, A. (2015a). Social media for informal minority language learning: exploring Welsh learners’ practices. *Journal of Interactive Media in Education*, 1 (7): 1-9.

Jones, A. (2015b). Mobile informal language learning: exploring Welsh learners’ practices. *eLearning Papers* (45), article 6.

Jones, H.M. (2012). A Statistical Overview of the Welsh Language. Welsh Language Board. Retrieved from: <http://www.comisiynyddygymraeg.cymru/English/Publications%20List/A%20statistical%20overview%20of%20the%20Welsh%20language.pdf>

Jones, M. (2016). Welsh-medium education and Welsh as a subject, National Assembly for Wales. Retrieved from: <http://www.assembly.wales/research%20documents/rs16-048/16-048-english-web.pdf>

Keegan, T.T., Mato, P., and Ruru, S. (2015). Using Twitter in an Indigenous language: An analysis of te reo Māori tweets. *Alternative: An International Journal for Indigenous Peoples*, 11(1), 59–75.

Khan, T.N. (2016). The death of regional languages. Retrieved from: <http://nation.com.pk/columns/25-Oct-2016/the-death-of-regional-languages>.

Kiff, G. (2015). Welsh Language Project Annual Report 2015. The British Council. Retrieved from: https://wales.britishcouncil.org/sites/default/files/welsh\_language\_project\_report\_2015.pdf

Kop, R., Fournier, H. and Molyneaux, H. (2016). Creating a Personal Learning Ecosystem: The Double-Edged Sword of Algorithms and Automation to Support Serendipitous Learning. *Proceedings of the EMENA-TSSL'2016 - Europe, Middle East and North Africa Conference on Technology and Security to Support Learning*, Saidia, Marocco.

Lackaff, D. and Moner, W.J. (2016). Local languages, global networks: Mobile design for minority language users. *SIGDOC’16*, September 23–24, 2016, Silver Spring, MD, USA.

Larsari , V. N. (2011). Learners' communicative competence in English as a foreign language

(EFL) In Journal of English and literature Vol. 2(7), pp. 161-165, September 2011

Retrieved from: http://www.academicjournals.org/ijel

Lin, H. (2014). Establishing an empirical link between computer-mediated communication (CMC) and SLA: a meta-analysis of the research. *Language Learning and Technology,* 18 (3), 120-147.

Mac Uidhilin, N. (2013). Learning communities mediated through technology: pedagogic opportunities for minority languages. In: E. H. G. Jones and E. Uribe-Jongbloed (Eds.) *Social Media and Minority Languages: Convergence and the Creative Industries*, 146-158. Bristol: Multilingual Matters.

Meyer, J. (2013). In ten years, what will be the language of the Internet? Retrieved from: <https://www.quora.com/In-ten-years-what-will-be-the-language-of-the-Internet>

Miles, M. (1990). New methods for qualitative data collection and analysis: vignettes

and pre-structured cases, *International Journal of Qualitative Studies in Education*,

3:1, 37-51, DOI: 10.1080/0951839900030104

NCLW (2016). Gyda’n gilydd – Together: Strategic Plan 2016-2020. National Centre for Learning Welsh. Retrieved from: <http://dysgucymraeg.cymru/wp-content/uploads/2016/08/strategy-english-v.pdf>

Newmann, F. and Wehlage, G. (1993). Five Standards of Authentic Instruction. Retrieved from: <http://www.ascd.org/publications/educational-leadership/apr93/vol50/num07/Five-Standards-of-Authentic-Instruction.aspx>

Ó Riagáin, D. (2012). Some reflections on the new media and lesser used languages. *Journal on Ethnopolitics and Minority Issues in Europe*, 11 (2), 37-41.

Parmaxi, A., Zaphiris, P. and Ioannou, A. (2016). Enacting artefact-based activities for social technologies in language learning using a design-based research approach. *Computers in Human Behaviour*, 63, 556-567.

Paricio-Martín S.J. and Martínez-Cortés, J.P. (2010) New ways to revitalise minority languages: the impact of the internet in the case of Aragonese. *Digithum*, 12; 1-11.

Pimienta, D., Prado, D. and Blanco, A. (2009).Twelve years of measuring linguistic diversity in the Internet: balance and perspectives. Retrieved from: <http://unesdoc.unesco.org/images/0018/001870/187016e.pdf> (6/11/2016)

Reeves, T.C., Herrington, J., and Oliver, R. (2002). Authentic activities and online learning. In A. Goody, J. Herrington and M. Northcote (Eds.), *Quality conversations: Research and Development in Higher Education*, Volume 25 (pp. 562-567). Jamison, ACT: HERDSA. Retrieved from : http://www.ecu.edu.au/conferences/herdsa/papers/ref/pdf/Reeves.pdf

Reinders, H. and White, C. (2016). 20 years of autonomy and technology: how far have we come and where to next? *Language Learning and Technology*, 20 (2), 143-154.

Rosiak, K. and Hornsby, M. (2016). Motivational factors in the acquisition of Welsh in Poland. *Studia Celtica Posnaniensia*, 1 (1): 57-73.

Scott Warren, A. and Jennings G. (2015). ‘Allant contre vent et mathée’: Jèrriais in the twenty-first century. In Jones, M.C. (Ed.) *Endangered Languages and New Technologies,* Cambridge University Press. 141-149.

Sharples, M., Taylor, J. and Vavoula, G. (2006) A Theory of Learning for the Mobile Age. R. Andrews and C. Haythornthwaite. *The Sage Handbook of Elearning Research*, Sage publications, pp.221-247. Retrieved from <https://telearn.archives-ouvertes.fr/file/index/docid/190276/filename/Sharples_et_al_Theory_of_Mobile_Learning_preprint.pdf>

Shomoossi N. and Ketabi S. (2007). A critical look at the concept of authenticity. *Electronic Journal of Foreign Language Teaching* 4(1): 149-55. Retrieved from: http://e-flt.nus.edu.sg/v4n12007/shomoossi.pdf

Smith, B., Alvarez-Torres, M.J. and Zhao, Y. (2003). Features of CMC technologies and their impact on language learners’ online interaction. *Computers in Human Behaviour*, 19, 703-729.

Sperlich, W.B. (2005). Will cyberforums save endangered languages? A Niuean case study. *International Journal of the Sociology of Language*, 172; 51-77.

StatsWales (n.d.). Welsh Language. The Welsh Government. Retrieved from: <https://statswales.gov.wales/Catalogue/Welsh-language>

Statistics for Wales (2016). Welsh language in Higher Education Institutions, 2014/15. The Welsh Government. Retrieved from: http://gov.wales/docs/statistics/2016/160929-welsh-higher-education-institutions-2014-15-en.pdf

Stern, A.J. (2017) How Facebook can revitalise local languages: lessons from Bali. *Journal of Multilingual and Multicultural Development*, DOI:10.1080/01434632.2016.1267737

Sun, S.Y.H. (2014). Learner perspectives on fully online language learning. *Distance Education*, 2014, Vol. 35, No. 1, 18–42, Retrieved from: <http://dx.doi.org/10.1080/01587919.2014.891428>

Tracy S. J. (2010). Qualitative quality: Eight “big-tent” criteria for excellent qualitative research. *Qualitative Inquiry*, 16, 837–851

Torres, M. (2004). The use of the internet for the linguistic revitalization: the case of the Catalan language. *Proceedings of Internet Research 5.0 Ubiquity?* Sussex.

Villa, D.J. (2002). Integrating technology into minority language preservation and teaching efforts: an inside job. *Language Learning and Technology*, 6 (2), 92-101.

Ward, M and van Genabith, J. (2003). CALL for endangered languages: challenges and rewards. *Computer Assisted Language Learning,* 16 (2-3): 233-258.

Warschauer, M., Donaghy, K. and Kuamoÿo, H. (1997). LeokÏ: a powerful voice for Hawaiian language revitalization. *Computer Assisted Language Learning*, 10 (4), 349-361.

Welsh Government (2015). Welsh language use in Wales, 2013-15. Retrieved from: <http://gov.wales/docs/statistics/2016/160301-welsh-language-use-in-wales-2013-15-en.pdf>

Welsh Government (2017) Cymraeg 2050: Welsh Language Strategy. Retrieved from: <http://gov.wales/topics/welshlanguage/welsh-language-strategy-and-policies/cymraeg-2050-welsh-language-strategy/?lang=en>

Williams, C.H. (2014). The lightening veil: language revitalization in Wales. *Review of Research in Education*, 38, 242-272.

Willis, J. E., Spiers, E. L., and Gettings, P. (2013). MOOCs and Foucault’s heterotopia: On community and self-efficacy. *Proceedings LINC 2013 Conference*, MIT, Cambridge, MA. Retrieved from <https://linc.mit.edu/linc2013/proceedings/Session3/Session3Willis.pdf>

Zuckerman, E. (2013). English is no longer the language of the web. Retrieved from: <http://qz.com/96054/english-is-no-longer-the-language-of-the-web/>