

Instructional Technology Analysis Assignment

for

LST 401

*Overview of Learning Sciences and
Technology*

Submitted to

Dr. MJ Bishop

by

Demet Metan

Description of the Problem/ Educational Need

I am asked to address the educational need of the 8th grade Turkish student's in English as a Second Language subject area. As stated by Omer Demircan (1988), the difference between Turkish public and private elementary schools in terms of the English knowledge of the students is huge. It is known that the public school students at 8th grade are way behind the private school 8th graders in their English language skills. The private schools have preparation-classes, in which they specialize in English language learning for one whole year. It is an obligation for private school students to take intensive-English program. They have access to abundant ESL materials and technological tools, whereas public schools do not have such programs and materials.

In order to improve the 8th grade public school students' English level, there is a need for effective use of technology in and out of the classrooms. The integration of technology products to ESL learning would definitely make a big difference in closing the gap between public and private schools. The appropriate technology products for the schools' educational need can be listed as *Inspiration*, VoIP product *Skype*, *Rosetta Stone Level 2* software, blogs, e-mails, *E-Portfolio Online*, as well as some additional hardware like data projector, video camera, headphones and microphones. It is my goal to use these technology products to improve their reading, listening, writing, grammar and speaking skills, so that the public schools can get closer to the standards of the private schools in this subject area.

Description of the Learning Environment

The school is Ankara Mamak Ortatepe Ilkogretim Okulu (Elementary School). It is located in the suburbs of Ankara, the capital of Turkey. The school has 220 students in

total. The school has students from low-income families. Most of the students do not have computers at home since their socio-economic status is not high enough for them to afford personal computers. The school has only two computer labs. In this potential learning environment the following hardware are available. There is only one printer, one OHP, one TV and DVD player, no scanner and no video camera. The operating system of the computers is Windows XP Professional. In each computer, *MS Office (Word, Excel, and PowerPoint)*, *Browser (Internet Explorer)*, *Adobe Acrobat Reader 7*, *Windows Media Player*, *Symantec Antivirus* are installed as standard software. In terms of organizational characteristics, the school does not have a technology center.

The teachers' most common characteristic is that they are resistant to technology, because they do not know much about technology. They just know how to do basic things like sending e-mails, writing in Word Document, etc. They do not know how to integrate technology into the classes. In fact, they are unwilling to use technology in the classes, because they have the fear that something may go wrong with technology in class. They are uncomfortable about the idea of having instruction delivered via media, since they are not used to teaching by using media. The students are better than the teachers in using technology. The teachers use exercise books for drill and practice rather than using web based practices and exercises. Most of their teaching depends on teacher-centered lectures rather than student-centered teaching and learning environment. The teachers also do have limited number of performance-based activities that are aimed for higher order thinking skills like writing essays, doing projects. Those projects do not require web-based research, yet they require research from the library.

There is a national curriculum designed by the National Ministry of Education. The existing curriculum emphasizes constructivist philosophy with its goal to facilitate problem-solving, reflecting and articulating. The curriculum requires teachers to integrate technology into their lessons by assigning students projects that require web-based research, eliciting students' prior knowledge through mind-maps, etc. My solution to use the technology products that I suggested fits to the national curriculum. This compatibility between the curriculum and my solution to the problem will help to make changes, easily. The constructivist philosophy and student-centered learning focus stated in the national curriculum will also help me in bringing technology into ESL classes.

I have found the solution for financial resources for purchasing these new equipments for the school. I have got funding from two non-profit organizations called Omer Sabanci Foundation and Lions & Rotary Club. These charity organizations agreed to fund my plan 5.000 \$ each, which is more than enough for my technology product suggestions.

Audience Analysis

General Description of the audience: My target audience is 8th grade Ankara Mamak Ortatepe Ilkogretim Okulu Elementary public school Turkish students. They are at the age of 15-16 and from socio-economically low income families who are living in the suburb areas of the capital of Turkey, Ankara. Due to the economic problems of the parents, my students have never had fancy books, personal technology devices like computer, video camera or a DVD player. My students also have never had any native-speaker teacher, which is important for ESL subject area. These are some of the common characteristic for my target audience. The number of the boys slightly outnumbers the

girls in the school. Gender does not play a significant distinctive role in the school. Both boys and girls are interested in English as a Second Language subject area.

Analysis of their Strengths: My students are very eager to learn English. English is most of the students' favorite subject area. Their attitude and enthusiasm to learn English is one of the biggest strengths.

The second strength of my target group is they are very intelligent kids and they demonstrate very good performance in higher order thinking skills like analysis, synthesis and evaluation level questions. They are very mature and cognitively well-developed for their age. They can comprehend very complicated and abstract concepts. Due to their success in these areas, they produce very good work. They are very good at library research and in material selection. They analyze the texts they find, synthesize the information carefully and come to a conclusion after evaluating the materials.

Their third strength is writing skills, which is closely related to the previous strength of the group. Since they are good at higher order thinking skills, they are very good at supporting their arguments and expressing their thoughts on the paper. They write coherent and well-developed essays and projects. They are also good at spelling in English language.

The fourth strength of my students is listening skills. They are very attentive to the speaker. They are good at listening their teachers and their colleagues. They can process the information they hear very well, however cannot respond and make comments, because of the reasons that I will be listing in the next step.

Analysis of their Weaknesses: Speaking skills is probably the biggest weakness of my target audience. Their speaking skills are not developed well enough for 8th grade

level compared to private school 8th graders. There are two basic reasons for this. The learners are very shy and afraid to speak in front of their teachers and friends. The socio-economic pressures of life have caused them to be more likely to become introverted individuals. They need support to gain their self-respect for English speaking in public.

The other reason of their speaking weakness is because of their low level of success in pronunciation. They are not good at pronouncing English words. The pronunciation differences between English and Turkish make speaking even harder for the students. In Turkish, everything is pronounced in the way it is written, but in English, it is not the same case. Also, there is not any native-speaker of English language in the school to model unlike private schools.

The second weakness of the learners is that they have limited vocabulary knowledge in English. They do not read novels, short stories as much as private schools, since the school does not have such materials in its library. The only thing that they read in English classes is their textbook and it does not have enough activities and texts for improving their vocabulary knowledge.

The third weakness of the group is that they are not good at computer skills compared to private school students. The learners do not have a computer at home; therefore they cannot spend as much time as they should on the computers. They also do not know how to do selective and successful web research. Overall, although they are better than the teachers in using computers, their computer skills still need to be improved.

Strategies: In this section, I will focus on my strategies to overcome the target audience's weaknesses and stress their strengths.

1- In order to overcome these learners' speaking fear, the new technology should help students to practice speaking in English through drilling and discussion based activities. They also need to work on how to make effective speeches and presentations in English. The new technology should give teachers more ideas on discussion-based activities that they can use in post and warm-up stages of the lessons. The teacher and the technological tool should use positive reinforcement to the students. Encouragement would play a very important role in overcoming their speaking fear. Behaviorist approach suggests that the students need positive reinforcement for learning (Cates, 2002). Immediate positive feedback from the teacher and the software they will be using will be very helpful for overcoming their speaking difficulties. These encouragements will psychologically support the learners and would help them to participate more in class discussion. As they practice in speaking in English more and they would get better.

2- In order to overcome these learners' pronunciation weaknesses, the new technology should give more emphasis to drilling and practicing activities. As audio-lingual approach in ESL teaching suggest that drilling is the most commonly used method to improve pronunciation (Celce-Murcia, 2001). Simple technological devices like cassette player or DVD player are very useful for listening and practicing activities..

3- In order to overcome the learners' vocabulary weaknesses, the new technology should provide excerpts from online books, short stories in different levels of English (intermediate, upper-intermediate and advance) and simple novels. These resources can be obtained from free online materials, or paid software like *Rosetta Stone*. In this way, the students will have access to more reading materials like private schools. They would be able to learn new vocabulary items from each story/book/novel they read.

The repetition of the same words within the contexts provided in the readings would help the students to learn these new vocabulary items, since our brain is more likely to store the repeated and meaningful information in our long-term memory. (Bishop, 2005) The repetition of the words throughout the text and learning the meaning of the words in context would help the target audience to overcome their ESL vocabulary weakness simultaneously.

4- In order to overcome target group's computer and web skills weaknesses, the new policy for technology in the school should push students for using computers more in their assignments. The teachers can ask them to find at least one resource from the Internet in their projects. The students should be given more time to spend in computer labs to learn more about what they can do in computers for their projects. This will also give them chance to use their creativity. The school teachers should also get professional help from computer teachers in the same school and should be more comfortable in using technology so that they can integrate it into their classes.

5- In order to capitalize on these learners' love of learning English, the new technology should help ESL teachers to design lessons by including multiple enjoyable tasks. The lessons should not be teacher-centered lectures that will bore students. There should be games, songs, role-plays activities which will take students attention and capitalize their love. These kinds of activities can be found from Internet easily. There are lots of web sites in which teachers can access to lesson plans.

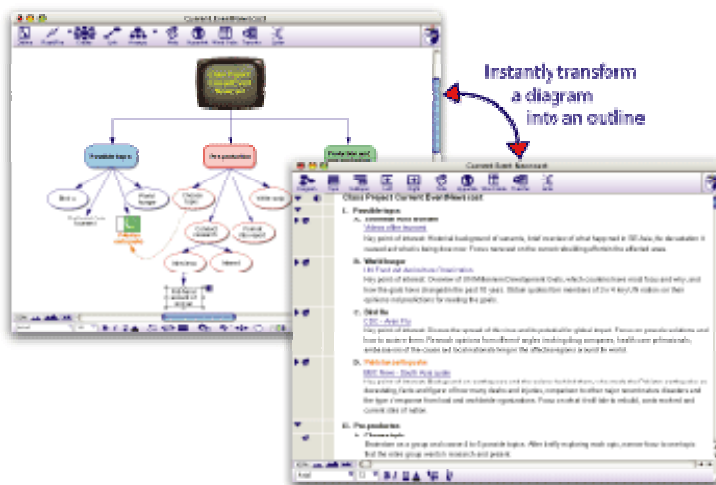
6- In order to capitalize on these learners' higher-order thinking skills, the new technology should encourage students also use Internet search tools to find articles, books, magazines, educational videos, documentaries and criticisms etc. apart from just

using the library as a source. As the learners are already good at searching, analyzing and evaluating the resources, they would be able to use Internet effectively and safely. The teachers should also be available to help and answer for questions that may arise from the reliability of web-based materials.

7- In order to capitalize on these learners' writing skills, the new technology should be helpful to students for reaching web information for their projects or essays. The new technology should also give students chance to get to know people from all around the world and meet native-speakers. The students can have an English language native-speaker pen friend. They can chat or send e-mails to their pen friends. They would be able to practice their grammar and writing and communication skills through the use of these new technologies. The school can also buy microphones for computer lab, so that the students can also have voice chat with their pen friends and improve their speaking skills as well as writing skills.

Technology Analysis

1. Cognitive Tool



1.1 Product Name and access information: *Inspiration*

(<http://www.inspiration.com/productinfo/handhelds/index.cfm?fuseaction=classroom.languagearts>)

1.2 Short description: *Inspiration* is a cognitive software tool for visual thinking and learning. It functions as a tool for the learners to brainstorm, organize and plan thoughts. I believe that both cognitivist and constructivist learning theories underlines in this software's design, since it fosters the learner's cognitive development by focusing on their thinking skills. It also helps them organize their thoughts and even turn it into an outline which is related with constructivist approach. Constructivism a theory that uses the same ways to foster learning. (Cates, 2003)

1.3 Pros: This software is well-organized. Navigation is very easy. It has enormous number of symbols for mind-mapping and 66 colorful design templates that will attract the learners. It also helps the user to write with clarity, build vocabulary using Word Guide. It has a dictionary and a thesaurus. Users can also reach definitions and synonyms quickly and choose words with precision. One can also integrate video and sound into their projects, hence the user can visually represent ideas. It even turns a diagram to outline with one click. You can check out it from the same website by clicking the image. It saves time for you by preparing the outline itself.

1.4 Cons: There is only one weakness of the software I could find. Concept mapping may not appeal everyone and they might get bored after some point.

1.5 Overall Evaluation: I believe that this software definitely would be very useful for my target audience. They would be very interested in this colorful, inspiring

technological tool, since they did not have any fancy educational materials, so far. My learners would be able to capitalize their writing skills and higher-order thinking skills, since they can visualize difficult concepts and subjects through this cognitive tool. Inspiration can also be integrated into any vocabulary, grammar and speaking activities, easily. I believe that this software will address the needs of my students in multiples skills like vocabulary, grammar and writing skills.

2. *Synchronous Collaboration Tool*

2.1 Product Name and access information: *Skype* (<http://www.skype.com/>)

2.2 Short Description: *Skype* is a little program for making free calls over the Internet to anyone else who also has *Skype*. Once you download it to your computer and the person you want to communicate has the same software, you can connect to that person for free. You can chat, send files and have voice mail, participate in online conferences at the same time using a whiteboard in *Skype* with people all around the world without paying any cost. The underlining approach is Social Learning which considers learning to be a social activity. This theory proposes that human beings are in a way “social animals” that learn through interaction with others and cultures (Garrigan, 2003). As *Skype* is one of basic collaboration tool that enables communication with people all around the world, its underlining learning theory is social learning.

2.3 Pros: *Skype* is a very strong innovative communicative tool. It is practical and clear to use. There is no cost to use this VoIP product.

2.4 Cons: It requires a computer with a hard-wired DSL or Cable connection. It cannot communicate well wirelessly.

2.5 Overall Evaluation: I believe that this technological product will absolutely address my learners' needs. As our goal is to increase ESL skills of my students, having a pen friend from U.K or U.S will provide a real communicative environment to the learners. Each student will be using *Skype* to communicate in English and develop both their speaking and writing skills. I will include more details about the how to integrate *Skype* into learning in the implementation part.

3. *Drill-and-Practice Software*

3.1 Product Name and access information: *Rosetta Stone Level 2*

(<http://www.rosettastone.com/en/education/esl>)

3.2 Short Description: This software teaches English to non-native speakers in a natural language acquisition way that we learn our first language. The learning theory behind this product is cognitivist and constructivist learning approach as well as “natural” approach. Stoltzfus (1997) says that Rosetta Stone adapts a natural comprehension learning approach by providing lots of images for creating a natural context and giving constant response that are needed for acquiring a new language.

3.3 Pros: Its learning theory is very powerful. It gives instant feedback, once the learner completes the task. It contextualizes learning. This is a powerful tool that provides enough materials in listening that will give linguistic and communicative competence along with fluency to the non-native learners unlike most of the ESL products that just focuses on reading.

3.4 Cons: The main disadvantage of the software is that it does not include culturally relevant materials specific to any cultures outside U.S as most of ESL teaching and learning products. It is slightly expensive and it teaches some uncommonly used words, too.

3.5 Overall Evaluation: Despite the “cons” I have listed above, I believe this is definitely what my learners need. I believe that with some modifications and appropriate use methods that will be implemented by the school teachers, this product will address all the weaknesses, speaking, pronunciation and vocabulary skills, of my learners. I believe that this is the best tool in the market to overcome the weaknesses of the learners.

4. *Asynchronous Collaboration Tool*

4.1 Product Name and access information: Blogs and E-mailing (www.blogger.com) and any e-mail service provider such as gmail, yahoo, hotmail, msn etc.

4.2 Short Description: Blogs enable users to communicate asynchronously. The users can post their thoughts, works or anything they want into the place that is given to them with an account and URL. I believe that the underlying learning theory of blogs is constructivist idea, since the learners can do knowledge construction and draw meanings out of that knowledge in their free space. They can also get feedback to their thoughts and make modifications on their knowledge.

4.3 Pros: Blogs are very simple to use. Blogs and e-mails are free and easy to create blogs and e-mails. Blogs can be a place where you can get feedback for your works. Some learners may find writing in their blogs to be motivating and inspiring.

4.4 Cons: Blogs may not be written with a good level of writing. Blog writing can be a bad model for language learners if blogs are also used for reading activities. Blogs may include incorrect information and certain kinds of biases (gender, age or culture-based etc).

4.5 Overall Evaluation: Blogs are useful to my learners' educational need, because they give learners a space to reflect their understandings and thoughts of the subjects we will be covering in class. They will also learn how to publish things in this way. However, they should avoid using blogs for reading purposes because of the points I have listed in cons.

5. *E-Portfolio*

5.1 Product Name and access information: E-portfolio Online (www.eportfolio.org)

5.2 Short Description: E-portfolios are a collection of users' work that shows their progress, efforts and achievements over time. These works can be created by any type of media such as videos, audio, graphics and texts. The learning theory behind this technological tool is constructivism again, since it allows to see the learners' progress over time.

5.3 Pros: E-portfolios are portable and easy to display to others. It does not have any cost. This technological tool is based on student-centered learning as it requires them to be active and do most of the work on their own.

5.4 Cons: E-portfolios may not be a secure place to put unique works, since it can be stolen or lost.

5.5 Overall Evaluation: I believe that this technological product would be very useful for the teachers to keep track of the students' progress and achievement, so that

they can be aware of which child needs more help in a certain skill. Another important benefit of this technology is that it will help the students to apply their creativity in using technological tools, since the learners can include videos, graphics, audio-based materials, authentic texts that they find from Internet.

Final Recommendations and Rationale

After looking at the most powerful ELS technological products in the market, I believe that the board should buy *Rosetta Stone Level 2 software*. There are many reasons why I am suggesting this software. This technological product's learning theory "natural" approach is very effective in language acquisition. As it chooses to teach a foreign language in the same way human beings attain their first language, this software would be very effective in especially overcoming the weaknesses of my learners in English language. Stoltzfus (1997) presented Rosetta Stone in the *Annual Meeting of the National Association for Bilingual Education* as excellent software which develops multiple skills of the ESL learners, because of its learning theory.

This product is also a unique tool in the market, because it does not have just reading skill based focus. Most of the programs available now have lots of readings and improves one side of the learners. Unlike them, *Rosetta Stone* develops the learners' listening, speaking, pronunciation and reading and writing skills. My students need to improve especially their speaking and pronunciation skills. Because of its success in a various skills and its learning theory this software is used in 150 countries (www.rosettastone.com) and I believe that it will bring an incredible change to English level of our students, therefore it is the best solution for our goal in closing the gap between the private and public school 8th graders.

I also strongly recommend the other technology products, *Skype*, blogs, E-portfolio and *Inspiration* to use for the development of both ESL and computer skills of our students. All of these products are free except *Inspiration* software. We have also enough funding to afford that software, too. As I have stated in the technology analysis part, all of these technological tools can make great contribution to our educational goal and they are free. Why not use them?

Implementation Plan

The first technology product I recommend is *Rosetta Stone*. The students can listen the *Rosetta Stone* software and then imitate the sounds of the specific vocabulary that they have difficulty in pronouncing. For pronunciation activities, the learners can speak a list of words and the voiceprint technology of the software rates the learners' pronunciation. The learners can listen to that specific word from an English language native-speaker and correct their pronunciation via modeling by immediate feedback.

This software can be used for reading activities, too. The teacher can ask students to read a text and link the specific parts of that text to the provided visual images. The students will match the parts of the texts with the visual objects, actions or ideas. The comprehension of the students will be assessed through their achievement and they will receive instant feedback again. There are also fictional and non-fictional texts for the students to read and answer comprehension questions. These questions include higher order thinking questions, too. The students will read and answer multiple choice questions.

In order to improve students writing skills, the students will listen a dialog from the program and write what they hear. The program checks their writing and lets the learners' to check their mistakes.

Inspiration software can be implemented in ESL learning through speaking, vocabulary and writing skills. The students can make a handout for a list of words on a specific topic and draw a chart including synonyms, antonyms and derivatives of that English word. They would be able to keep the vocabulary items they have learned in an organized way through that handout to refer it later. This will help them in learning new words and word families. In order to improve speaking skills, the learners can use a poster that they prepared in this software for their presentations and explain that poster in class. In terms of writing skills, the teachers can ask students to use this software in the weeks that the curriculum requires the teachers to teach different essay forms like writing argumentative or persuasive essays. Initially, the students will use this software to brainstorm and draw a chart. The software will change the diagram into an outline with one click. Then the students will start writing and they will be assessed through the outline they created and the teacher will assess the students' organizational skills in writing.

Skype is another technology product I have suggested. I and ESL teachers of the school will chose a U.S. elementary school as a fellow school and we will contact them. The teachers of both schools will arrange that all 8th grade students will have at least one pen friend. The students will be assigned to contact with their pen friend through voice chat or e-mail and chat. The students will do a project about each other's culture and give information about their culture to their pen friend on the specific topics that will be given

by the teachers. The students will be graded according to a rubric. The aim of the project for both schools is to learn about different cultures. Additionally, my students will practice their English and increase their writing and speaking skills and try to be more competent in their communicative skills in English language.

I have one main concern about the integration of these technology products into the school. The teachers may not be willing to adapt these changes into their teaching. As they do not know how to use these technologies, they might resist using them initially. My solution to this is to train our teachers with technology courses. Computer teachers of the school can train the ESL teachers of the school, so that they can use these tools in their teaching.

Consequently, I believe that these technological tools will be very effective in closing the gap between the private and public school 8th grade students. If my plan can be implemented, the students' level of English language will increase dramatically and this school will make history in reforming ESL learning and teaching in public schools.

References

- Cates, W.M. (2003). *Constructivist Teaching/Learning*. [PowerPoint Presentation for Lehigh University course EDT 471: Planning for Implementing Technology in School Settings]. Retrieved September 27, 2006 from http://ci.lehigh.edu/webapps/portal/frameset.jsp?tab=courses&url=/bin/common/course.pl?course_id=10261_1
- Cates, W.M. (2002). *Behaviorist Instructional Principles and Practices*. [PowerPoint Presentation for Lehigh University course EDT 471: Planning for Implementing Technology in School Settings]. Retrieved September 27, 2006, from http://ci.lehigh.edu/webapps/portal/frameset.jsp?tab=courses&url=/bin/common/course.pl?course_id=10261_1
- Cates, W.M., & Columba, L. (2002). *Educational philosophies*. [PowerPoint Presentation for Lehigh University course EDT 471: Planning for Implementing Technology in School Settings]. Retrieved September 27, 2006, from http://ci.lehigh.edu/webapps/portal/frameset.jsp?tab=courses&url=/bin/common/course.pl?course_id=10261_1
- Celce-Murcia, Marianne. (May 2001). *Teaching English as a Second or Foreign Language* (3rd ed.). Boston, MA: Heinle & Heinle
- Demircan , Ömer. (1988). *Dünden bugüne Türkiye'de yabancı dil*. İstanbul, Türkiye: Remzi Yayinlari
- Garrigan, S. (2003). Social Learning Theory [Handout for Lehigh University course EDT 471: Planning for Implementing Technology in School Settings]. Retrieved September 15, 2006, from

http://ci.lehigh.edu/webapps/portal/frameset.jsp?tab=courses&url=/bin/common/course.pl?course_id=10261_1

Inspiration. (n. d.). Retrieved October 12, 2006, from <http://www.inspiration.com>

M.J., Bishop. (2005). Visual Design [Handout for Lehigh University course EDT 406: Tools For K-12 Teaching and Learning]. Retrieved September 15, 2006, from http://ci.lehigh.edu/webapps/portal/frameset.jsp?tab=courses&url=/bin/common/course.pl?course_id=9589_1

Rosetta Stone. (n. d.). Retrieved October 12, 2006, from <http://www.rosettastone.com>

Stoltzfus, Allen. (1997, February). *The Learning Theory behind the Rosetta Stone Language Library from Fairfield Language Technologies*. Paper presented at the Annual Meeting of the National Association for Bilingual Education, Albuquerque, NM.

Yalcin, Kayahan. (n. d.). *Ortatepe Ilkogretim Okulu*. Retrieved October 12, 2006, from <http://geocities.com/ortatepeilkogretim/>