The application of a flexible learning model to enhance engagement with technologies in language acquisition

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ABSTRACT

Learning technologies provide advantages for educational provision in terms of flexible access and enhanced presentation of materials. They also continue to proffer a formidable yet exciting potential to enhance established teaching and learning practices. In this paper an attempt is made to explore the impact of using learning technologies on the experiences of students who are learning modern languages generally and Spanish specifically in one tertiary institution. Didactic methods of teaching have been superseded by the adoption of student-centred learning, i.e. a collaborative and interactive learning style where the teacher is the planner, sequencer and facilitator who guides the students in achieving their learning objectives. Teacher-centred, or didactic methods may have their advantages particularly when delivering explanations, but can be over used and do not generally allow for active student involvement or an opportunity to use the ideas being taught. It is suggested in this study that in order to gain the maximum benefit from the use of specific learning technologies, there are certain curriculum and pedagogical issues to be addressed. A more focused understanding and approach is enabled by the use of the flexible learning model deployed in the study particularly with regard to how students learn, the role of the lecturer, the planning and development of course materials and the accessibility and reliability of both software and hardware. In addition, a review of the theories of second language acquisition also provides a sound basis for researching language learning and appropriate pedagogies. Language teaching continues to adapt, respond and challenge traditional teaching and learning styles and recommendations for successful integration of learning technologies are suggested.

Keywords: Flexible Learning, Language Teaching, Second Language Acquisition

Introduction

From glossy brochures and on-line advertisements for foreign or second language learning software, apps and programs, it is easy to feel that one is missing out in some way and that the learning experience can be truly enhanced only to discover that, in certain instances, the information is just a rehash of the hard copy materials. Indeed, much of our general information gathering and searches are done online, through the internet and digitally and viewed as the norm and no longer something different. The aim of this paper, therefore, is to establish how beneficial to the learning process the experience of using learning technologies, for example using Virtual Reality headsets and online assessments is, and to report on their suitability in current provision. It also aims to explain through reference to literature the theory of second language acquisition (L2) and the appropriation of a flexible learning model (Bostock, 2018) i.e. a blend of face to face and technological teaching and learning and relate these findings to inform future approaches and practices. Furthermore, it aims to analyse, through observation and questionnaire, the experiences of students when using learning technologies in order to make informed decisions about future language teaching enhancements.

Second language acquisition (L2)

The theories and processes involved in language acquisition are numerous, often complex and sometimes controversial (Saville-Troike and Barto, 2016, Lightbrown and Spada (2013), Cook, (2016). The majority of theories, however, concern themselves primarily with the stages involved in children's acquisition of their first language referred to here as L1. The acquisition of a second language or foreign language, referred to as L2, has also produced many theories at the heart of which lies the acknowledgement that the processes must involve human interaction (Towell and Hawkins ,1994), since it is a medium through which we express our thoughts, feelings, needs and aspirations. Attempting to learn a second language (L2), it is thought, is different to learning our first, native language (L1) and furthermore, as will be argued below, there remains a fundamental need for instruction or tuition in L2 acquisition.

In principle there are two main views on L2 teaching and learning often termed Traditional and Communicative and within these views lie two main approaches namely Behaviourist and Cognitive. Briefly the behaviourists believe that L2 acquisition consists of students imitating what they hear and developing habits in the language by routine practice. Students, therefore, relate or transfer what they know of their L1 to L2. This can be positive where there are similarities and negative where there are differences. The cognitivists, however believe that FL students creatively use their skills in cognition in order to 'construct' patterns and rules on their own, in turn benefiting from mistakes that are made and re-constructing the acquired knowledge as appropriate.

Krashen's theory

Continuing research on the theories of L2 especially those of Stephen Krashen (1982) raises interesting concepts and implications for the teaching of L2. Krashen's theory consists of five main hypotheses:

  i)   The Acquisition Learning hypothesis.

  ii)   The Monitor hypothesis.

  iii)   The Natural Order hypothesis.

  iv)   The Input hypothesis.

  v)   The Affective Filter hypothesis.

Hypothesis i) for example essentially concerns itself with 'natural communications' in which L2 speakers are meaningfully interacting in the target language without concentrating on the 'grammatical form'. Hypothesis v), however, concerns itself with the affective variables in L2. Krashen proposes that low motivation, anxiety and low self-esteem raise an affective filter and forms a mental block causing the prevention of language acquisition. Krashen (1982) therefore distinguishes between acquisition of the language and learning 'about' the language i.e. knowing the rules and talking about them. Hypothesis i) and v) appear to present valid support for a need or even a dependency of human interaction in language acquisition.

L2 contexts and acquisition

In view of this, there seems to be a distinction between 'acquired' L2 knowledge and 'learned' L2 knowledge. Krashen (1982, 1985, 1988) distinguishes the former as a subconscious development as a result of exposure to L2 and the latter as a conscious development through the use of textbooks or from teachers. So, he concludes that real L2 knowledge of the kind found in students' spontaneous, meaningful productions can be initiated only by the acquired system which develops as a result of the students being involved with the L2 in spontaneous, meaningful interactions. This is the essence of the communicative approach to L2 in which language teaching and course design are reflecting the type of students whose individual aspirations, interests and goals are different. Consequently, L2 students may be exposed to L2 in different ways, although none of these can be as rich as the L1 environment i.e. being in the country and/or being raised by bilingual parents. So, teachers must strive to produce 'real' or 'life like' simulations, in other words to create meaningful and contextually relevant learning situations. The deceptively simple lesson to be learned is that students will not be able to divorce the learning from the context of learning and it is therefore essential to provide the information in the context in which it may be needed.

Although Krashen's hypothesis allow an analysis of teaching methodologies they also accord a greater emphasis on the contextual i.e. individual, social and perhaps societal factors which affect students' learning. The Affective Filter hypothesis allows some account to be given of individual differences between L2 students who, although ostensibly receiving the same L2 input, can show wide differences in their development of both acquired and learned knowledge. (see Towell et al 1994). To put it more simply, it is a classroom situation where the input is effectively the same for all class members but where outcomes in individual students can be quite different.

Exposure to authentic data, be it simulated or real appears to be crucial in the successful acquisition and production of L2 data. Second language learning cannot be adequately described as a uniform process of procedural learning. Rather it must be acknowledged that there are different acquisition modes not only across different students with a similar background, but also in the course of an individual's learning history (Towell and Hawkins, 1994). When observing how children acquire linguistic skills and procedures it can be seen that phonological, morphological, syntactic and semantic rules as well as words and vocabulary are learned but no-one actually teaches them the rules: children just pick them up. Yet most second language instruction is based on conscious learning and there is a great deal of evidence showing that conscious learning does not produce true language competence (Schwieter and Benati, 2019). Among this evidence is the consistent finding that methods that promote subconscious language acquisition are far more effective than traditional methods or communicative tests.

L2 acquisition is also influenced by the environment in which learning is taking place, effectively demonstrating a need for a correlation between exposure to 'real life' simulations, a facilitative approach from the lecturer and an acknowledgement of individual differences, particularly with regard to feelings and inhibitions. Indeed Krashen's (1982) work allows us to determine whether a person is more inhibited or less inhibited in situations in L2 use. In other words, to appreciate a person's state of mind where emotions may affect their ability to turn the information they receive into acquired knowledge. Contexts too must be

perceived as real and, with that, the language used must be appropriate and contextually relevant. Learning, therefore, results when students interact with peers, when they collaborate and discuss ides, and when the role of the teacher is shifted from one of knowledge transmitter to that of facilitator who is present in order to provide opportunities for interaction and meaning making for all. (Goodyear and Dudley, 2015, Olusegun, 2015, Vrasidas and McIsaac, 2001). This interaction, it could be said, may constitute a 'blend' of technology, human intervention and simulation which is the essence of the flexible learning model (Bostock, 2018).

Overview of the study

The study sought to establish how beneficial to the language learning process the experience of using learning technologies for example using Virtual Reality headsets and online assessments is and to report on their suitability in current provision. The five groups or classes in the study were spread across the progression route of beginners to advanced incorporating a refresher stage whereby students were invited to reflect on previous learning and given the opportunity to 'taste' future work. They belonged to the 'adult morning study provision' so the students in the study were aged between 20 and 70 years and all bar 5 had worked with learning technologies before. Their views on the experience were considered pivotal in considering any future introduction or implementation of technology in the provision. The gender split was considered representative of the general classroom situation in language learning in the institution with 26 female and 20 male students of which only 11 were 40 years old or younger. Of the 46 students, 2 disclosed a specific learning need. As the primary investigator it was recognised that the responsibility of risk assessment lay with me, however, due to the nature of the proposed project the potential risks were minimal. Firstly, the risks to the researcher or the research subjects (students) did not fall outside of the usual curriculum requirements. Since this study was based around a curriculum initiative of enhancing learning and teaching, the students who participated in this study simply allowed me to observe focusing on the teaching practices and their engagement. As a result, there were no additional requirements beyond that of the usual commitments to learning. However, I did mitigate against the possibility of students who might wish to withdraw or who would see integration of technology as a barrier to their personal learning. Therefore, I arranged for additional classes to be provided for those students alongside my own. The benefits of taking part included the opportunity to see they respond to the integration of learning technologies, thus potentially providing useful information which can inform future practice. Beyond the individual benefits there were also potential benefits to teaching and learning in general, for example, the development of more inclusive curricula and engaging with a variety of teaching practices. To comply with General Data Protection Regulation (GDPR), any information collected about the students that could identify them were stored on a password-protected computer.

Methodology

A three part questionnaire was initially distributed to 56 enrolled students at the end of the programme of study of which 46 were completed. Approximately 50 hours of lecturer observation over 20 1.5 hourly sessions was deployed during which students' attitudes, needs and interest were noted and attention to lecturer versus student activity ratio was analysed. In gaining a deeper understanding of students' behaviours and perceptions, observation was chosen to increase the validity of the questionnaire data. Though this may be considered the least objective of methods, the intention was to view first-hand the data i.e. the interpersonal and inter-technological activity as it occurs in the usual setting. The technique of observation also allowed some flexibility to act as an outside observer. The results of the questionnaires and observations were codified in accordance with the Bostock's Flexible model (2018) i.e. sophistication and effectiveness of the resources, autonomy and self-direction of the students and observation of the change in context with a diminished sense of lecturer input. With close scrutiny of the model principally involving an emphasis on context and resource and subsequently on students' SL acquisition, the methods used involved an observation schedule which assisted in describing the observed behaviour and a three-part questionnaire which essentially looked at personal information including background and age (see overview), classroom learning and finally an elaboration on perceptions and attitudes to technology. Careful consideration was given to how best to undertake the research in view of time constraints, my own availability as observer and access to learning technologies. Twelve-week language courses in Spanish were selected, two aimed at beginners, one aimed at false beginners i.e. those who have had at least 30 weeks of experience in studying a modern language and two aimed at advanced students who had considerable experience in the language. Each class contained an average of 12 students which is typically the main lecturer-student ratio within the institution for this type of provision. Each class had the same lecturer who provided appropriate learning activities which were both formative and summative in nature. In terms of formative activity, merge cubes and VR headsets, essentially holographic devices that allow students to physically hold and interact with 3D representations were used. These had the capacity to enable students to experience real life scenarios e.g. walking along a street in Seville and asking for directions, identifying parts of the body using 3D representations and accessing virtual lexicons with sound to aid in renovation of specific words or phrases. The summative activity mainly involved the use of online tests which contained audio representations of words and phrases as well as a varied assessment type including multiple-choice, open questions and gap-fill exercises.

The flexible learning model (Bostock, 2018) was put to use in the design and implementation of interactive sessions for five groups of students studying modern languages. The model below represents how each of the four constituents are never mutually exclusive and indeed are connected on every level and to varying degrees. If the lecturer constituent is taken then as the physical presence of the lecturer diminishes, then all three other constituents are inversely affected. This can be explained in the following way:
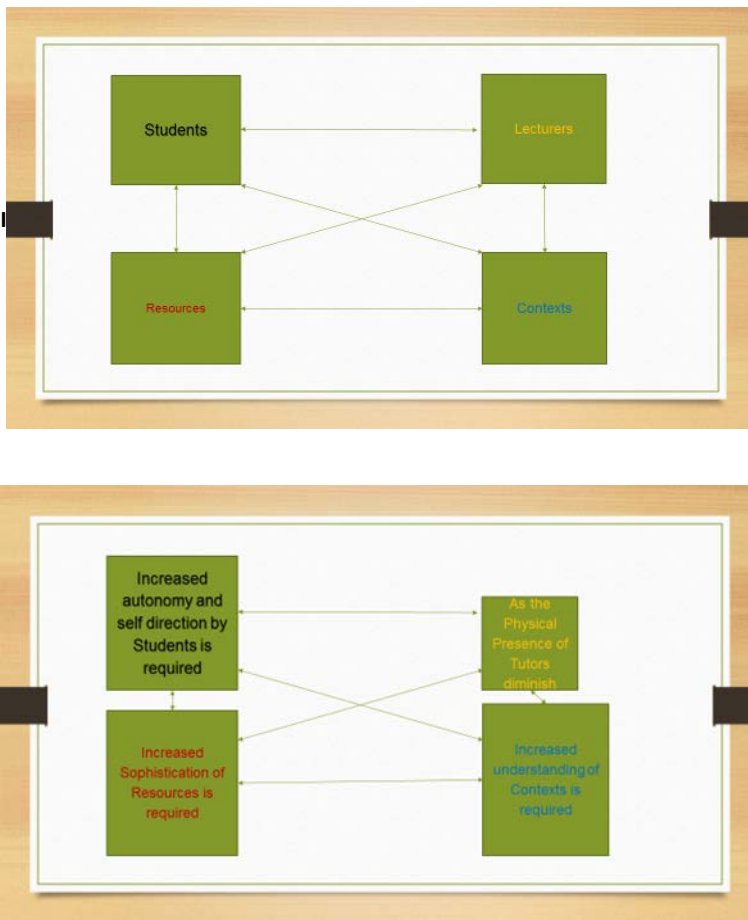
Figure: 'A Flexible Learning Model' (Bostock, 2018)

Bostock, (2018:04) suggests that:

As the physical presence of the lecturer diminishes, the more sophisticated resources must become to maintain quality of dialogue and interaction, the more flexible and autonomous must the students become in order to cope and manage this change and of course the context of learning will begin to vary as the student responds. Consequently, this model can be scrutinised and analysed to provide a framework which will provide insights into the design of flexible curricula and the type of changes needed particularly in more sophisticated, pedagogical uses of Learning Technologies.

Findings

Having experienced the interactive approaches mainly incorporating two technologies namely a PC and VR headset including their effect on classroom dynamics, the students enjoyed themselves stating that it was fun, imaginative, a nice change and a novelty! They felt that it could encourage teamwork and served to reinforce and support other previously learned material whilst adding an educational and competitive edge. It was also commented that the key skill of Learning with Technologies could be developed and had implications for further access to language learning outside the classroom. On a negative note, however, the students seemed adamant that such learning experiences should not replace classes and expressed a need for the personal touch, the chance to speak and communicate with real people, commenting that too much time on using the pc and headsets resulted in no significant learning! The groups were, however, impressed by the change in classroom routine and developed much interest in the idea of accessing more learning materials autonomously via the pc, commenting that the approach provided good levels of reinforcement, access to good additional resources and an excellent revision opportunity. Negative comments included an unfamiliarity with using the VR headsets and being assessed via an online assessment program (although all bar 5 had worked with PCs) and that this learning could be done at home and was sometimes tedious and confusing. Again, a preference for human speech and human interaction was exhorted. The groups did, however, relish the idea of 'something different' welcoming the opportunity to work co-dependently at a reasonable pace in activities which were useful, helping them focus and engage in self-checking with the advantage of immediate feedback, some lecturer presence and an opportunity to think about the subject matter. Negative

statements included the fact that the material was too difficult, that there were no opportunities to speak (VR activity was predominantly listening and PC work was mainly assessment) and that it was difficult to query the material. Frustration and unclear instructions tempted some to guess answers and a preference for lecturer explanations was expressed adding again that much of this learning could be done at home. Finally they were enthused by the opportunity to learn new vocabulary in this way and by the added dimension of sound to practise pronunciation commenting on the 'fun' aspects and welcoming the variety and help with future learning. Positive comments included a welcoming of helpful consolidation of learning coupled with an informative and helpful learning programme which provided opportunities to listen in a 'virtual' environment.

Yet, despite the availability of interaction, the questionnaire data particularly suggested that the students preferred the human touch and wanted the lecturer to be present to provide help and guidance. The creation of a perfect, interactive, self-study program as suggested by Glenn (2018) for example and explored earlier in Bostock and Wood (2014) is far too complex a mission to be regarded as feasible and it would appear that the participants in this study welcomed learning with technologies only as a complement to face to face teaching and learning. Also, what became increasingly apparent was the infinitesimal choice and range of materials available on line which like text book materials would still have to be manipulated and redesigned to suit the needs of the students' particular levels. Collis and Moonen (2001) when reflecting upon initial research into software design, asserted that lecturers were never quite satisfied with products made by others. The products did not fit the lecturer's preferred tone and style, or the curriculum, or the language was not quite appropriate for the students involved or the use of the software just did not fit in. Indeed, during this study, it was found that the lecturer had to spend far much more time in preparing the materials due to the sheer amount available and in packaging it to suit the needs of the student. Balancing the amount of on-line activity was also significant since when the class was technology dominated there was much frustration at the over reliance on one medium to complete the tasks whereas when there was only a short time made available, the students felt rushed or felt they had not had the time to learn anything. This supported historical observations made by Collis and Moonan (2001) who again proposed caution when using technology evincing that too little leads to overconfidence and insufficient mental effort and too much leads to frustration and lack of persistence in the learning task.

Respondents to the questionnaire were also asked to rate the type of activity using the Likert scale which makes them feel they are learning and also to indicate what they preferred to see the lecturer doing. Without exception the highest rating went to lecturer explanations and all respondents preferred seeing the lecturer talking and explaining. In other words, a didactic approach with regard to classroom management and a degree of passivity on the part of the students. This despite the amount of preparation and the relative sophistication of the digital media. The shift from traditional methodology to the integration of digital learning requires a considerable change of attitude and expectation for both students and lecturers, and commitment to this change is essential. The flexible learning model suggests different approaches to studying and a more active approach in their learning. This could mean that the act of learning is perceived as 'harder' when incorporating on-line activities and indeed most respondents indicated their preference to be passive recipients of information. However, the data also suggest that the technology is welcomed because medium to high ratings were given to the interactive programmes in terms of student's perception of learning but only as a support to the traditional class context. New study skills would be needed and more importantly a requirement on the part of the students to take more responsibility for their learning and a requirement on the part of the lecturer to help develop student awareness of the benefits and importance of the new learning styles.

Conventional processes involved in the transmission of knowledge and skills between the student and lecturer appear to mar the appreciation by students of any other methodologies and if these are not managed and controlled adequately then there can be wholesale resistance to change. This, at least, appears to represent the views of the participants in this study. It was apparent from observation and from questionnaire data that the face to face environment allowed the lecturer to appreciate the students' attitudes e.g. through non-verbal cues and react or adjust almost immediately to help the learning process. Consequently, the students tended to expect and gain confidence in the fact that the lecturer was physically present. When the lecturer was guiding and intervening in the learning process it was generally to assist in the use of technology rather than the subject matter and despite the attempt to stimulate, structure and encourage the students, the lecturer role was recast as a technical assistant which irritated or frustrated them. Learning is both an individualised and social activity and the lecturer is an integral part of this being him/herself a medium amongst other media. In the classroom the lecturers and the students were anxious to interact and speak and were either prevented or inhibited by the technology. Could this suggest a recognition of the importance of the preparation and use of the technology, or be reflective of the needs of the students to feel comfortable in the traditional role of the passive student? Considerable unplanned development of learning with technologies is leading to staff working in isolation, reinventing the wheel and potentially not using it to its best effect. This was apparent in this study, as there had been no previous work undertaken within the department and subsequently no induction or preparation for the students and both are vitally important.

This study of the participants' perceptions and attitudes has also revealed that some describe themselves as technophobic and are worried that their lack of digital literacy would detract from their abilities. Consequently, training is necessary for some and perhaps the involvement of more user-friendly programs is for others. Other problems noted are those of access and technical support and the study revealed a need, in this instance, for a lecturer to be present. Correspondingly this appears to call into question a fourfold issue – first that students should be familiar with technology and its uses, the lecturer should be physically present to guide and support, the lecturer should have made allowance for considerable pre-planning and sequencing and the interaction ratio should not be over-reliant on the technology. In flexible arrangements, as in this study, multimedia allows audio, visual and simulated experiences but it can also cause more overload, that is to say, cognitive load (see Sweller, 2005 and 2011). Clearly there must be a balance between lecturer intervention, software, curriculum content and the amount of knowledge

acquisition expected. Students in this study learn with guidance, and interact with the lecturer, with peers and with the technology.

Key dimensions of the flexible learning model and their application in practice

The greatest degree of flexibility is offered when students are able to make choices in all four dimensions of what, where, when and how they learn. This is a challenging model to put into place, and institutions which have succeeded often depend on students registering in a part-time capacity even if some work at the same degree of intensity as full-time students. Flexible learning is a movement away from a situation in which key decisions about learning dimensions are made in advance by the lecturer or institution, towards a situation where the student has a range of options from which to choose with respect to these key dimensions of the Flexible Learning Model:

a)   Preferred learning activities (students)

b)   Preferred Lecturer activities (lecturers)

c)   Attitudes and accessibility to interactive programmes (contexts)

d)   The learning environment (resources)

(Bostock, 2018:17)

Conclusions and recommendations

From the data it was clear that a great deal of time was needed in establishing the virtual platforms and ensuring that the programmes were indeed effective and fit for purpose. Some students are resistant to such teaching and learning methods which could potentially exclude them if the use of technology is not carefully thought through. In line with Krashen's Affective Filter Hypothesis (1982), obtaining their thoughts and views and in particular any barriers is crucial in influencing future planning and provision.

The data enabled the following recommendations:

i)   The use of learning technologies within the classroom should be presented with other perhaps more tangible media thereby providing many choices of learning method to the student. A student who chooses not to exploit the technology could access the same materials in another format and therefore not be excluded (Flexible Model a).

ii)   On-line materials should be inspected thoroughly for their suitability and adapted by lecturers to suit both their needs and those of the students. This could be carried out on staff development days and supported by digital experts within the institution through demonstrations and presentations (Flexible Model b).

iii) Language classrooms should have suitable hardware/mobile devices available to support the successful integration of learning technologies although this could be costly and inadvertently exclude students if not thought through sufficiently (Flexible Model d).

iv)   Students' negative perceptions of learning technologies should be addressed through an initial process of induction to provide opportunities to experience the positive aspects of language learning. This could be accessed via the learning resources centre or through online freeware which provides tailor made courses to promote such learning (Flexible Model c).

v)   Lecturers would benefit from similar training but also from sharing good practice with other departments or institutions whose expertise could be exploited through visits, hands-on training or even DVD-presentations showing the dynamics of language teaching (Flexible Model b).

vi)   The creation of a learning technologies-base for both lecturers and students which could be accessed at work and at home and managed centrally could potentially alleviate the frustration of ploughing through reams of material on the internet. A well-presented and carefully focussed intranet site for example would save on the time and energy needed to facilitate student learning (Flexible Model c and d).

Language teaching continues to adapt, respond and challenge traditional teaching and learning styles. The need for the human touch cannot be dismissed and acceptability and success of courses is reflected in the high number of students who enrol on programmes. It is responsiveness to the needs of students and a need to critically re-evaluate learning strategies coupled with an informed and reasoned re-appraisal of the support systems available which can ensure ongoing credibility. The single most determinant of the successful use of new technologies in education will be the creativity of individual teachers and the strength of their desire to improve their courses.

Biography

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