Between the technological development and research: The gap of foreign language teaching

Accepted 17th July, 2017

ABSTRACT

International markets, increasing mobility, and the overall impact of globalization cause a steadily increasing demand for foreign language skills. In addition, traditional courses are progressively being replaced or supplemented by e- and m-learning, even foreign languages are increasingly mediated with innovative methods. Today many new opportunities have emerged to further expand the flexibility in language learning and to offer learners more freedom for self-control in the learning process. Due to the fast evolving technology the occurring didactic transformation is mainly theoretical reflected in foreign language teaching. Transferring technology of our century into the class environment for foreign language teaching and the adaptation of various concepts are often seen as a necessity. This requirement for the adaptation of the various educational and training institutions directly or indirectly led to an increased pressure. The knowledge of how to deal with technological development in the professional life gets more and more important. In one hand the tension for a foreign language and on the other hand, the trend of technological development. Further competencies have to be developed in order to reach the ability to teach the new generation students a foreign language. In the context of this paper, the development of technology in language teaching is first generally analyzed and the status quo summarized. A search and review of existing systems and applications complements by a review the existing offer of technologies. The adaptation of new technologies in teaching German as a foreign language in the findings of the study is perceived as a process rather than an event. This study aims to provide a comprehensive compilation of the technological concepts, approaches and projections regarding future activities and pointing to possible errors in terms of pedagogical and educational outcomes.

Keywords: German as a foreign language, technology-based teaching foreign language, use of technology, technological perspective.

INTRODUCTION

Technology characterizes also the life of today's children and students and their cultural circle to a high degree. Not only books, newspapers and magazines, radio and TV also smartphones, computer and the internet are available to them at any time without problems. The technological development plays for example in economy, culture and politics or in science but also in teaching a great role. The modern information and communication technologies exist everywhere.

The new learning technologies for most teachers and students welcome change in their everyday teaching and learning. This may have different reasons; was it not a
tremendous moment when a video player and television were brought into the classroom? Fascinating for students but also fewer lessons prepared for the teachers and from the didactic site maybe less learning pressure effect. This excitement has turned to a "technological medium hysteria" which evolved today to a kind of "Technology-hype" based on the acceptance that the access to new technologies will solve all the Education problems. There is a kind of technology obsession especially in the foreign language teaching area reasoned in hope that technology could expedite the arduous process of language teaching and dissolve effortlessly the language learning in general.

From this viewpoint, a lot of expectation from educational technology is involved. The practice of technologies in foreign language teaching is thus far also largely promising. However, the existing technologies are solutions that are more of Ad hoc; a kind of commercial interests coined in the language teaching industry. There is relatively little information on specific aspects and effects of specific technologies usage generally to the acquisition of knowledge and learning of a foreign language in particular. These rather critical observations should not mean a general rejection of technologies in foreign language teaching (Kim and Kwon, 2012).

The experience in language teaching area at the time is a phase of technology enthusiasm with time pressure. Adopting new technologies into language teaching became a race against time. New technologies are being developed faster than ever (Patrick and Smith, 2015). This not only affects the skills of teaching, the ability to create a learning environment that is responsive to needs, interests and learning preferences which defines the new role of the teacher (Chanlin, 2007). It may also change the possibility of the realization of the necessary research for specific technologies for language education. Aside the adaptation of the technology, the needed time for the process of a research, to test didactic-linguistic concepts and collect qualitative results is a time-consuming activity, an activity, which cannot compete with the enormous technological development speed (Claudia and Lawrence, 2011; Michael and Geoff, 2015).

Research findings are outdated before researchers can share them; as such the research is behind the technological development. From this point, educators are facing a hard process for determining which technological tools or new methods are appropriate for implementing them in their teaching day (Greenhow and Hughes, 2009; James and Elizabeth, 2011).

TECHNOLOGY IN THE CLASSROOMS

The question of how to influence learning processes through the use of new technology has been concerned with pedagogic-didactical research since the growing development and spread of these technologies from the very beginning.

From a historical perspective, the use of different technologies for and in foreign language teaching and learning has a kind of tradition, starting with clay tablets as a writing medium throughout the Bronze Age to the mobile phones of the modern classrooms. The use of technologies and their out coming tools have influenced practice in educational systems. On the other hand, it is hard to explain the clear present position of technology in and for foreign language teaching or even harder to predict what the next integration of the near future is. The investment into unpredictable technologies (Jonassen et al., 2011; Mne 2012; Chih, 2014); which will not last for years, like the clay tablets and from this angle to mythologized technologies. Despite this fact, it is also observable in the context of technological developments that the educational environment and educational systems will continue to change by increased technological components.

In this perspective, the fundamental questions are what characteristics of new technology are relevant to learning, how learning processes are done with new technologies, and how they can be optimized. In order to explain the learning with technology, the research is often based on didactical principles. The technological concepts and the didactical models of immense technology development in the field of foreign language teaching are first presented.

From this point, educators are facing a process for determining which technological tools or new methods for implementing are appropriate for given classrooms and their challenges. However, technological improvements have also a critical influence in foreign language teaching (Louise, 2012; Magner et al., 2014). The following timetable, which has no claim on completeness and correctness, is experimenting to demonstrate the dramatically altering relationships of technology with foreign language education (Figure 1). It is due to nature, quite difficult to determine and present a complete timetable. Some of the technologies were integrated extensively and some are rarer for the foreign language teaching. Viewed from theoretic angle ingrained technologies, like the personal computer or the access to the internet, are evolved practically ever-present for foreign language learning in many contemporary educational systems.

Likewise, comparatively fresh technologies, such as smartphones or similar mobile devices with internet access are more and more accessible. This new technology becomes readily available and is adapted for foreign Language learners. Students may adjust their teaching strategies or change their learning activities to most adequately utilized available resources for themselves. This kind of unified technological modernization can increase learner interest and motivation. And, at their best, it can establish new competitive advantages for learners and instructors. The worst scenario is that new technologies will have results like inappropriate input or shallow
interaction between teacher and students which will lead inter alia to inaccurate feedback; some kind of frustration with hardware or/and software; confusion from the learning objectives and a general over-positiveness on learning and teaching goals.

TECHNOLOGY IN THE FOREIGN LANGUAGE CONTEXT OF TODAY

In order to return to the role of learning platforms or learning programs in the foreign language novelty, one
should first point out the interactionality between teachers and learners in a classical glottodidactic structure (Szerszén, 2014). It is based on the fact that the teacher, on the one hand, interacts intentionally with certain stimuli on the learner in such a way that the latter generates a certain knowledge or competence in the brain. The extent of the knowledge generated or the competence generated or, in other words, the effect of a given stimulus can not be assessed on the basis of direct observation.

Technology in foreign language teaching means generally concrete technological learning and teaching products, which belong to two categories: tools and learning programs or learning platforms.

The term "learning platform", which has actually been used for about a decade, will include, among other things, as a system installed on a server and available on the Internet, which connects a certain computer program or possibly certain computer programs with a database or databases which have been set up for the purpose of realizing didactic learning objectives. In addition, the learning platforms provide organizational, communication and cooperation opportunities to enable learning (Würffel, 2010).

In the technical literature one uses, among other things, the Learning Management System (LMS), the content management system (CMS), the Learning Content Management System (LCMS) and the Learning Content Management System (LCMS), VCS (Virtual Classroom System), as well as, some other terms that refer to the processes within and / or with the learning platforms and are often oriented towards a branding effect, such as interactive learning, virtual classroom, or nowadays "learning in cloud".

The most important tasks of most learning platforms are in the organization of learning processes and presentation of learning contents mostly through web pages, web applications or through its own application (Ulrich, 2012). The highly-represented tasks and/or exercises include, among others, gaps and deformation exercises, drag and drop mapping exercises, multiple choice exercises and audio-visual exercises like for example interactive video exercises, or finding mistakes on images in the form of hotspot exercises, etc. The question is not only what a learner should ultimately learn when new technology is used in the foreign language course, but also how the learner’s performance growth while the new technology is used.

For the most part, these are the usual, easily programmable ready forms or platforms. Those platforms are mostly not being questioned in their relevance to foreign languages. In addition, the learning platforms can make a great contribution to collaborative learning as well as, to autonomy-promoting approaches and thus contribute to the social component of learning. Within the second category of e-learning products, the learning platforms, such as Moodle and others, which are also used in many, non-foreign-speaking learning environments, are to be mentioned as learning programs used in a foreign language context.

**STATUS QUO**

Successful knowledge conveying means a guided transfer of understanding and action of information of a specific discipline in a fair form for the recipients in the sense of positive knowledge transfer between teachers to learners.

Technologies open up a wide variety of possibilities of information presentation and teaching. Consider the question of how learning with these diverse forms of the information presentation "function" is the first and basic characteristics of the individual representation or representation research.

For this purpose, the term “technology”, which refers rather to technical features, is not sufficient for the researchers. The didactical context becomes the combination of different forms of communication; display techniques in the form of computers, CD and AV technology, at the written or spoken texts, static or animated images and graphics and movies as well as, music in variable combinations.

This paper summarizes empirical studies between the years 1993 and 2009 which are focused to the research of the following technologies; Digital Dictionary, Digital Tutors, Chat Systems and Mobile Technologies (Table 1). Studies which represent the particular technology use was effective were selected. The technologies selected for review can not cover the whole area of available technological advancement to foreign language teaching. Studies are chosen to limit this summary that focused on a single application rather than multiple technologies combined at once. Over 253 potentially relevant publications were identified, the studies are selected by using the described constraints and low cited studies were specifically excluded to point out the fully recognized findings.

In a professional manner, the shape and structure to explicate the contents of the mediation represented is a didactically respectively mathetic oriented approach while we use today's technology (Auinger, 2005; Eichelberger et al, 2008).

Technology in language learning has been used for ages and it is a research subject since the existence of the particular technology itself. The state of the literature of today's used technologies such as a computer or the internet reflects the lack of a unified research schedule (Chappelle, 1997; Felix, 2005) and sturdy, validated findings (Felix, 2005; Stockwell, 2007).

Common problems are in the research design caused by studies based on experimental technologies used by untrained users. This also indicates the reason for the weak selection of variables to be investigated and the deficiency of relevant data regarding participants and an overall systematic absence in analyzing key factors that may
Table 1: Selected empirical studies between the years 1993 and 2009.

<table>
<thead>
<tr>
<th>Year</th>
<th>Used Technology</th>
<th>Participants</th>
<th>Researcher/s</th>
</tr>
</thead>
<tbody>
<tr>
<td>1993</td>
<td>Dictionary</td>
<td>80</td>
<td>(Aust et al., 1993)</td>
</tr>
<tr>
<td>1993</td>
<td>Dictionary</td>
<td>71</td>
<td>(Leffa, 1993)</td>
</tr>
<tr>
<td>1993</td>
<td>Tutor</td>
<td>34</td>
<td>(Nagata, 1993)</td>
</tr>
<tr>
<td>1995</td>
<td>Chat</td>
<td>40</td>
<td>(Kern, 1995)</td>
</tr>
<tr>
<td>1996</td>
<td>Chat</td>
<td>38</td>
<td>(Sullivan and Pratt, 1996)</td>
</tr>
<tr>
<td>1996</td>
<td>Chat</td>
<td>16</td>
<td>(Warschauer, 1996)</td>
</tr>
<tr>
<td>1997</td>
<td>Tutor</td>
<td>30</td>
<td>(Nagata, 1997)</td>
</tr>
<tr>
<td>1999</td>
<td>Tutor</td>
<td>22</td>
<td>(Holland et al., 1999)</td>
</tr>
<tr>
<td>2000</td>
<td>Dictionary</td>
<td>14</td>
<td>(Liou, 2000)</td>
</tr>
<tr>
<td>2000</td>
<td>Chat</td>
<td>11</td>
<td>(Kitade, 2000)</td>
</tr>
<tr>
<td>2005</td>
<td>Chat</td>
<td>24</td>
<td>(Payne and Ross, 2005)</td>
</tr>
<tr>
<td>2005</td>
<td>Mobile</td>
<td>81</td>
<td>(Thornton and Houser, 2005)</td>
</tr>
<tr>
<td>2006</td>
<td>Dictionary</td>
<td>75</td>
<td>(Laufer and Levitzky Aviad, 2006)</td>
</tr>
<tr>
<td>2006</td>
<td>Chat</td>
<td>12</td>
<td>(Zhao, 2003)</td>
</tr>
<tr>
<td>2006</td>
<td>Chat</td>
<td>16</td>
<td>(Shekary and Tahririan, 2006)</td>
</tr>
<tr>
<td>2007</td>
<td>Dictionary</td>
<td>64</td>
<td>(Koyama and Takeuchi, 2006)</td>
</tr>
<tr>
<td>2007</td>
<td>Tutor</td>
<td>266</td>
<td>(Dodigovic, 2007)</td>
</tr>
<tr>
<td>2007</td>
<td>Mobile</td>
<td>52</td>
<td>(Lan et al., 2007)</td>
</tr>
<tr>
<td>2008</td>
<td>Chat</td>
<td>16</td>
<td>(Chen, 2008)</td>
</tr>
<tr>
<td>2008</td>
<td>Chat</td>
<td>30</td>
<td>(Lee, 2008)</td>
</tr>
<tr>
<td>2008</td>
<td>Chat</td>
<td>90</td>
<td>(Satar and Ozdener, 2008)</td>
</tr>
<tr>
<td>2008</td>
<td>Chat</td>
<td>36</td>
<td>(Kitade, 2008)</td>
</tr>
<tr>
<td>2008</td>
<td>Mobile</td>
<td>15</td>
<td>(Chen and Hsu, 2008)</td>
</tr>
<tr>
<td>2008</td>
<td>Mobile</td>
<td>30</td>
<td>(Lu, 2008)</td>
</tr>
<tr>
<td>2008</td>
<td>Mobile</td>
<td>120</td>
<td>(Sathe and Waltje, 2008)</td>
</tr>
<tr>
<td>2009</td>
<td>Chat</td>
<td>34</td>
<td>(Blake, 2009)</td>
</tr>
</tbody>
</table>

enhance the effectiveness of foreign language learning and teaching (Zhao, 2003; Felix, 2005; Hubbard, 2005; Stockwell, 2007). These circumstances created a challenge for foreign language researchers pursue to evaluate the efficacy of technology use in foreign language learning and teaching.

It is not enough to equip schools technically, as is software and didactic concepts, which do not leave the use of technology in the lessons for the purpose but added a real value in technology use.

What distinguishes technology oriented foreign language teaching and why is it given a potential for new didactic concepts? Technology-based teaching materials are mostly multimedial, unlike most traditional teaching materials. The integration of different media, for example, text, video, graphics and audio into a digital media system enable multimediality. The consideration of technology-based teaching materials from a didactic perspective requires a further differentiation of learning-psychologically relevant categories: the "modality" and "coding" of information.

Technology-based teaching materials are multimedial in the presentation option: this is meant by codes and symbol systems for the representation of information. In our culture, these are for example, the verbal and pictorial symbolic system or the numerical system. Monocodal would thus be only text; multicodal would be a text with images.

It is essential that the advantage of so-called "multimedia applications" from a psychophysical or didactic point of view is less in the multimodality, but in a certain preparation of the contents, in which several codings are combined. It is, therefore, by no means the advantage of the technology to "inflow" information into as many senses as possible of the learner, since the mere addition of different sensory modalities does not give any preference for learning. It is, in fact, one of the widespread myths of technology euphoria that cannot be scientifically proven.

It is also disputable to assume that the adaptation of technological learning offerings to so-called "learning types" would be supported, according to the surprisingly
widespread assumption in practice, would differ habitual and situation-independent in that they would prefer a certain sense-channel like visual and auditory etc in the learning. In many areas, this hypothesis is assured, which seems almost strange when one encounters it with learning and cognition-psychological research, which provides little evidence of the existence of such persistent learning types. It therefore, seems unwise to conceive technological applications in such a way that they address different "learning types". Rather, research shows that an advantage of technology-oriented foreign language materials can result when differently encoded information is combined in a certain way. Thus, the combination of texts and images can lead to better retention performance. It is true that a picture says more than a thousand words, but also this advantage of pictures in teaching texts only results under certain conditions.

Another characteristic of technology-oriented foreign language materials is their extended possibilities of interactivity. A distinction must be made between the purely technical features of the interactivity, for example, the random access to information on a digital data carrier and the possibilities for the interactive use of a medium.

The concept of interactivity in the technology didactics means much more than clicking buttons and selecting content in menus. Nevertheless, the hope has proved to be unrealistic that computers in the human-machine interaction develop a dialogue capability as we expect it from the teaching process and the communication between teachers and learners. The hope of technology-oriented foreign language materials as an "intelligent tutorial system" seems less likely today than it was a few years ago. However, the flexibility of learning paths and the adaptation of the learning offer to the individual learners are important features.

SUMMARY

Over the past few years, various technologies are more integrated than ever into most areas of education (William, 2013). There are so many pieces of technology and studies about these technologies, which should be included in the selection. This is a very comprehensive topic and a broader selection or even an in-depth analysis of the selected studies that would easily exceed the scope of this paper: There is no doubt that the technology has a certain influence on the daily life of a foreign language teacher and researchers. One of the significant reason is the ambition to the offered colossal prospects for increasing the effectiveness and efficiency of foreign language teaching and learning.

In spite of the great amount of studies and publications available about the topic of technology use in foreign language learning and teaching, the indication that the specific technology has a measurable impingent for foreign language learning or teaching is actually limited. One of the strongest evidence is a number of studies investigating the use of chat systems in foreign language learning. These studies proved that the used chat technologies, the amount of learners’ language production and its complexity significantly increased. However, is this based on the technology that is used or the basic mechanism of the chats', which are not changed much, so that the participants overcome the non-experience barrier with their knowledge? The literature revealed neutral support for the appeal that technology use changed the process of learning; for instance, it caused in several studies more frequent dictionary look-ups or faster completion of word usage tasks. Anyhow, further surveying resolute that increased frequencies of the dictionary look-ups and use did not reach a significant distinctness in learning outcomes. The literature also exposed limited acceptance for a number of other stances by using technology in the classroom than more traditional methods; providing productive feedback to learners and boosts notice and focus on form. Most of the selected studies proved that foreign language learners like using technology and they choose technology over known traditional approach and materials. Learners tend to be more committed to the foreign language learning process while they have a positive opinion towards learning through technology. This statement is supported by qualitative self-reported and observational data, which might have an effect and motivation spread across several used technologies.

CONCLUSION

Supposing the use of technology to improve foreign language learning and teaching has to expand expeditiously during the last years, research has mainly focused on the viability for supporting foreign language learning while the technology itself changed and thrive faster than ever. Comparatively, quite a few studies seem to focus on in or the other way to describing the affordances offered by particular technologies or grading their effects on increased motivation or increased enjoyment of learning activities. Obviously representing students' use of technology and the enjoyment when using technologies are valuable and useful objectives, this section remains unclear. No statements as to what extent the activities supported or created by the technology or what motivation potential increased learners gusto indeed.

One reason might be the options for self-selecting learning activities which led to more engagement with language and to more time on tasks which thus increased proficiency and motivation. However, for most used technologies the actual increases in learning or proficiency are yet to be demonstrated. The domain of technology in a foreign language has not been systematically investigated and some potential uses of technology for learning or teaching foreign language in a location specific context have
not been explored at all. Clearly, the empirically relayed evidence is required to quantify, characterize and document the impact of the specific technology in foreign language teaching.

The challenges for studies are very real, the pre-existing administrative requirements or scheduling and the need to scope changes in learning over extremely small increments of time. Not only is the technology in development but also the teaching environments are changing rapidly according to the influenced technological practice in educational systems. Before the researchers prepared their studies set-up, the selected technology is already outdated. This may be the reason for repeated research.

It is hard to define the current position of each specific technology in the education systems or harder to predict what the next integration will be. From this perspective institutions of education yet continue to make educational reforms and invest into unpredictable technologies.

The technological tools and applications lack will not make good teaching bad or vice versa. Even if the technology is evidently used successfully to achieve goals in foreign language teaching; the triumph of success will be pedagogical and not technological.

REFERENCE


Submit your manuscript at http://www.academiapublishing.org/ajer

Cite this article as: