

Research Article

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The transformative potential of action research and ICT in the Second Language (L2) classroom

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Abstract: This study shows the transformative potential of action research and information and communications technology (ICT) in the second language (L2) classroom. Two enquiries from teacher-researchers are detailed in the article. Their engagement in a collaborative professional development Masters programme was pivotal in designing and implementing ICT creatively in their classroom. Gee (2008) advocates the use of the preferred media of our classroom students in order to address their learning. Prensky (2001) urges us to feel the fear and do it anyway with our digital native classes. A post-primary teacher and a primary teacher show us how they felt the fear, did it and transformed aspects of their own teaching in the process. The Masters programme required the teachers to engage with innovative practices, informed by their own values, and integrate technologies that were new to them into their repertoire of classroom strategies. Peer validation meetings with colleagues enabled meaningful insights to emerge from the research. The teachers improve and transform their second language (L2) practice in collaboration and validation with others.

Keywords: Action research; reflection; ICT; collaboration; second language teaching.

1 Introduction

In 1997, the Schools IT 2000 initiative was launched in the Republic of Ireland. It highlighted the need for more teacher training, more funding for computers, more technical support, and encouragement to make use of ICT in education (Department of Education and Science, 1997). While schools are installing ICT solutions into the physical fabric of schools according to their means, the 'how' of ICT integration – a reflective and competent use of ICT in the classroom by the practitioner, tends to lag behind. International research on the integration of ICT in schools suggests that technology is not being utilised effectively within classrooms (Ertmer and Ottenbreit-Leftwich, 2010).

Recent research in the field of ICT-mediated language learning highlights the beneficial yet challenging interplay between technology, pedagogy and content knowledge (TPACK). Whilst the speed in which technologies are advancing is an issue for TPACK (Ballance, 2012), Blake (2013, p. 12) reminds us that "technology is theoretically and methodologically neutral." Hence the focus and utility of technologies and their successful pedagogical implementation remain on teachers and teacher educators (Roessingh, 2014).

Facilitating authentic experience in language teaching is particularly important for the language learner, as it is a move away from the traditional textbook, teacher supplied worksheets or 'secondhand experiences' (Wong, 2013). Learner-generated content plays a pivotal role in the language classroom (Roessingh, 2014, Wong, 2013) and sees a fundamental shift in emphasis in the classroom from being traditionally teacher-centered to student centered. Therefore, language teachers potentially become facilitators in the process and pave the way for more motivated and engaged learners. Teachers have a key motivational role to play in second language (L2) classrooms (Crookes & Schmidt, 1991; Dörnyei, 1994; Oxford & Shearin, 1994; Williams & Burden, 1997; Tsiplakides, 2009) and combined with the role of technology can potentially alleviate low learner motivation in language learning (MacIntyre, 1995; Pachler and Field, 2001; Zhao, 2005). The focus should be on authentic language learning in a real world

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context (Blake, 2013). Hence, this article provides two action research examples of teacher efforts to address this aspect, both as a result of study on a Masters in Education and Training Management (e-Learning) (hereafter referred to as MEME) professional development programme. It describes and analyses how the action research enquiries in a L2 primary and post-primary school classroom in Ireland led to educational transformation and improvement in teaching practice through the integration of ICT for L2 learners.

Schön (1983) advised scholars to make their practice into appropriately rigorous research by bringing the concept of ‘reflection’ into their understanding of what professionals do. He encouraged practitioners to enquire into their own work practices (Schön, 1995, p. 34); a view also held by Dadds (2014) who argues in favour of the ‘inner experience and responsibility’ (Dadds 2014, p. 15) of practising teachers. In relation to technology integration, there is a need for ongoing continuous professional development to promote mastery of skills, while also providing time for change to individual teacher beliefs towards technology and pedagogy (Ryan and Bagley, 2015, p. 42). This paper shows how a professional development programme – MEME – enabled two second language (L2) teachers to develop technology skills, increase their knowledge and confidence and transform their pedagogy through a collaborative and reflective process.

2 MEME programme – overview and philosophy

The MEME programme is a two-year part-time programme in the School of Education at Dublin City University (DCU). Programme participants learn in both online and face-to-face settings. There are six modules on the programme: Visions for Emerging Technologies, e-Learning: Culture and Organisations, Emerging Pedagogies, Multimedia and Educational Innovation, Collaborative Online Learning Enquiry, and Digital Creativity in the Workplace or Entrepreneurial Education and Training. These modules serve as building blocks towards the final dissertation stage in year two. Through the course of the programme participants examine philosophies of education, theories of learning, developments in neuroscience and culture

and organisations. They gain skills and knowledge in the effective design and use of collaboration learning technologies, authoring tools and videography. They are guided to inquire into their pedagogical practice, creatively design and integrate technology to enhance their practice and articulate their beliefs and values in the process. Through this process they learn to be entrepreneurial by taking risks and confidently undertake research that has a transformative impact (Crotty, 2012, 2014).

The MEME is grounded in an action research (AR) philosophy with its participants encouraged to plan, act, observe and reflect on their practice throughout the course of study. Action research sees individual practitioners playing a central and active role in the research process (McNiff, 2015). It has its roots in the pragmatic philosophy of John Dewey (1859-1952) who saw learning as a social and democratic process whereby participants are actively and reflectively engaged in an enquiry (Dewey, 1933). With respect to the MEME these practitioner-researchers through a process of enquiry, dialogue, collaboration and reflection, are active co-creators in the research process and can make valuable contributions to new knowledge. The idea of pedagogy of the unique (Farren, 2006) expresses the belief that each person has a distinctive constellation of values that motivate their enquiry and that sets a distinctive context in which the enquiry proceeds. It shows a commitment to relational learning and the opportunity for individuals to take responsibility for their own learning.

During the MEME dissertation period group validation meetings encourage individuals to present their ongoing research. The purpose of a validation group is to develop the capacity of each individual to produce an account of learning in order to strengthen the validity of their research accounts. It draws on Habermas’ (1976) four criteria of social validity, that is, comprehensibility of the account, evidential support for knowledge claims, and exposition of justification for educational values and evidence of educational influence in the learning of others. Validation meetings operate in an interrelated and dynamic way:

new emancipation no longer relies on a relationship of dependency. People need not wait until their emancipators tell them that they can move; they can make the move right here and right now. This also shows that new emancipation starts from the assumption of equality, in that everyone is considered to be able to make the move (Biesta 2008, p. 175).

3 The transformative potential of AR

Action research is a form of practitioner research where there is a professional intent to intervene to improve practice in line with values that are rational and just, and specific to the situation. Although the processes of carrying out action research may vary, there is a common emphasis on critical and democratic social theory and a departure from unengaged research as the appropriate enquiry path for practitioners in practical situations (Farren, 2006). McNiff (2015) and Crotty (2012, 2014) assert that action researchers use personal and professional values as guiding principles towards their study, which in turn are used to transform their practice. For example, a study carried out by McLaughlin and Ayubeva (2015) highlights the new understanding participants developed about what it means to be a teacher; they no longer viewed themselves as passive transmitters of knowledge but rather active co-creators in the classroom (Ioannidou-Koutselini and Patsalidou, 2015). This finding is similarly noted by Kayaoglu (2015) insofar as teachers noted an increase in self-confidence due to the level of creativity and reflection brought about through the action research process. Teachers felt empowered to understand what it was they needed to do to improve their classroom strategies. In engaging in research, teachers are producers of knowledge and not just implementers of knowledge received (Cochran-Smith & Lytle, 2009).

Recent research highlights the practical transformative potential of action research, insofar as participants have become creators of multimedia educational resources (Crotty, 2012, 2014), active creators of school resources (McLaughlin and Ayubayeva, 2015), have implemented new support structures to assist parents and teachers (Salm, 2014) and have improved and changed their teaching strategies as a result of engaging in the action research process (Kayaoglu, 2015). These changes in practice came about through individual and group reflections, which highlights the key role of reflection in transforming thought into practice. Therefore, by employing a systematic, iterative, questioning approach action researchers, in collaboration with participants, develop new knowledge, which then informs thinking, strategies and policies. Kemmis and McTaggart (1988) assert that an approach is only action research when it is collaborative in nature.

4 Study context

This study involves the work of two teachers – a primary and post-primary teacher – who are also MEME graduates that specialised in L2 teaching and learning. The study evidences how they analysed their own teaching, which in turn led them to initiate action to improve it. Both teachers employed an action research approach. They presented their research findings at validation group meetings, as part of the MEME, to strengthen and refine their studies. All actions were teacher-led, but informed by literature and engagement with other practitioners as well as theorists and initiated in a collaborative manner after informed reflection. Educational values were made explicit and are central to the process of embedding new practices into the two teachers' respective pedagogy. The post-primary teacher carried out two action research cycles in her study, whilst the primary teacher carried out a single action research cycle.

Actions taken by the post-primary teacher in the second level language classroom were supported by various sources, such as the Department of Education and Science 'ICT in Schools: Inspectorate Evaluation Report' (DES, 2008) and the Strategy Group's report, 'Investing Effectively in Information and Communications Technology in Schools 2008-2013' (DES 2008), as well as literature in the area of ICT and language learning (MacIntyre, 1995; Pachler and Field, 2001; Zhao, 2005). The teacher in a primary classroom, in developing her emerging use of ICT as a tool to enable autonomy (Little, 2007) and reduce preference for a teacher-centred approach (Fitzpatrick, 2004) implemented an e-portfolio, also providing an opportunity for pupils to construct their own electronic language product, with digitised evidence of their achievements.

Each of the two teachers in the following accounts reflected on their own practice. They embarked on a cycle of identification of an area in which they experienced concern; they proceeded to investigate existing literature in that area, designed actions to address the concern and reflected on the outcomes, modifying plans in light of the evaluation and submitting accounts of learning to a validation group in order to strengthen the validity of the accounts of learning. In the process, both teachers examine and articulate the values that underlie their teaching and learning.

5 The research participants

5.1 Teacher 1 – Post-primary level language (L2) teaching

The post-primary teacher Noeleen is a qualified teacher of French and German in a small rural second level school (ages 12-18). Her school is a DEIS school (designated disadvantaged) and at the time of study it had approximately six hundred students and more than fifty teaching staff. Students are mixed ability and unstreamed or grouped according to any given criteria. Study of another L2 in addition to Irish is compulsory. Either French or German, by the school. The action research study was carried out with three classes, which consisted of 30 pupils per class. The study was conducted over 9 weeks (Feb-April 2012) throughout two action research cycles. The first action research cycle was carried out with her French class whilst the second cycle was with her German classes. At the time she was also a part-time student on MEME (2010-2012).

5.2 Teacher 2 – Primary level language (L2) teaching

In the second study, the primary teacher Martina is a qualified teacher of Irish in an all girls' urban primary school with approximately four hundred pupils and approximately twenty teachers. In this case Irish is the L2 in the primary level classroom. The action research enquiry was conducted in her primary class. Eight pupils were selected to take part in the study ranging from 7 to 9 years of age. The study was conducted over 5 weeks (March 31st- May 16th 2008). The primary teacher introduced Assessment for Learning (AfL) into her own practice in 2008 via the introduction of an L2 electronic portfolio (e-portfolio) for her 7-9 year old pupils. The decision to use e-portfolios also impacted on her decision to choose a smaller number of students for the research "The smaller sample allowed me to ensure the quality of the research was not compromised by trying to complete a large amount of portfolios with a larger group" (primary school teacher, 2008).

According to the National Council for Curriculum and Assessment (NCCA) in Ireland, AfL explores the role of the pupil as an active learner, taking into account where the pupils are in their learning. Involving learners in the process of assessment can increase motivation in learners (ibid). Information attained from AfL can help teachers evaluate plans, methodologies and organizational strategies (NCCA, 2007a). Hence in this second study

e-portfolios were used in tandem with AfL with second class pupils (age 7-9 years) to develop their Irish L2 skills. Irish is compulsory in all primary schools in the Republic of Ireland, and in this school it was an L2 subject. She was also a part-time student on the MEME from 2006-2008.

6 Data collection and analysis

Both teachers made use of the following data collection methods while carrying out research for their Masters dissertation research: video and audio recordings of classroom and online activities, photographs and focused written online reflective journals. Video was used by both teachers to provide evidence to their validation groups of how they are attempting to show their values in practice. The reflective journals were an important source of data collection, as they documented the thoughts, insights and learning of both researchers throughout the research process. The primary school teacher also collected evidence from portfolios constructed by her pupils. Written permission was sought from parents for their children to take part in both teachers' research and from the school principals to carry out their research.

7 Post-primary teacher's action research cycle

7.1 Identification of concerns and values

The teacher observed low levels of language learning motivation amongst her students. In oral interactions in class, this teacher observed evidence of Foreign Language Anxiety (FLA) amongst students and decided to investigate, concluding:

My practice had become didactic, and I had failed to provide a rich, authentic climate of communication in which the students had opportunity for meaningful communication. This became evident after I gave a questionnaire to my second year students asking what they enjoyed and did not enjoy doing in French class. A number of students pointed to the lack of authentic communication in the classroom. As one student wrote: 'I don't enjoy having to recite a conversation that was taught and having the whole class in pairs just saying it again'. Such flat, artificial communication did not correlate with my value of passion, as passionate language teachers seek out real, authentic ways for their students to communicate. I realised that a fundamental

change in my practice was required (Post-primary teacher, 2012, p. 44).

The post-primary teacher's concern arose from the lack of authentic communication opportunities that her students were facing in the L2 classroom. At the same time, she observed her students' growing interest in technology, and recognised that they are 'digital native' learners, (Prensky 2001), as reflected in the report 'Investing Effectively in Information and Communication Technology in Schools' (DES, 2008), which extols ICT as a motivational tool. Her value of passion for language learning motivated her to seek out and experiment with authentic learning opportunities in the L2 classroom in her research.

Accordingly, she initiated an action research enquiry into 'motivating students to communicate in the target language through the medium of technology in a second language classroom.'

7.2 Post-primary teacher's action research enquiry

The first cycle of action by the post-primary teacher involved the exchange of French multimedia files with a school in Toulouse, France, while the second cycle saw her pupils conduct inter-class discussions in German within the school, using ICT (Skype) as a motivational tool. In the first cycle multimedia files were produced and the use of Dropbox for delivery was the post-primary teacher's first attempt to provide real, meaningful and spontaneous exchanges for her students using technology. Due to ethical issues, the multimedia files were sent to the partner school using Dropbox rather than made available online as podcasts and syndicated through RSS.

The students produced their multimedia files in a collaborative way by taking photographs of themselves and their school and working together to write and record descriptions of these photographs in French. This was in keeping with the Junior Certificate (state examination for students between 12 and 15 years) French syllabus and these topics are particularly vital for the oral component of the examination. Agreement was made that the partner school in France would send back equivalent multimedia files, in order to achieve real, meaningful, two-way communication.

This facilitated communication with French students from a school in Toulouse using student produced multimedia files in order to provide authentic material for the students, and an authentic L2 community environment (Rosell-Aguilar 2007; McMinn 2011). The post-primary

teacher hoped that a desire to communicate with native speakers would provide authentic motivation for her students to speak in French, reflective of Robert Gardner's (1985) hypothesis that students are motivated by a desire to integrate into the L2 group.

Each of her students was responsible for various aspects of the production of the multimedia file, in keeping with theories of L2 motivation, that students are more motivated when given an agentive role (Crookes and Schmidt 1991; Dörnyei, 1994; Oxford and Shearin 1994; Williams and Burden 1997). The students collaborated on a script in French, in order to create optimum communication (Lee 2009; O'Donnell & King 1999) and with increasing motivation. Revision of key words and the pre-teaching of useful phrases preceded this activity to lessen FLA.

The multimedia files were produced using iMovie, which is video-editing software by Apple Mac. Students were consulted in editing, choosing background music and titles, in order to motivate them and give them ownership of the process (Crookes and Schmidt 1991; Dörnyei, 1994; Oxford and Shearin 1994; Williams and Burden 1997). However, as documented below in her reflections, the use of multi-media did not succeed in having the desired motivational effect, and in the next cycle (cycle 2) of action the aforementioned tools were discontinued and the teacher moved to use of video and Skype:

The target language produced during the sessions preparing the multimedia files lacked spontaneity. As students were simply learning off their piece by heart and then delivering it, no real, authentic communication was taking place (post-primary teacher, April 11, 2012).

The post-primary teacher made the following further observations in her journal:

Communication is not authentic unless it is a meaningful, two-way process, and our partner school's failure to respond made the students' work seem less meaningful. Students were extremely frustrated by not receiving anything back from France, and felt their work speaking in French to prepare the podcasts had been in vain (Post-primary teacher, April 11, 2012).

The constructive feedback that she received from her MEME validation group was crucial to eliciting change in her behaviour:

It was remarked upon by my validation group that my own body language and contributions were quite stiff and hesitant in the video footage, and that I demanded very little spontaneous target language from the students...This made me reflect upon my role in displaying my passion for languages in motivating my students, as I wanted them to model my own use of the target language in my second cycle of research. In the motivational

literature in second language learning, Williams and Burden (1997), Crookes and Schmidt (1991), Dörnyei, (1994), Oxford and Shearin (1994), Tsiplakides (2009), Wen and Clement (2003) all concur that teachers have a key motivational role to play in second language learning...I knew I would have to change my behaviour and approach in the next cycle. (Post-primary teacher, 2012, p. 51)

Thus in cycle two she employed a student-centred oral development programme known as Group Talk, (http://www.molannetwork.org/docs/the_wildern_school_example_0.pdf). The rationale behind this programme was to increase student talk in the classroom, with an emphasis on oral tasks in order to create meaningful communication. Group Talk involves discussions in tables of four. It also involves technology such as microphones and video cameras to motivate students to speak. Re-arranging the classroom in small groups of four students facing each other is a practice found to increase classroom communication by the Department of Education Modern Languages Inspectorate Report (2004), while Young (1990) also found that small groups of peers are more likely to communicate effectively in the target language. The post-primary teacher pre-taught the colloquial language required to each of her first year (age 12-13) classes via fun, lively activities such as crosswords and matching races. Over three weeks, students then partook in interclass discussions (one German class talking to another German class in a different room in the school) via Skype, which they recorded using microphones and video cameras. They then reviewed these discussions in their respective whole class groups.

Values are central to the actions of the teacher in the classroom. In the action research process detailed here, values were identified and referred to as a yardstick for action, review and reflection. The post-primary teacher presents a final reflection on her values:

In Cycle Two, I feel that I was able to live my core value of passion for language learning much more than in Cycle One. By taking the time to research what would actually motivate my students to speak, rather than simply 'throwing technology at the problem', I was able to create a much more communicative environment, which was later enhanced by the use of a much more appropriate technology...The communicative climate created was further enhanced by an altogether more effective technology in Skype, which heightened student engagement and created an opportunity for authentic communication between two class groups which may otherwise not have been possible (post-primary teacher, 2012, p. 62).

8 Primary teacher's action research cycle

8.1 Identification of concerns and values

Assessment in her Irish language classroom was her concern, based on an honest reflection and assessment of areas that could be improved. Although pupils were given opportunities to use language in class, communication was often one way from teacher to learner, teacher dominated or limited to 'brief and formulaic learner contributions' (Little 2007, p. 21).

When I was initially introduced to action research I saw something appealing about the sincerity, which is involved on the part of the researcher. I was going to have to be completely honest with myself and have confidence in the critique of others... I am concerned that I had not previously tried to develop new and creative forms of assessment in my classroom. Teacher-observation, teacher-designed tasks and tests were the only forms of assessment for the Irish language in my classroom. I felt that a deeper picture of the pupils' learning could be achieved and that assessment for learning was worth pursuing because it might enable pupils to engage more personally in their own assessment processes (primary teacher, 2008).

The primary school teacher's concern was to develop new and creative forms of assessment in her classroom. Through her participation on the MEME she became more cognisant of the possibilities afforded by ICT to improve learning: "Having undertaken the e-Learning strand of the MSc. in Education and Training Management programme, I was aware of the possibilities of information and communications technology (ICT)" (primary school teacher, 2008, p. 11).

In addition, she articulated one of her educational values as encouraging a sense of independence and responsibility through the use of assessment for learning and creativeness through the use of ICT "...a belief that integration of language learning and assessment (using electronic portfolios as a tool) might encourage creative and meaningful language practice...that ICT will enable the pupil to be free to self-validate their own learning process and be the author of their own electronic language product" (primary teacher, 2009, p. 40). The primary teacher sought to encourage learner generated content to improve assessment in her L2 classroom and to encourage students to take responsibility for their own learning. This would contrast with teacher-centered and teacher-designed tasks.

As part of the MEME, she initiated an action research enquiry with the question 'How do I use Irish language

e-portfolios in the assessment for learning approach in my primary classroom?’

8.2 Primary teacher’s action research enquiry

Initially, the primary teacher presented the focus of her enquiry and her desire to address the neglected use of assessment of Irish in her L2 classroom:

My primary concern is the neglected use of assessment in my Irish language classroom. Having chosen the assessment for learning approach, I wished to explore how it could be implemented successfully for second class primary school pupils. I was concerned that although pupils were given opportunities to use language in class, communication was often one way from teacher to learner..... I saw the potential of using assessment for learning to move away from this didactic approach to assessment and learning (primary school teacher, 2008, p. 55).

Portfolios were identified as a useful tool in formative assessment (Black et al, 2003; Irons, 2008). Similarities appeared in the literature on AfL and that of the portfolio process. She felt that a deeper picture of the pupils’ learning could be achieved through combining AfL and e-portfolios. Referring also to the 2007 NCCA study which presented feedback on the use of ICT from a selection of schools (2007b), the primary teacher chose e-portfolios hoping to allow pupils freedom to use the language they knew, the self-assessment skills they had learned and to see how the four language skills could be creatively integrated using text, audio and photographs. The Irish (L2) curriculum Irish documents (DES, 1999) place focus on oral work at this stage and integration of the reading, writing and listening skills. Accordingly, oral achievements could be illustrated here in a concrete way for pupil-peers, future teachers and parents in the e-portfolio. E-portfolios would also provide a new opportunity for pupils to reflect on work achieved throughout the year.

Initially, she chose 2Create software but found that “pupils were distracted by the many paint tools and there was little language activity taking place” (primary teacher, 2008, p.14). Subsequently, she used ‘Photostory 3’ in this project in an open-ended use of ICT. This is a Windows programme that enables users to create audiovisual, narrative presentations using their own images.

Pupils set about creating a plan for ‘the story’ element of the portfolio. This essentially comprised of four pictures/photos with sentences. With ‘Photostory 3’, the inclusion of photos was enabled. Photographs formed the main content for the portfolios. The photographs were

organized into artifacts or pieces of work. Throughout the process she noted some challenges and opportunities to bring innovation into her practice:

Planning on paper even with a template proved too difficult for these second class pupils. It was difficult to encourage Irish conversation without the photographs. I discovered that using photographs encouraged more conversation in Irish. The purpose of the portfolio was clear. However, I was delving into the practicalities of developing an Irish language based electronic portfolio with second class for the first time (primary teacher, 2008, p. 60).

In her reflective journal the primary teacher acknowledges the progress that her pupils made and their own sense of responsibility for improving and correcting their learning as a result of the integration of ICT in her classroom:

They are now showing signs of improving their recordings for quality as well as quantity! They are criticising and making decisions as they listen back to their recordings in pairs. They are totally focused with the activity in hand. I do not have to help them construct sentences. They are also remembering to fix mistakes from the previous sessions (primary teacher, Appendix G, 2008)

9 Research findings and reflections

This section will discuss the main findings from both research studies, in addition to highlighting the transformation in practice that came about through both teachers’ research.

9.1 Collaboration, performance and peer validation

Collaboration research shows that skilled collaboration and social communication facilitate performance in the workplace (Klein, DeRouin & Salas 2006; Salas, Cooke & Rosen 2008). The collaboration developed through the MEME involves the participants in shared goals, connecting with their values, taking account of different points of view and growing with the larger community in an inter-related and dynamic way.

The post-primary teacher reflected on the improvements to her research based on her collaboration with MEME peers in validation group meetings where video evidence of classroom experience would be viewed and critiqued:

It was clear at the end of Cycle One that I had not achieved my aim to motivate my students to communicate spontaneously in the target language. Watching the video evidence of how students collaborated to develop a script for the multimedia files, my validation group suggested that students were quite hesitant and subdued, and that little spontaneous communication had occurred ...This is particularly evident from the footage of collaboration on the audio script ...This made me aware of the need to reflect on the process and how I might approach a second cycle (post-primary teacher, 2012, p. 48)

Cycle Two: At the end of cycle two, the post-primary teacher commented on how she had created a much more communicate environment:

'By taking the time to research what would actually motivate my students to speak, rather than simply 'throwing technology at the problem'. ...Addressing my own role in modelling my core value for my students was very effective, which was confirmed by my validation group who, having watched my video footage, felt that the group dynamic had completely changed from Cycle One. They felt that I was more relaxed and finally displaying passion for language learning. It was felt that students were more engaged and that meaningful communication was now occurring on an everyday basis (post-primary teacher, 2012, p. 62).

The primary school teacher presented her research at various stages to her MEME validation group. The group not only provided constructive feedback during presentations, but also asked questions to the researcher which made her reflect more on her role, her learning, her pupils' learning and the research being carried out:

I feel that the use of collaboration and validation were vital in helping me consolidate my efforts and confirm that I was doing something worthwhile. Discussions with DCU peers and tutors helped me to clarify my role in the investigations and gave meaning to what I was doing (primary school teacher, Appendix B, 2008).

The primary teacher encouraged peer assessment and pupil feedback. For example, pupil-pupil collaboration took the form of help from peers for pronunciation. Pupils thereby recognised that it was important that their audience understood them. They corrected each other, suggesting the best words to use, evaluating their own recordings and challenging each other's work. Peers had a dual purpose in this study because they were employed for evaluative purposes and as an audience for their partners (Connacher *et al*, 2004). This is evident in the primary school teacher's research journal entry:

One pupil recognised the importance of both the language and the quality of recording: 'Her sentences were very good; her

recording was also very good.' Another pupil recognised that both quality and quantity of content were important in the recordings: 'The recording was good 'cos she did lots of things in it...because she went through every picture and she did it very well'. These simple comments show the beginnings of pupils' peer-assessment skills. (primary teacher, 2008, p. 64)

Parents were also drawn into collaboration – the e-portfolio was stored and revisited on Compact Disc (CD). The pupils took the CDs home to their parents and played their portfolios on the home-computer. Colleagues in school were also involved in this process and could see the potential of the integration of ICT in the L2 setting. Findings were presented to colleagues during a staff meeting in the school. The primary teacher remarked on how "teachers commended my work and stopped me in the corridor later to quiz me on my work. I believe that some of my colleagues were interested but also daunted. However, they all seemed to agree that both the process of assessment for learning and the final product of the e-portfolio was impressive and worthwhile" (Primary teacher, 2008).

10 Transformation

Based on feedback from her MEME validation group, the post-primary teacher had learned that her hesitant body language meant that students thus mirrored this hesitancy in L2 language production. This constructive feedback resulted in transformation in her own behaviour and in her pupils':

Once I employed strategies in Cycle Two such as sensitive error correction, increased praise and informational feedback, I noticed a marked change in student behaviour, as students began to model my increased enthusiasm and commitment (post-primary teacher, 2012, p. 67)

The correct choice of technology, Skype, to motivate and engage her pupils provided an authentic environment for her pupils to communicate in the L2. As a result she managed to address and resolve her original concern that communication had been 'didactic' and 'flat.' By involving and collaborating with her pupils throughout the enquiry, she was able to transform her practice from being teacher-centered to student-centered.

Through her action research enquiry the primary teacher demonstrates the transformation in her pupils' confidence through the successful integration of ICT chosen and language production:

It was evident shortly after participating in this study that some of the pupils who were involved were much more willing to participate and share their language in class. They began to use the language they knew more confidently. Pupil's ability to construct sentences in correct syntax showed improvement in their grammatical skills (primary school teacher, 2008, p. 74).

Rather than resorting to teacher dominated or formulaic responses from her pupils, she adapted her practice by providing authentic opportunities for her pupils to create and produce language through ICT and by empowering her pupils to be creators of learner generated content in the L2 classroom. Furthermore, the primary teacher took on more of a facilitative role which resulted in more collaboration amongst her pupils:

There were times when I recognised I was a silent partner, a guide and then there were times when it was better that I was absent and left them to it! (primary teacher, Appendix G, 2008)

By changing and improving her practice, the primary school teacher not only developed her own learning, but also enabled her pupils to become independent and responsible learners. She reflected on how the children began to develop their own learning intentions for each lesson with the help of a rubric. At the validation meeting she acknowledged that “this was a new experience for both the pupils and me. My role, I realised, was to direct these intentions towards language learning goals” (primary school teacher, 2008).

For the teachers themselves, they transformed their own teaching practice, which came about as a result of their introduction to action research on the MEME. By undertaking action research studies they came to recognise the value of reflection and change in practice.

11 Conclusion

Analysing their own teaching led the primary teacher and post-primary teacher to initiate action to improve it. They not only acquired new skills in ICT through their participation in the MEME, which they then brought into their classroom practice, but successfully embedded ICT into their own teaching by integrating technology into the L2 classroom in a collaborative way that transformed the teaching and learning process.

Both teachers encouraged their classes to become creators of learner generated content to improve L2 skills, which has been recommended in the literature (Roessingh, 2014, Wong, 2013). As a result, students not

only developed new skills in relation to ICT but also developed more confidence and motivation in their L2.

The action research enquiries were strengthened by the values based approach, which both teachers highlighted at the beginning of their enquiry. This approach challenged them to question their practice, role, actions and decisions, which ultimately led to the integration of ICT in a collaborative, innovative and meaningful way.

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