Technology in language learning – pedagogical and technological considerations

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1 Introduction

Technology-supported learning solutions have become increasingly common in education. There are different reasons for this, but in most cases today the technology integration is aimed for enhancing and improving teaching and learning. As there are many benefits to be gained by well-planned technology integration, many educational establishments are making the effort and committing themselves to modernising their learning environments.

The benefits of these technology-based environments can be divided into three categories: organizational, pedagogical and individual. The organizational benefits refer to the improved possibilities of planning the curriculum in a more multimodal ways, expanding the scope of lessons and the working modes, and simplifying certain day-to-day procedures at school. Pedagogical benefits centre on the idea that the concrete learning activities can be modified to suit a diversity of learners but also to offer them learning settings in which they learn not only subject-specific skills, but also skills that are needed in later studies and in life. From individual teacher's perspective the new teaching infrastructure can be a positive challenge and an opportunity for personal development. From the individual student's perspective the open learning environments offer room for choice according to his/her learning preference / needs and for individualized working pace and mode.

On the whole, a modernised educational setting combine the organisational goals and strategies with the pedagogical improvements into a package that offers added value to the learners of all ages in different stages of their learning careers.

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About the Author

Peppi Taalas works as a researcher at the Centre for Applied Language Studies at the University of Jyväskylä, Finland. She has extensive experience in technology-based language learning environments, organisational development projects and staff development. Her research is currently focused on language teachers' technology use and teaching practices in multimodal learning settings. She is also involved in a large research project dealing with future language learning and teaching practices in informal and formal contexts in secondary schools.

2 Flexible learning

Learners of today are an increasingly heterogeneous group: even in regular classrooms they may have very different cultural and linguistic backgrounds, they may also have different sorts of learning disabilities, or they simply are learners that have different levels of commitment and motivation for learning. There are also adult learners who need to complement their earlier studies and often balance between studying and work life. All these different learners can profit greatly from individualised learner paths where they can get support for learning and have opportunities for showing their strengths and advancement. Providing the different learners with individualised learner paths with varying learning goals and tasks is very difficult, if not impossible, in a traditional classroom with traditional teaching methods only.

Flexibility of the learning setting can also be considered a quality issue in terms of learning opportunities and outcomes. The more support the individual learners are offered the better their chances of learning are. Flexibility in the literal sense of the word also opens up the learning environment location and time-wise. The learning opportunities reach outside the formal teaching hours, allowing learners to work on the materials and ideas also on their own.

All in all, flexibility and individualised learning are in the core of today's learning environments. These do not mean isolation or categorisation, but organisational and pedagogical structures that offer learning opportunities for different types of learners in different types of learning settings.

3 Pedagogic considerations – designing for learning

All changes to the learning setting should have the highest priority in improving the prevailing pedagogical practices and through that resulting in better learning. There are certain elements that through research have been proven to be central for successful learning environments. These elements are discussed in the following passages.

Learner-centric approaches are considered necessary in effective learning. These approaches encourage learner participation, interaction and creation through communities of practice: peer-to-peer learning and joint knowledge construction. The learners are supported in being active in the learning process and their own world experiences are relevant in the learning content. **Young learners at primary level** are creative learners who benefit from pedagogically versatile approaches to teaching as long as the learning tasks are designed to suit their skill and knowledge level. As the early learning of foreign languages and communication skills have been proven to enrich children's linguistic and cultural awareness, it is recommended that foreign language teaching is started already in primary schools. The pedagogy and approach to language at that stage is realised mainly through games and playing for which a versatile technology-enhanced environment suits effortlessly. Technology for many of them has become a daily commodity and the use of various technologies is a natural component of their activities and social existence.

Meaningful learning tasks are open-ended tasks that do not have predetermined answers or fixed ways of working around them. These tasks allow the learners to be in charge of the process while guiding and in a way controlling their progress. In that way the learning content and the learning activities become more authentic while also giving value to the learners' own voice. At some stages and levels, of course, it may make more sense to resort to more teacher-centric approaches while not forgetting the maintaining the focus on learning processes, not only on outcomes.

Learning for life and learning to learn are important aspects of any educational process. In a pedagogically well-designed, multimodal learning setting the learner will also learn skills that help him/her to become more autonomous and self-directed. The more open-ended and versatile the learning activities are, the more the learners need to take control of their own learning. In this way they develop their metacognitive skills that in turn help them adjust to new learning settings and different learning expectations.

4 Integration of technology

Ways of integration differ from one context to the other, but the overall goals need to be clearly defined and acknowledged on the organisation level. In the actual learning setting, the use of learning technologies helps designing the learning procedures more in a non-linear and more flexible way both from the teaching and learning perspectives. The integration should therefore be based on the needs of teaching practices combined with the potential of the various technologies. In language teaching, many different tools can be integrated into a functional system where the various communication and language skills are exercised and learned. Along and long before the networked-based learning solutions, language laboratories have been mainstream technological choices for language teaching.

It is a fact, that to be effective, language teaching and learning require certain technical aids and modern teaching materials. Quality of teaching is naturally not dependent solely on these aids, but certain activities are awkward, impractical or in some cases impossible to perform in a regular, off-line classroom context. This is especially true with listening and speaking (when the focus is on pronunciation, prosody, accuracy) activities. The methods and modes of teaching of productive skills

can be made considerably easier and more meaningful within a language laboratory setting.

5 A modern language laboratory as part of learning environment

The language laboratories of today are a far cry from the laboratories of the past. The digitised base on which they are built can be adapted to many different types of learning activities. The modern labs allow for different pedagogical approaches, for teacher-led, group or individual work. The students can be engaged in different activities depending on their learning needs and the activities can be designed to simulate talking in real-life situations.

There are many features in the modern language laboratories that give them advantage over classroom-based settings. The main advantages of digital language laboratories include the following:

- **Adaptability:** Text, images, audio and video can easily be integrated, and the teacher can use the various learning materials to fit the needs of different language learners and learning situations.
- **Combination of different applications** in the learning setting is possible as there will be a minimum of one computer available in the lab offering access to various on-line and off-line programs and tools, a word-processor, presentation graphics, and dedicated learning software.
- **Interactivity:** Learners can record their own voice and play back the recordings; they can work in groups and interact with each other and the teacher.
- **Availability of teacher feedback** in the form of oral comments on an on-demand basis. The teacher can give in-time support for learners and thus optimise the effect of teacher intervention and feedback.
- **Potential for individualised working modes and learning goals** through personalised programs in which the learning tasks vary according to the learner's needs.
- **Potential for peer learning** where students give each other feedback, teach each other and learn from each other.
- **Controlled environment for assessment** as the labs can also be used as reliable systems for examinations and tracking student progress in a systematic way.
- **Potential for self-study** through access to resources outside the official classroom time on a self-access basis.

Language laboratories can be used with learners of all ages. On primary and secondary school levels the individualised teacher feedback is of immense value for language development as any persisting problems in pronunciation and structures can be amended systematically. The more advanced learners will in turn benefit from the feedback to refine their communication skills.

6 Sustainability of integration

Every organisation that is planning to make technology investments needs to consider the sustainability issues. In educational establishments the core concerns are the teaching practices and the way in which the technology is rooted in the existing infrastructure and culture.

Teacher training

The pedagogical aspects and the quality of teaching are central to ensuring the effectiveness and sustainability of any proposed changes to the teaching arrangements. This is especially true when introducing new technological facilities in schools. The equipment alone will not act as change agents or vehicles for quality enhancement but rather as teaching infrastructure that makes development possible. It is a matter of cultural change and the teachers will need support for developing their teaching practices accordingly. Thus, the purchase of the equipment should always be combined with solid training and support mechanisms even when it means extra costs. It is in fact considerably more expensive to invest in technology that is constantly under-utilised (by teachers who do not know any better) than to budget for staff development. The training to use a specific technology should be synchronised with more pedagogically oriented training programs to ensure that the technology will bring about enhancement to learning and not just a new way of doing old things. The training should also take account of new social and cognitive/constructivist learning theories and their impact of teaching practices.

Materials production

As teaching especially in primary and secondary education is heavily dependent on learning materials, they too need to be adapted and modified to suit the expanded learning environment. The emerging teaching practices can not be confined into the scope of the existing materials, but need to be supported by a more varied repertoire of learning materials. In the case of language laboratories, the learning activities can be varied by the use of different types of audio and visual recordings, but also by new lesson plans that incorporate the use of a language laboratory in a pedagogically modern way. Teachers will need to know how to create new and modify old materials to make the best and most effective use of the equipment.

7 Summary

This paper has provided an overview of the key considerations of technology-enhanced language learning with a special focus on language laboratories. The main points that have been raised all advocate a

sensible technology integration starting from the primary school level. This integration is built on a foundation where the organisational, pedagogical, and learner-centred aspects have been taken into serious consideration.