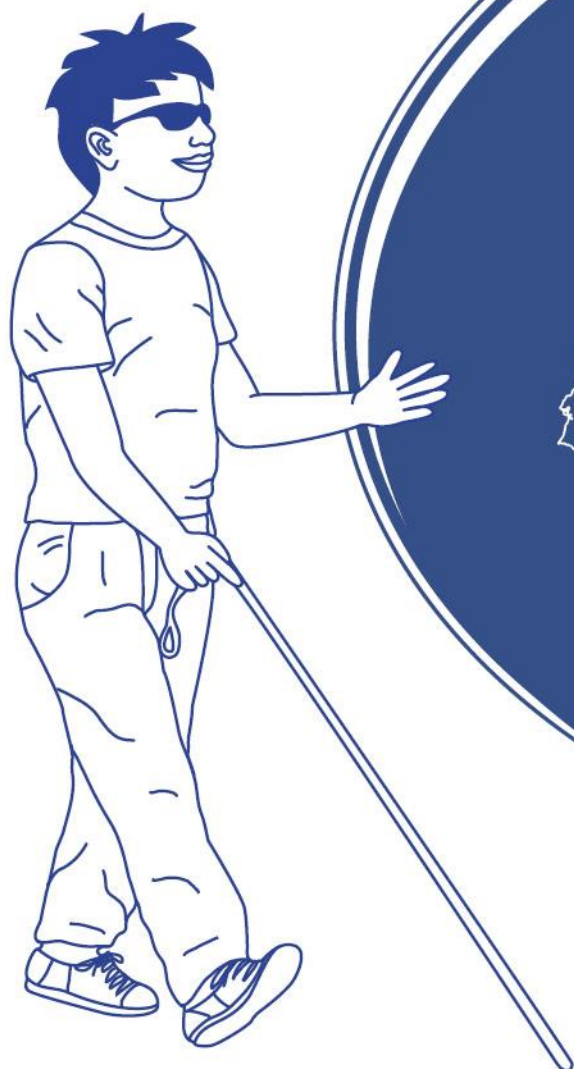


Teaching the Blind



Foreign Language



With the support of
Erasmus+ Programme
of the European Union

A series of special education teaching guides

Inclusion in Europe through Knowledge and Technology

Project no: KA201-2015-012



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Teaching Foreign Languages to Students who are Blind

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Inclusion in Europe through knowledge and technology

Information on the fundamental principles, practices, educational material and teaching aids used to teach various subjects to students with special needs are few and far between. In some cases, material has been prepared for internal use at specialised schools or in other closed environments. In other cases, knowledge has been passed from teacher to teacher as part of workplace training.

No systematic material on pedagogical principles, practices, educational material and teaching aids exist for areas such as teaching first language teaching, foreign language teaching, mathematics and music for the blind.

With this in mind, the goal of this European project is to further develop, implement and disseminate good practices in the area of inclusive education and learning technologies by delivering three primary components: *Teaching Guides*, *Guide on good practices Inclusive learning and Teaching* and *SMART E-learning objects*.

Teaching Guides

In completing the project, RoboBraille partners have created a series of twelve educational guides covering fundamental principles, practices, educational material and teaching aids covering first language teaching, foreign language teaching, mathematics and music for the blind, partially sighted and dyslexic.

Inclusion Guide on good practices Inclusive learning and Teaching

In support of this, the project has collected and collated information on good inclusion practices in five select areas (teacher skills, alternate media, support structures, preparation for inclusion and teaching environments) which are published in a catalogue of good practices.

SMART E-learning

Finally, the project will adapt a comprehensive set of educational material on the RoboBraille service prepared in the LLL LdV RoboBraille SMART project into a set of learning objects for popular e-learning platforms for web and tablet deployment.

For all materials produced by this project:

Because the material covers teaching of students of various age, they are named students, learners, pupils and children. The material also reflects the different culture and level of inclusion practices of the project partners. The guide is not a substitute for formal training of teachers.

Introduction to this teaching guide

A foreign language is a language indigenous to another country. It is also a language not spoken in the native country of the person. (Source: Wikipedia - https://en.wikipedia.org/wiki/Foreign_language).

Most schools around the world teach at least one foreign language and most colleges and high schools require the mastery of a foreign language before graduation.

On average in Europe, at the beginning of teaching a foreign language, learners take lessons of three to four hours a week. Compulsory lessons in a foreign language normally begin as early as the first or second year of primary school.

Since the 1990s, the Common European Framework of Reference for Languages has tried to standardise the learning of languages across Europe.

(Find information on The Common European Framework of Reference for Languages -CEFR-, following this link: <https://www.telc.net/en/candidates/cefr-levels.html#t=1>).

Aim of this guide

This Guide aims to support teachers in the mainstream setting, who teach foreign language and have a student who is blind in their classroom.

This support should provide teachers with the knowledge and skills to overcome the challenges associated with this particular visual disability.

More specific, it includes information on:

- Specialized pedagogies associated with teaching a foreign Language to students who are Blind,
- Challenges relating to blindness,
- A description of suitable teaching methodology practices, (E.g.: How to adapt written material and classroom settings to the varying needs of blind students. Improve the knowledge and the teacher's understanding of how to provide information and teaching materials in formats accessible to blind students, such as Braille, tactile drawings, audio, models, electronic documents, etc.),
- Learning technologies associated with the inclusive teaching of a foreign language to Students who are blind.

The guide may be used as a general reference material. It's easy to navigate format allows for easy reading of the entire text or even jump to specific parts of it based on the reader's needs at any given time.

Specialized pedagogies for teaching a foreign language to blind students

The acquisition of a foreign language has unique features and values for all students. This is of particular importance when it comes to students who are blind as the foreign language can be characterised as the path to education that strengthens the learner's capacity. For many individuals who are blind, especially for those whose native language is not widely spoken, learning a foreign language can also be the path out of isolation as it might serve as the vehicle that will enable them to participate in various formal and informal learning activities and other international events.

Consequently, such opportunities increase a person's awareness for other cultures and countries while it gives a sense of personal fulfilment. For persons who are blind, learning a foreign language can further reduce the gap that is caused by the vision loss and at the same time increase recreational opportunities. More specifically, it enables persons who are blind to access different kinds of media such as movies, TV and radio broadcasts in foreign languages for which duplicating is not available. They can easily navigate various websites to access information about services and products available for persons with visual impairments as well as meet other people with visual impairments using social platforms with whom they can share common experiences and good practices. Furthermore, a foreign language can allow a person who is blind to access various e-books and audio books widely available on the internet.

Just like for any other student learning a foreign language, categories and concepts formed in the framework of other school subject are used, mainly from the main subject's area (history, civilization and geography). The student must improve their ability to communicate in specific educational and professional areas of a foreign language.

Challenges relating to blindness

Some of the traditional barriers for teaching a foreign language to students who are blind, common to all levels of inclusive education, are the following:

- Sight based lessons and teaching material (information is usually offered in a visual format such as pictures and/or videos). The Pedagogical methods used are sight based and rely highly on visual perception and audio-visual approach.
- High level of the use of audio-visual tools in the classroom (especially for younger students).
- The adaptation of existing textbooks: lack of reading material in a digital format. Most materials used include many pictures and graphic solutions e.g. completely missing grammar; the words are written in communication bubbles like cartoon stories.

- Lack of assistive technology (screen readers, braille lines, scanners or other reading devices).
- The teaching approach – lack of qualified teaching staff (teachers are not aware of the specific needs of blind students and the general implications of blindness to learning: e.g., not aware of what exactly blindness means; what blind students can and cannot do; how to behave towards blind students; what are the cognitive implications of blindness for the students).
- Dealing with non-Latin-based alphabets and less popular or complicated languages. This requires different and more specialized equipment to adopt textbooks and other material into braille and may lack the availability of assistive technology to support blind students (e.g. braille display or synthesizer software). Transcribing material require personnel with basic braille code knowledge of the given language.
- Poor or no braille skills may influence negatively the process of learning a foreign language, or even prevent the student from participating in the lesson. (Slowing down the learning process, the reading speed etc.).
- Good computer skills including the knowledge on how to use the available assistive technology, can improve the quality of the lesson and strengthen the learning procedure. This can also enhance the communication between the blind student and the teacher who has no braille knowledge since the student may type and read in braille but the teacher can read on the computer screen and write on the QWERTY keyboard.

All the above limit the possibilities for teachers to adopt their teaching approach to the needs of a blind student.

A description of suitable teaching methodologies and practices

There are two general approaches when teaching a foreign language to a blind student in an inclusive environment. Depending on the learning objective of each lesson a teacher can follow one of these approaches or a combination of the two. This means that using one approach does not exclude the use of the other:

1. Adapting the methods already used by the teacher to meet the needs of the student who is blind in the classroom.
2. Implementing an entirely new teaching approach (also in the classroom).

Adaptation of existing methods

The following techniques can easily be implemented in the methodology already applied:

a. Use of the blackboard:

The teacher reads out aloud what he/she writes on the blackboard, by spelling out difficult or new words so the student who is blind can write them down.

b. Use of pictures, posters etc.:

- Give a general description and then move on to give more details, using the clock method or terms such as “on the top left”, “on the top right corner” (this requires picture description skills).
- Description by a classmate or some other sighted person.
- Written description in an accessible format.

c. Knowing how to behave around a blind student:

- The teacher should not avoid using everyday vocabulary, e.g. phrases like: “do you see what I mean” or any other words related to vision such as: watch, look, see.
- The teacher should announce his/her presence in the classroom (entering and/or leaving).
- The teacher should make clear to the blind student when it is his/her turn to speak by addressing them by their name.
- The teacher should use precise language when addressing the class. For example, instead of using the phrase: “this group should go there”, he/she should say: “students sitting in the first row should move to the back of the class by the window”.

d. Classroom environment:

- The student should be allowed to choose where to sit in the classroom. But sometimes sitting closer to the teacher might be better since it will allow him/her to be the first one to get a new object in his/her hands and also ensure that he/she will be able to listen better to the teacher.

- The classroom environment should be adopted to be accessible to the blind student (e.g. obstacles between the entrance door of the classroom and the student's place should be avoided, classmates should be careful where they leave their bags or other material).
- When changes are made to the classroom the student who is blind should be notified and be given the time needed to explore the changes and be accustomed to the new situation.

e. Adapting material:

When material is going to be adapted in any accessible format (Braille, Digital, Audio) the teacher should follow these simple rules when preparing such material:

- Digital material should accessible formats such as the following formats: Microsoft word (*.doc) or (*.docx), Rich Text Format (*.rtf), Plain Text (*.txt), Portable Document Format-only text based (*.pdf).
- In case a text includes questions, they should be clearly numbered.
- Lists should be clearly organized using a dash at the beginning of each item.
- Text irrelevant to the content (like headers, footers, or references) should be either excluded or included in a different way e.g. footnotes and references at the end of the text, footnote and endnote symbols replaced with a number or letter following the word in a parenthesis or after a dash.
- Extra spaces and blank lines should be avoided.
- Matching exercises should be completely adopted and written in two lists, numbered with letters and numbers in order to be distinguished. The same should be done for exercises that require filling blank spaces (these should also be numbered).
- Tables should be written in a linear manner: e.g. the first column should be written as a horizontal line with the header of the column followed by a colon mark.
- Pictures, drawings and diagrams, all should be deleted from the document. Those necessary to the comprehension of the text should be either described (e.g. pictures) or adopted (tactile graphics or diagrams).
- A conversation that is presented in a book in a cartoon-like format (e.g. with the use of Callouts) should be re-written in a dialogue format. An example is available at the following link: <https://www.dropbox.com/s/w8x6enh5vg7qjc1/BalloonDialogueToText.docx?dl=0>

f. If any audio-visual material is going to be used, the teacher should ensure that:

- The sound is of good quality.
- Visual content that is important to the lesson should either be verbally described (by the teacher during the viewing) or given in a written form to the blind student beforehand.

- Any text included in presentations (like Power Point), should also be given in a written form to the blind student beforehand and images should be described (as mentioned above in “e. Adapting material)
- g. Kinaesthetic approach-replacing pictures with movements and gestures:
- The teacher can encourage the use of all the students’ bodies, their hands and even different gestures, when introducing new vocabulary in order to enhance or assist learning. E.g. students may stand up and jump when introducing the new word “Jump”, instead of showing a picture of someone jumping.

Implementing a new teaching approach

REALIA

The use and handling of real objects in language teaching: REALIA

In education, REALIA are objects from real life used in classroom instruction by educators to improve students' understanding of other cultures and real-life situations. A teacher of a foreign language often employs REALIA to strengthen students' associations between words for everyday objects and the objects themselves. More information on REALIA is available at the following link: [https://en.wikipedia.org/wiki/Realia_\(education\)](https://en.wikipedia.org/wiki/Realia_(education))

It is widely acknowledged that for students who are visually impaired the real objects are, by far, better than any enlarged, simplified or tactile representation of them. This teaching approach is particularly efficient for young learners with visual impairment when learning a foreign language. This simple approach can also be easily used and it requires little or no technical adaptation as a lot of diverse objects or pieces of furniture are often readily available in the classroom or can be brought in and stored in a large box to be used over and over again.

When selecting a REALIA, teachers of a foreign language, must keep in mind some criteria, such as:

- the physical size of the objects (relatively small and easy to handle),
- familiar and easily recognizable objects,
- good colour contrast for students with residual vision,
- real textures or as close to real as possible.

Some examples of objects that can be used in classroom are: stuffed and plastic animals, cars, pens, keys, Lego brick, plastic or felt fruits, miniatures of well-known places, small items of clothing, dolls kitchen and house ware etc.

Prior to introducing an object to a student, the teacher must allow sufficient time and give adequate verbal indications and assist in the physical exploration of the object.

REALIA can be used in many situations and for a number of teaching objectives such as basic vocabulary, listening and speaking skills, grammar points/ notions (i.e. quantifiers, numbers,

articles, place of adjectives, prepositions of place as well as functions such as giving orders, proposing, asking for something, comparing, locating objects, etc.).

Example 1:

Learning objective:

Write a short story describing a monster.

Adaptation:

The teacher handles a toy dinosaur to the student who is visually impaired to describe it.

Example 2:

Learning objective:

Vocabulary (learning body parts)

Adaptation:

Give an anatomically correct doll to a student to teach various body parts.

Use of guiding questions to replace pictures presented in a sequence

As previously mentioned, one of the greatest challenges in learning a foreign language, is the fact that the majority of the textbooks at the elementary level are very visual and rely a great deal on pictures.

To overcome this challenge the classroom teacher can compose a number of guiding questions in order to substitute the pictures in a textbook.

Example:

Teaching objective:

To write a short story on the student's daily routine based on a series of pictures portraying routine actions of daily life.

Adaptation:

The teacher creates a series of questions based on the actions presented in the pictures, as to assist the student who is blind in writing his short story.

Hands- on experience

Hands on experience is a learning approach that becomes more and more popular as it is commonly acknowledged, that it is harder for children to master a learning objective if they have never had a related experience. This multisensory approach can be of particular benefit to the student in the classroom who is blind, as experiential learning has proven to enrich the learning process and helps in overcoming the challenges associated with the vision loss.

Teaching objective:

Countable and uncountable

Adaptation:

Present the students with the recipe of a cake. Teach countable and uncountable. Then, in the home economics room let the students have a hands-on experience while measuring countable and uncountable ingredients in order to make a cake while at the same time enhance learning by using verbs or phrases in the imperative mood (i.e. add, mix, pour, put).

Role playing

Role playing is a technique that will allow the students in your classroom to explore realistic situations while interacting with each other in a structured way. This approach can be of particular value to the student who is blind in your classroom as he/she will feel satisfied from being actively involved in the learning process.

Learning objective:

Word order

Adaptation:

Instead of using visual ways to teach how you can change the order of the words to create various types of sentences, the teacher can assign a role to each student to be a specific "word character". Word characters stand in a line forming sentences while moving around and changing positions in order to portray how the meaning of the sentence changes by moving words around.

Use of Braille flash cards:

Learning how to use flash cards or word cards has been a popular and effective tool for many years. The student who is blind can also benefit greatly from learning how to use Braille flash cards. Braille flash cards are an inexpensive tool with many advantages as you can easily and quickly create your own flash cards based on the learning objectives. Using the Braille typewriter and a A4 sheet of self-adhesive Braille transparency, you can type the context of the flash cards, stick it on a thick piece of paper and cut out the flash cards. Once the student becomes familiar with the context of the flash cards he/she can use them to achieve the learning objective.

Example

Picture 1 (see below): A student using simple Braille flash cards, to create a sentence. These cards were made with common A4, 160 gr paper with the Braille dots written with the Perkins Brailler.

Pictures 2 and 3 (see below): Closer images of the Braille flash cards and for the student's fingers tactilely reading them.



Figure 1: Picture 1 – Student using simple Braille flash cards



Figure 2: Picture 2 - Closer

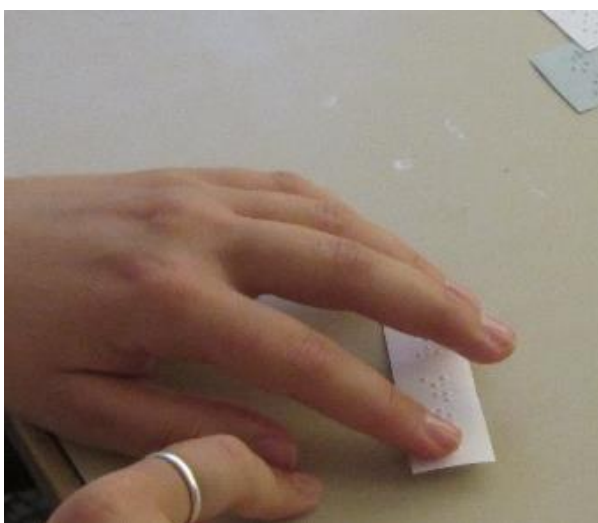


Figure 3: Picture 3 - Closest

Real life situation

Just like the experiential learning approach, offering students who are blind real-life opportunities is more meaningful and essential and helps to keep the student concentrated and motivated.

Learning Objective:

Plural/singular

Adaptation:

Take the students for a walk to the school's garden and teach plural by pointing out to the leaf/leaves, tree-trees (remember to let the blind student touch them or,

Take a trip to a nearby fruit market and benefit from teaching vocabulary and singular and plural at a real- life situation.

Learning technologies for inclusive teaching of a foreign language to blind students

Many of the barriers that students who are blind face at school, can be overpassed by using technology, particularly since electronical devices now are part of everyday life. One of the most important areas in which technology can offer helpful solutions, is that of access to information and more specifically access to teaching/reading material. This therefore applies to many –if not all- subjects of the school's curriculum, including a foreign language.

Technology can help in adopting teaching material and/or giving to the student access to the same material as his/her peers inside the classroom. Hence, it can be used both by the teacher and the student in different ways.

Use of Computer with a Screen Reader

A normal computer –laptop or desktop- can be used by the student in the classroom or at home, to give him/her access to books, documents, exercises and other material either existing or adopted in any digital form (as mentioned in section e. Adapting material above). In order to make the computer accessible to the blind student, a screen reader needs to be installed. This is a software that speaks out loud the focus of the computer's screen. The student uses the keyboard instead of the mouse to move around the different applications and utilities and the screen reader announces what is going on. Thus, the student can listen to whatever he/she is writing, read a text or a book that he/she's been given by the teacher, write exercises in a form that the teacher can also read and use the internet for studying if necessary.

A link to a video of a student using a screen reader with a braille display is available at the following link: <https://www.dropbox.com/s/mh79c2u8jissk81/UsingComputerWithScreen-ReaderandBrailleDisplay.mp4?dl=0>

Use of computer with a Braille Display

A braille display is a device that can be connected to the computer and through the screen reader can reproduce what is spoken into refreshable braille. There are several benefits by using it, especially in the classroom:

- The student can read in braille instead of listening and thus he/she can pay attention to the teacher and the lesson and does not have to use earphones to avoid disturbing the rest of the classroom.
- He/she will improve his/her spelling skills since he/she can actually read the words and not just listen to them.
- He/she can use a combination of the two to learn both spelling and pronunciation, which could be really helpful particularly in learning a foreign language.

A link to a video of a student using a screen reader with a braille display is available at the following link: <https://www.dropbox.com/s/mh79c2u8jissk81/UsingComputerWithScreen-ReaderandBrailleDisplay.mp4?dl=0>

A braille display is connected via a USB cable with the computer and is in put in front of the keyboard (or to the side according to user's preferences). The illustrations below show examples of Braille displays connected to a computer.

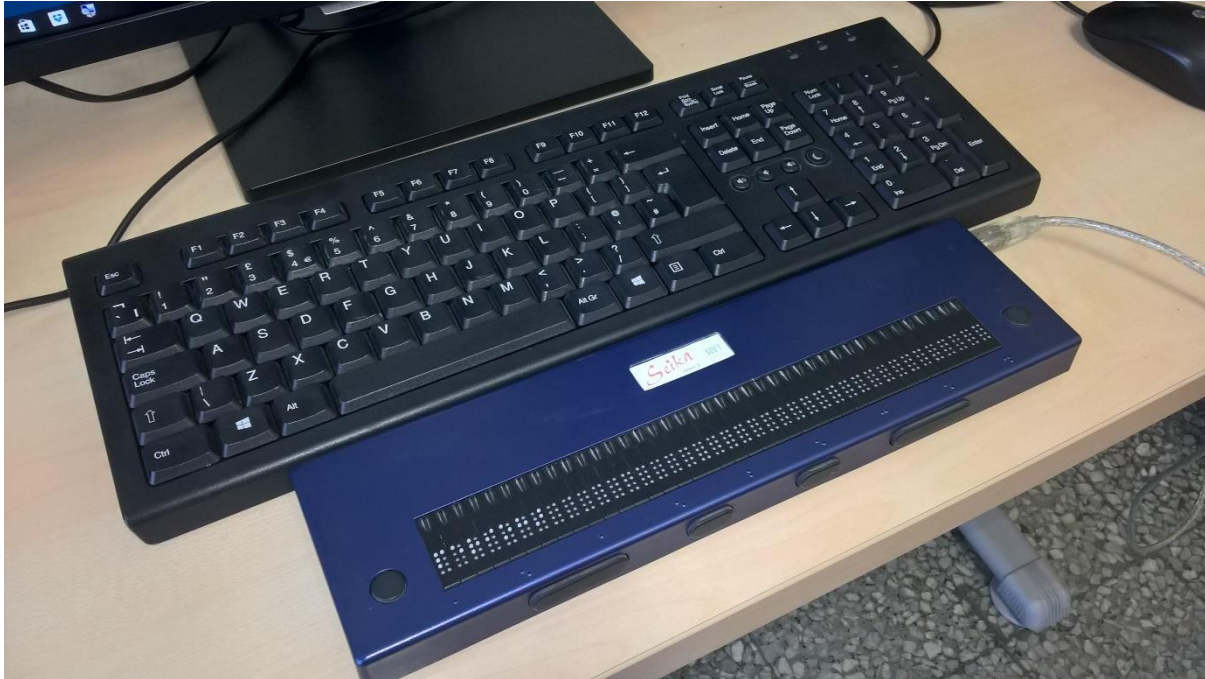


Figure 4: Braille display connected to computer



Figure 5: Computer with Braille display. monitor, keyboard and speakers

Use of Reading Machines

This is something that is usually popular amongst adults, but a student learning a foreign language may benefit from its use, especially if he/she has to read a large portion of text or a book.

A Reading Machine may come in different models and designs but the result is the same: a text is either scanned or captured by a camera and then automatically recognized into a text form by the machine and read out loud. The illustrations below show examples of a reading machine for people with poor tactile skills, e.g., a young child or an elderly person:



Figure 6: Reading machine, closed



Figure 7: Reading machine, open

Use of DAISY books and players

DAISY (Digital Accessible Information SYstem) is an e-book in mp3 format that is structured to allow navigation, bookmarking and notetaking in an audio book, which facilitates studying. A student who is blind can benefit from the use of a DAISY book if listening to it with the use of a DAISY Reader.

More information about DAISY is available from Wikipedia at https://en.wikipedia.org/wiki/DAISY_Digital_Talking_Book and from the DAISY Consortium's website at <http://www.daisy.org>

The RoboBraille service

The use of the RoboBraille Service may help the student improve his/her reading skills and pronunciation, by giving him/her audio feedback:

RoboBraille is an online automated document conversion service, that can convert text to a number of alternate formats such as MP3 audio format, E-books, DAISY-books, Braille books and otherwise inaccessible documents into better accessible formats.

Online dictionaries

Most common dictionaries are extremely large in volume for printing in Braille format and do not have a portable option for the student to use in the classroom at first hand. Therefore, the use of an online or even a digital dictionary can facilitate the blind student's studying and learning whether in class or at home.

Using a digital recorder to take notes

Tape/Digital recorders are often a great tool for students who are blind in the inclusive setting. Listening back to the lesson on their own studying time, will allow him/her to create his/her own notes on the preferred method or better understand and comprehend parts of the lesson that he/she did not fully comprehend while in class. This approach is more widespread among students of higher grades and/or in cases where the student's braille skills are very poor.

Using accessible digital games to enhance vocabulary and grammar skills

In recent years a growing number of computer games, IOS and Android applications are becoming available to young learners with visual impairment to enhance the learning of a foreign language. Such games can improve reading, speaking and spelling. Find an example on www.duolingo.com website.

A video of a student using an accessible website to play an online game of learning a foreign language (parts of learning English for a Greek speaking student) is available at the following link: <https://www.dropbox.com/s/7k65d5haibg3spx/UsingScreenReader-WithOnLineGame.mp4?dl=0>

Swell-paper and Thermoforms

This kind of technology can be used by the teacher/support teacher and not the student, prior to the lesson to adopt reading and other teaching material in a tactile form for the student who is blind.

There are two traditional ways for producing tactile forms in 3D shapes:

The use of a fusers and swell paper, will make tactile any line, shape or pattern in black, printed on it, once passed through and be heated by the machine. The illustrations below

shows the tactile form of the sighted letter and of objects or animals that their name begin with this letter.



Figure 8: Swell-paper with tactile representations of letters and objects



Figure 9: Close-up of swell-paper with tactile representation of letters and objects

The Thermoform will heat sheets of plastic film to a point that it will take the form and shape of any material that is laid under, thus creating a tactile “picture” as illustrated below:

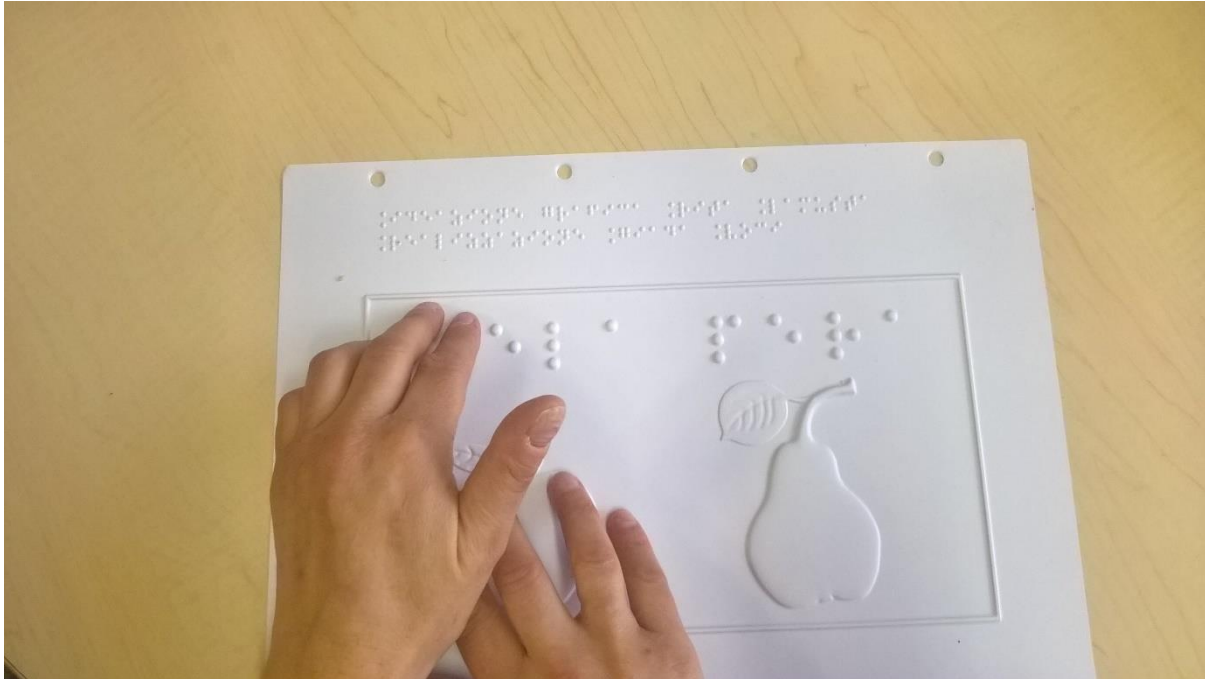


Figure 10: Thermoform example with the tactile representation of fruits with their braille name in larger form

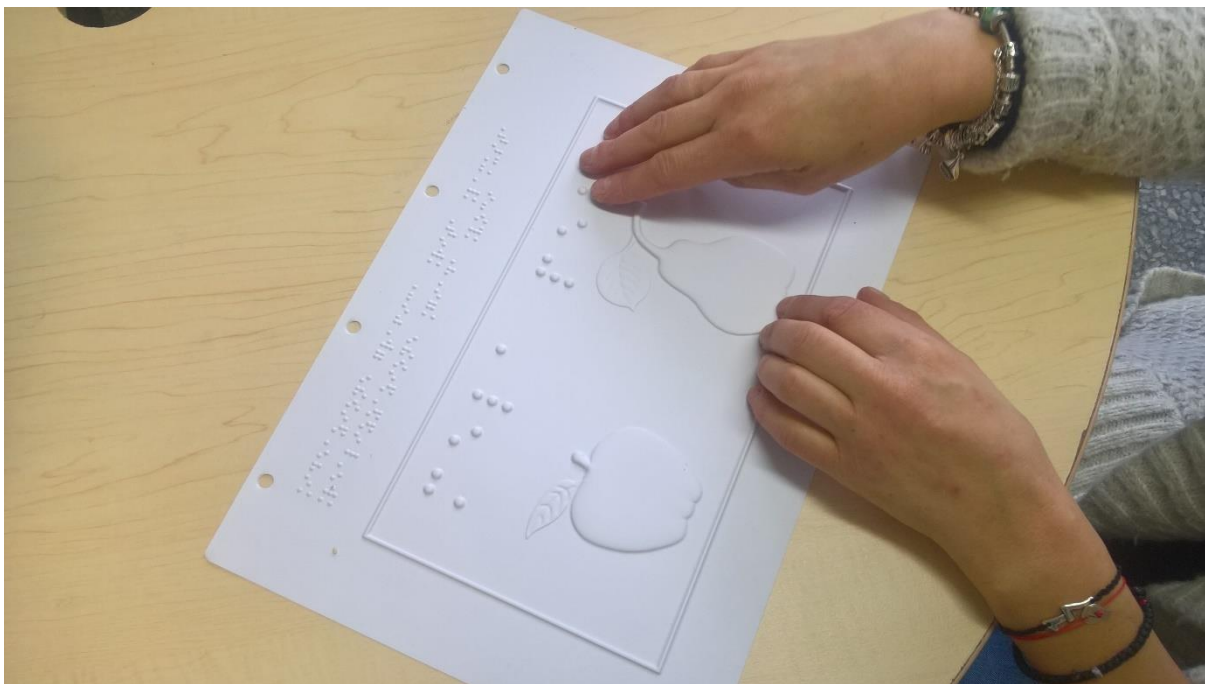


Figure 11: Thermoform example with the tactile representation of fruits with their braille name in larger form

Diagrams, shapes maps etc. can be reproduced, to be explored by students who are blind. Resource centres for students with visual impairment are equipped with such devices and can offer you support on how to prepare the teaching material that you wish to have in a 3D

format as such procedure requires adaptation and simplification of the existing learning material.

You can find a list of websites with information on how to create tactile diagrams at:

<http://www.perkinselearning.org/scout/tactile-graphics-students-who-are-blind-or-visually-impaired>

OCR Software

Both the teacher/support teacher and the student could use this technology, again prior to the lesson, to adopt reading material in digital form for the student who is blind.

OCR (Optical Character Recognition) is software that will “recognize” a scanned or photographed text, into an actual text, so that it will become accessible to the student who is blind.

The support teacher, the teacher or the student him/herself, can use a simple scanner, a computer and an OCR Software (there are free utilities available to use through browsers online), to transform text written on paper, into a digital form. Thus, the student who is blind will be able to read it, either listening to it with a Screen Reader or tactilely with a Braille Display.

References

Foreign Language in Wikipedia: https://en.wikipedia.org/wiki/Foreign_language

Information on The Common European Framework of Reference for Languages -CEFR:
<https://www.telc.net/en/candidates/cefr-levels.html#t=1>

Learn more on what is Realia in Wikipedia: [https://en.wikipedia.org/wiki/Realia_\(education\)](https://en.wikipedia.org/wiki/Realia_(education))

Find Duolingo language game here: www.duolingo.com

Information on the RoboBraille Service can be found at: www.robobrainle.org

List of websites with information on how to create tactile diagrams at:
<http://www.perkinselearning.org/scout/tactile-graphics-students-who-are-blind-or-visually-impaired>

Find more information on Daisy: www.daisy.org

Find a list of websites with information on how to create tactile diagrams at:
<http://www.perkinselearning.org/scout/tactile-graphics-students-who-are-blind-or-visually-impaired>



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