

English Language Teaching for the Visually Impaired Learners: Training Non-native English Teachers

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Abstract

Despite the growing body of research studies and projects related to English language teaching (ELT) for the average learner, there is still a great shortage of research addressing the foreign language learning needs of the visually impaired people. Therefore, this paper has the main objective to introduce an innovative method of teaching English to visually impaired learners by means of the talking tactile technology (T3). Therefore, the paper presents key stages of an international project aiming to train non-native English teachers in Turkey to become aware of the concept of using T3 as a vehicle for teaching English. The project not only enabled trainees to incorporate this new technology into their classes but also reduced the shortfall by providing continuous professional development to non-native teachers of English for the benefit of visually impaired learners. The application of T3 in other ELT contexts is expected to contribute to the neglected field of foreign language teaching for learners with visual impairment.

Keywords: *Talking tactile technology, English language teaching*

1. Introduction

As in many other countries where the English language is spreading fast (Jenkins, 2005; Crystal, 1997; Canagarajah, 1999; Graddol, 1997; Cook, 1999), English is becoming more and more popular in Turkey owing to technological developments, the increase in tourism income, the economic integration of Turkey into the global economy, the flow of foreign movies into Turkey and the spread of private channels and cable TV (Acar, 2004). As English becomes more widespread in the world and as the world has become a global village in which English is the international lingua franca (Modiano, 1999), many research studies have been carried out to seek ways to teach English more effectively. However, researchers such as Guinan (1997) and Araluce (2005) argue that the foreign language needs of the visually impaired learners have been ignored. In addition, their foreign language acquisition is often developed without adequate context, sufficient examples or reinforcement through all the sensory media. Moreover, as pointed out by Donley (2002), students with visual impairment are likely to find themselves marginalized and isolated from the foreign language classroom atmosphere.

The number of visually impaired people in the world is known to be 285 million (World Health Organization, 2012), and according to the statistics presented by the Turkish Statistical Institute (TUIK, 2010) in 2010, 280.014 disabled people, 8.4% of whom were visually impaired live in the country. Despite the ignorance of the high number of people with visual impairment in the field of ELT, it is argued in the literature that blindness does not actually hinder foreign language learning; instead, their aural sensitivity and memory put them in a more advantageous position on condition that the required methodological and pedagogical conditions can be created (Araluce, 2005).

To meet the foreign language learning needs of the visually impaired learners, many researchers suggest that all the students regardless of their disabilities can be equally valued and treated (Armstrong, 2011; Philips de Herrera, 1984; Nikolic, 1987; Araluce, 2005). Araluce (2005) further argues that the curricular materials at schools should be transformed to fit into the social and the pedagogical life of the visually impaired learners, and recommends that teachers ought to accept their visually impaired students in their classes the way they are and try to realize their potential, personality and interests. The shift towards the

adaptation of the curricular materials and the teaching methods for visually impaired learners is believed to appeal to sighted people as well because of the variation of the methods and the instructional materials.

As no research studies or projects specifically covering the area of ELT for the visually impaired learners have taken place in Turkey so far, the main purpose of the paper is to introduce T3 which can be used to help learners with visual impairment to learn the English language. The mainstream sighted students and visually impaired students alike can benefit from this technology which can be regarded as an innovation in teaching English as a foreign language. As many researchers have appreciated the pedagogical use of the tactile technology (Edman, 1992; Challis & Edwards, 2001; Landau & Wells, 2003; Araluce, 2005), non-native English teachers at the English Division of a state university in Turkey were trained to use the technology and to produce talking tactile overlays as ELT materials to be used by the visually impaired learners. Training these teachers is expected to reduce the shortage of ELT professionals for visually impaired learners in the region where the study was carried out. Furthermore, as stated by many researchers (Lee, 2004; Bailey, Curtis & Nunan 2001; Inbar-Lourie, 2005; Rajagopalan, 2005; Coşkun, 2013), there is a need for continuous professional development to empower the status of the non-native English teachers making up around 80 percent of all the English teachers around the world (Canagarajah, 1999) still dominated by the so-called idealized native-speaker English teacher (Foley, 2007; Cook, 2005; Llurda, 2004; Rajagopalan, 2005).

The aim of this paper is to introduce an innovative method of teaching English to the visually impaired learners using T3. After a brief introduction to T3 and its pedagogical benefits; the basic stages of the training for the non-native English teachers, the evaluation of the training and finally the benefits of the project for the participating bodies as well as countries are presented. The paper concludes with suggestions on further pedagogical use of T3 for other disadvantaged groups (e.g., cognitively impaired learners) and to teach other subject areas.

Talking Tactile Technology (T3)

The talking tactile is a specially made Braille-free tactile diagram that is placed on a pressure sensitive surface. T3 is a touch sensitive device providing instant audio feedback from tactile layouts known as overlays that are diagrams with raised lines and textures explored by finger touch. It uses a combination of touch, sound and learn systems called audio-haptic pedagogy through the creation of tactile diagrams carrying layers of information that can be vocal, musical or other audio sounds. Touching the tactile diagram engages an audio file that can carry up to 10 layers of information. When the overlay is touched the pressure pad is activated and the information for that point is spoken.

The device is attached to a standard computer via a USB connection and the program CD giving the operator access to a library of information on any pre-selected subject by moving around the surface area and applying touch pressure. To illustrate the start-up sequence of the T3 device, Landau and Gourgey (2001) explains four stages that can be summarized as follows:

1. The user opens the device's hinged frame, and lays a tactile sheet flat on the surface, and then closes the frame, which is held shut by a magnet.
2. He or she is then asked to press three raised dots, which appear in the corners of every tactile sheet. As each dot is pressed, the computer plays a confirming audio tone. Pressing these dots serves to calibrate the system, a step made necessary by the high resolution of the touch screen.
3. Next, the user must identify to the computer which tactile sheet has been mounted, out of a potentially large collection. This is accomplished by asking the user to run his or her finger along a long horizontal "ID Strip" near the top of the sheet, and to press three short vertical bars as they are encountered, in sequence from left to right.
4. At appropriate moments during the session, the user is asked to place a new tactile sheet on the device, after which the calibration and identification routine, described above, is repeated.

About the pedagogical benefits of T3, Landau and Wells (2003) claim that the combination of tactile input with relevant and immediate audio data not just improves the speed and ease with which the visually impaired user can learn, but also strengthens learning through dual modality. The pedagogy behind T3 involves combining the tactile diagram with integrated and merged sound files. It was proven in the project described in this paper that visually impaired learners benefited from this novel combination in that it facilitated and encouraged independent learning across wide age groups and abilities. The use of T3 assumes continuous learning for each talking tactile overlays used with the learner working at a self-determined pace. It is expected that as familiarity with T3 develops the speed of learning increases, often outstripping the pace set by the teacher.

While in traditional English language teaching, the teacher determines the pace of teaching, T3 reduces the need for the teacher to repeat information, which the learner could gather independently from the talking tactile overlays. As a result, the learner can build up confidence and find participation in education a more enjoyable experience. Owing to its independent learning feature, T3 can enhance their self-esteem, increase their employment skills, reduce their obstacles to employment, increase their capacity to adapt to rapidly changing living and working environments and boost their competitiveness in the business world dominated by the English language. In addition, these learners tend to have problems in accessing and communicating information and they are not always able to take advantage of developments in technology. Therefore, T3 can be a solution as an assistive technology reducing the impact of their disability.

Training for the English Teachers

It is common knowledge that different ways are always being sought to engage learners in the process of learning the English language. Despite initiatives for teaching English for sighted learners, no special dispensation has been made for the visually impaired. To bridge this gap, the project entitled *English Language Teaching for Sensory Impaired Learners* was developed based on the idea that T3 promotes self-discovery and the scope of self-teaching in the foreign language classroom. The project was funded by English UK under the framework of the Prime Minister's Initiative which has the main objective to make strategic collaboration between United Kingdom (UK) and international partners much more important by taking into account changes in the global education market.

The coordinator of the project was Royal National College for the Blind (RNC), which is a founder member of European Network Visually Impaired Training, Education, Research (ENVITER) with partners from various countries. RNC located in Hereford, UK is also known to be the only Beacon College in the UK specializing in visual impairment. The international partner from Bolu, Turkey was the English division of the Abant İzzet Baysal University (AIBU). The author of this paper affiliated to AIBU acted as the coordinator of the project activities in Turkey. The university had strong support for continuous professional development for its English teachers. Thus, the primary aims of the training project were to test the applicability of T3 to ELT through the training of non-native English speakers at the university and to amend the shortfall in providing an opportunity in continuous professional development to non-native teachers of English concerning visually impaired learners. Another aim of the project was to introduce the innovation to education support organizations and others having an interest in the project.

The training for the teachers followed the following daily pattern in 9 steps: Introduction to T3, its uses and applications, the parts of the overlay and their meanings, demonstration of layers of information, educational materials, applying the technology to ELT, practical session (composing a simple tactile overlay), frequently asked questions and plenary session. The following two phases were planned for the training:

Phase 1 Training: The training provided by three experts working for RNC took place at AIBU in Turkey and involved all the English teachers in the English division of the university. Also, in conjunction with

the Ministry of Education in the Bolu province, an official invitation was sent to all primary and secondary teachers of English working in the province, teachers of visually impaired learners, teachers of cognitively impaired learners, school administrators, curriculum developers, education resource managers and education studies researchers. Thanks to the Bolu Governorship, social services managers, human resource managers, accessibility officers and many other stakeholders were invited to attend the training. Training was scheduled as a day-time activity for teachers and an evening activity for other stakeholders.

A total of 90 participants including 35 non-native English instructors working in the English division at AIBU participated in the training sessions in Bolu. These individuals were expected to cascade to other colleagues in a series of local continuous professional development activities. At the end of the first phase of the training, the participants had a competent working knowledge of T3 and its applications. Participants were also encouraged to produce ideas for the construction of simple talking tactile overlays that can be used as ELT materials. RNC produced 3 complete talking tactile overlays as exemplars and left 2 non-speaking tactile overlays for AIBU and the teachers to complete according to their own different interpretations.

Phase 2 Training: The training took place at RNC in the UK and covered advanced use of T3. Training involved authoring so that the trained person could produce complete talking tactile overlays that could be matched against international standards. In preparation for the second phase of the training, AIBU selected three English instructors from the Phase 1 group for training at RNC. The participants of the second phase of the training at RNC cascaded to those who received the first phase of the training in order to increase the number of people who could make talking tactile overlays with the view of developing resources for ELT. At the end of phase 2, the trainee felt fully competent to create resources for colleagues either nationally or internationally via the RNC catalogue of talking tactile overlays.

2. Evaluation of the Training

Among all the participants from AIBU (N=35), 21 volunteered to fill out a survey aiming to evaluate the effectiveness of the training at AIBU. The trainees were asked to score the training using the following scoring system: -2 (poor), -1, 0, +1, +2 (good). The maximum average was +2. The average score for each item was given in Table 1. As can be realized in the table, the overall evaluation for the training was +1.85, which indicates a successful score for the first phase of the project.

Evaluation Questions	Average Score
1. Did the training achieve its objective?	+1.48
2. Was a common working basis established?	+2
3. Were the tasks clear?	+1.85
4. Was a range of themes addressed in line with the project?	+2
5. Were the themes appropriate to the ideals of the project?	+2
6. Assess the balance between working time and other activities.	+1
7. Assess the quality of the presentation.	+1.5
8. Assess the contribution by the partners	+2

Table 1: *Results of the evaluation*

Total: +1.85

Benefits of the Project

The project offered many benefits not only for the participating organizations but also for the countries represented in the project by the UK and Turkey. In the UK, the project enhanced continuous professional development at RNC in terms of ELT. Local and national schools and organizations that have knowledge of T3 asked to be informed of new developments for the sake of their professional development. Through the partnership in the project, participants' intercultural development was also boosted. Beyond RNC,

there were benefits for the country in terms of schools that had a new approach for teaching the English language to visually impaired people, immigrants requiring rapid language development, people with learning difficulties and for people who needed to develop self-advocacy.

On the other hand, the main benefit of the project for AIBU was that a new teaching resource for teaching English is presented to 35 non-native English instructors at the university; besides, relevant stakeholders in the city attended the workshops. The training held at the university consolidated the cooperation between the university and the representatives coming from different sectors of life. Also, future cooperation ideas occurred during the training sessions. At the end of the project, it was observed that the trainees wanted to create more materials for teaching English to non-native visually impaired learners, maintain continuous professional development and to increase intercultural understanding as well as linguistic diversity.

Moreover, it is common knowledge that Turkey has close educational links with other “Turkic” nations (e.g., Azerbaijan, Kazakhstan, Kyrgyzstan, Uzbekistan, Turkmenistan and the Balkan countries). If the use of T3 could be promoted in Turkey successfully, then these nations were also expected to follow. A successful outcome from the training and the project could therefore have a profound impact in the in the Middle East, the Gulf States and other regions of the world.

3. Conclusions

This paper introduced T3 and its pedagogical benefits. Afterwards, the major stages of the training for the project entitled *English Language Teaching for Sensory Impaired Learners* were described. Later, participants’ opinions about how effective the training were summarized. Finally, the benefits of the project for the participating organizations and the countries were presented.

Drawing attention to the neglected field of ELT for the visually impaired learners, researchers such as Guinan (1997), Araluce (2005) and Donley (2002) suggest that the foreign language needs of the visually impaired learners should be focused more and the number of projects dealing with these learners ought to increase. As argued by many researchers, ELT curricula and instructional materials should include more activities involving the sense of touch and hearing to accommodate the visually impaired learners (Ellis & Brewster 1991; Philips de Herrera, 1984; Kennedy, 1997) and to stimulate their interests and curiosity (Aiazzi, 2008). This is not only for the benefit of the visually impaired learners but also for the benefit of their sighted peers. Now that ELT materials for the sighted learners are visually attractive and if we want visually impaired learners to have equal access to the same stimulating English learning opportunities as their sighted peers, it would be fair to suggest that T3 containing tactile pictures can contribute to the English classroom by encouraging these learners to take part in many class activities based on visual aids. Not only visually impaired learners but also learners with other various impairments should be taken seriously by ELT professionals and need to be treated as equally as their mainstream peers.

Thanks to its audio-haptic pedagogy, although T3 was originally developed for visually impaired learners, it has a wider application that can help teaching to other disadvantaged groups, such as cognitively impaired learners (e.g., Aspergers and autistic spectrum, head injuries, etc.) and for slow learners. These learners often facing considerable problems in accessing suitable educational opportunities like visually impaired learners can be taught English by means of T3 which gives equal access to graphic information embedded in lesson content material. Like visually impaired learners, these groups can learn the language at their own pace. Besides, as the pedagogy behind T3 is gentle and without prejudice, learning can be reinforced without further teacher input. Upon learning English, these disadvantaged groups can also enhance their self-esteem, employment skills and social coherence.

In addition to the use of T3 for various groups of disadvantaged learners, it has been proven by earlier projects coordinated by RNC that this technology is also applicable into teaching various subjects. In

2006, RNC was granted funds from the EU to develop talking tactile overlays under the AHVIIT-ACCESS (Audio Haptics for Visually Impaired Information technology) project. The project produced pilot sets of talking tactile overlays for T3 in a range of subject areas bearing in mind accessibility, transferability and the implications of cost. T3 trials in the Netherlands (for sports massage), Germany (for basic computer awareness and operation), UK (for food hygiene and basic cookery skills) demonstrated T3's value as a teaching tool. Another project also coordinated by RNC between 2009 and 2011 was TrAHVIIT (Transfer of audio-haptics for visually impaired information technology) which aims to transfer the AHVIIT project to new countries in the European Union and to new subject areas. As the major outcome of this project, T3 overlays were developed by UK (for introduction to economic theories), Bulgaria (for introduction to music theory), Romania (for access to public spaces), Malta (for tourism in Malta) and Austria (for the planets and their satellites) addressing to sensory impaired people. On the other hand, overlays to teach basic functional English to learners with mild cognitive impairment were produced by the Turkish partner which had cooperated with RNC in the project described in the current paper.

The effective use of T3 both in ELT and in teaching various subjects is likely to spread specialist teaching methods across the world, increase the availability of teaching resources, especially for visually impaired learners and will add to the network of specialist teachers. The created resources are also expected to help sighted learners to have access to new and exciting ways of learning and to enjoy learning something new.

Acknowledgements

The project described in this paper was funded by the Prime Minister's Initiative, UK in 2009. The application form for the project was written by Lennox Adams who was then working for the Royal National College for the Blind, Hereford, UK. I would like to thank Lennox Adams for his encouragement, support and guidance throughout the project and during the writing of this paper.

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