**European Commission
LEONARDO DA VINCI PROGRAMME**

Access to the Modern **L**ibrary S**er**vices for the Blind and P**a**trially Sigh**te**d People

EL/99/1/068244/PI/I.1.1.E/CONT

Development of Library Services to Visually Impaired People: guide for Hellenic libraries

Bruno Sperl

**Central Library
Karl Franzens University of Graz, Austria**

Contributions:
**Mario Batusic, i3s3, Johannes Kepler University of Linz, Austria
Anna Fragkou, University of Macedonia, Greece
Yota Patragkou, University of Macedonia, Greece
Kostas Zontanos, University of Macedonia, Greece
Filippos Tsimpoglou, University of Cyprus
Elena Diomidi, University of Cyprus
Despoina Karachlani, Polyplano Euroconsultants, Greece**

July 2001

TABLE OF CONTENTS

01. Introduction

According to a study conducted for TESTLAB (Telematics for Libraries) project in 1997, in Northern (and in the rest of) Greece, no library services were provided to people with visual impairment. Following the results of this study, ACCELERATE project has come as a successor of TESTLAB to address the issue of the lack of information services provision to visually impaired people by Greek libraries. During the life of ACCELERATE project two Academic Libraries, one in the University of Macedonia (Thessaloniki, Greece) and another in the University of Cyprus, were equipped and supported in view of offering their services to visually impaired students. The project was planned carefully, taking into account all possible factors affecting the development of new specialized services in an Academic Library. Existing experience in offering library services to the blind and partially sighted people was transferred by the Austrian and Dutch partners contributing in this way greatly in the successful accomplishment of the project.

Equipping the two libraries with modern adaptive equipment for use by the visually impaired users of the libraries was one of the milestones of the project. However, two additional measures were taken for the developing services to be introduced and thoroughly applied. The first measure was the edition of a handbook (Train the Trainers) aiming at helping librarians to successfully organize information services to visually impaired people and the second was the edition of another handbook (Train the Users) aiming at introducing the use of adaptive technology to visually impaired users.

The "Train the Trainers Handbook" in hand consists of 12 chapters containing useful information regarding the introduction of library services to blind and partially sighted people. The handbook is addressed mainly to Greek and Cypriote librarians but it can be adapted with some changes to other cases when developing services to the visually impaired for the first time.

Following this Introduction, the second chapter of the handbook "General medical and statistical data on blindness and visual impairment", contains general medical information on the causes of blindness and statistical and demographic data on blindness and visual impairment such as: the measuring of visual impairment, and the blind and partially sighted population in Europe, and in Greece and Cyprus more specifically. Aspects of the nature of visual impairment in relation to access to information and libraries are also addressed.

The third chapter "Use of Braille and adaptive technologies: history, state of the art, emerging trends" introduces the use of Braille alphabet and the alternative formats of material available for use by the visually impaired people. New developments in adaptive devices and applications are presented and the problem of the accessibility of websites and on-line information systems is examined.

In the fourth chapter "Description of an adaptive workstation" an effort is made to provide detailed information on available adaptive equipment and software. A full description of the adaptive workstations installed in the two libraries is given also so that every other library considering the offering of services to visually impaired users in Greece and Cyprus can be informed on the products available on the local market and on the specifications needed to support Greek language.

Most important to libraries, the fifth chapter "Checklist for the Library" tries to cover all aspects encountered by a library wishing to offer services to blind and partially sighted users, by focusing on measures which have to be taken before and during the development of the services. The importance of good organizational planning and personnel training in offering service to visually impaired users is stressed out.

Of equal importance to libraries the sixth chapter "Setting up Accompanying Structures at University Level" suggests a number of combined actions to be taken by a University for supporting visually impaired students in their studies. Close cooperation with teachers, authors and publishers is highly required for providing blind and visually impaired students with textbooks and other necessary material during their studies. Reference to the integration of visually impaired students in the class and their supporting during courses is also made.

Electronic text is a new powerful tool for everyone, because it offers easy and immediate access to the primary source of information (full-text). For the visually impaired persons, electronic text means access to more material than ever before, easier manipulation of information, possibility to study and work at home and a broader coverage of their educational needs. Copyright Law covering the production and availability of electronic content is a frame within which all libraries have to work and librarians must be well aware of the limits imposed by Copyright Law. In this framework, chapter seven "IPR and Licensing" of this Handbook is

presenting copyright rules in force in Greece, Cyprus and the European Union. For the needs of Greek librarian, an additional concise guide on Greek Copyright Law was produced and is available electronically at: http://www.lib.uom.gr/accelerate/deliverables/c_right.doc

Another advantage in our electronic era is the offering of distance learning and e-learning. The subject is covered in detail in the eighth chapter of this Handbook, starting with general information on learning theories and then, focusing on distance and e-learning, its key benefits, its provisions and its challenges. In the end of the chapter a long list of links to distance learning programs offered by educational institutes worldwide is also given.

Chapters 9 through 12, consist of lists of electronic resources available either free in the Internet, or under restricted access through the University of Macedonia Library (Greece) public services. Access method is described next to the name of each resource, so that users of this handbook can easily distinct freely available resources from the controlled ones. Potentially, all these resources could be technically accessible by visually impaired users. However, as mentioned in chapter three of the Handbook technical measures insuring accessibility of electronic resources by blind people are in many cases overlooked.

The Appendix in the end of the Handbook includes a short Awareness Raising Questionnaire. None of the possible answers are false or true – the purpose of the questionnaire is to give an opportunity for discussion on disability and the needs of disabled persons. The questionnaire is suggested in relevance to the sensibilization of staff and volunteers working with people with disabilities.

We hope that this Handbook will be of use to librarians and other people working in educational institutions and providing services to visually impaired students, teachers and researchers. Living in the Information Society may be thrilling only when access to information is widely, openly and equally given to all its members. In this view, we also hope, that this Handbook will contribute to the promotion of the equal rights of disabled people to access information and to actively participate in all levels of education and professional evolution.

02. General medical and statistical data on blindness and visual impairment concerning library services

Medical and Statistical Data on Blindness in Greece

Definition of blindness/ classification

The World Health Organisation (WHO) regards every person with a visual acuity less than 1/20 in the good eye as blind. Also, any person who may present satisfactory visual acuity but whose peripheral vision is limited to 10 degrees or less centrally is considered blind.

Classes defined by the World Health Organization (WHO) concerning persons with serious vision impairment are as follows:
Class 1: Visual acuity between 1/3 and 1/10 (partially seeing)
Class 2: Visual acuity between 1/10 and 1/20 (partially seeing)
Class 3: Visual acuity between 1/20 and counting fingers at one meter or 1/30 (blind)
Class 4: Visual acuity between counting fingers at 1 meter and light perception (blind)
Class 5: Visual acuity: no perception of light (blind)

According the Greek Law blind person is defined as a person whose visual acuity is less than 1/20 in the better eye with best possible correction. Each person also even if has satisfying visual acuity but his peripheral visual is confined to 10 degrees central or less is supposed to be blind.

Causes of blindness

The causes of blindness vary depending on when the low vision appears also the social and economical level of country. The lists below indicate the most frequent diseases as have been researched between blind children and adults in the West.

In **children**, in the countries of the West, the most common blindness causes are:

- Retinopathy due to immaturity
- Bulb abnormalities
- Atrophy of the optic nerve
- Congenital cataract
- Nystagmus
- Amblyopia
- Congenital diseases
- Others

While cause of blindness in **adults** in the West are:

- Degeneration of the macula due to old age
- Retinopathy due to diabetes
- Glaucoma
- Pigment retinopathy and other retinopathies
- Atrophy of the optic nerve
- Cataract, etc.

More details on causes of blindness:
Macular degeneration:
Often referred to as the blindness of old age - this is the most usual cause of loss of ability to read print. The central area of vision is used for seeing detail, whilst the focus in peripheral vision is less sharp. Spectacles cannot compensate for macular deterioration, though magnifiers can be helpful to some people in the early stages of deterioration, and large print will prolong the ability to read.
Tunnel vision is a general term which describes a number of retinal conditions in which peripheral sight is lost. It is the peripheral field of vision which enables people to see in poor light, so many people who have tunnel

vision describe themselves as "night blind". The two most common causes of tunnel vision are **Retinitis pigmentosa**, which is a frequent cause of severe sight problems in younger people, and **Glaucoma**, which tends to start around the age of 40 and which can be controlled. Because the central area of vision is unaffected, people with tunnel vision are often able to continue reading standard print until they reach middle age - longer if their condition is controllable - after which they will progressively need large print and subsequently other alternative formats. The illustration below shows the importance of good design in access, as people with tunnel vision are more likely to fall over objects such as chairs or kick-stools which are out of their line of vision, especially in poor light. **Cataract** is another common cause of visual impairment in old age, and is the result of the lens in one or both eyes becoming cloudy or opaque. People with severe cataracts can see light and pick out strong colour contrasts, but cannot read print. When the condition reaches an advanced stage, laser treatment and lens replacements can help the majority of people, who will then usually be able to read large print. **Diabetic retinopathy** is another major cause of severe sight problems in people of working age. It leads to **patchy vision** which often results in orientation difficulties. This is because parts of what the people see disappear and the brain assembles what seems to be a whole picture - a blank wall instead of a wall with a door in it, for example. Some people with patchy vision have a fairly even loss of sight across the whole visual field, and may therefore need clear colour contrast and large print, whilst others lose peripheral vision first, so can read standard text for a longer period. **Total blindness** can result from all the broad types of impairment noted above, as well as from other causes, such as accident, detached retina in both eyes, and other diseases. People who lose their sight suddenly, especially if they have been used to using libraries and to reading standard print, will want to continue reading, whether for work, study or leisure. Some will learn Braille or Moon; others will rely on audio material. For those who want more than leisure reading in these formats, there is a great challenge for all kinds of library in making adequate provision for visually impaired people.

Statistics indicate an increase in the number of people with serious vision problems as their age proceeds. Today, almost 5% of the people with a serious vision problem are below 16 years of age, whereas 70% of them are older than 65 years of age.

This phenomenon can be explained in two ways: firstly, due to the increase of average survival age, so that more visual problems due to ageing occur; secondly, due to the increase in demand and the stronger willingness of these people to participate in more activities.

Blind population

The World Health Organisation (WHO) tried to estimate the total number of blind globally. In 1990 it was reported that there might be 38 million blind in the world while 75% of them live in Africa and Asia. The number of persons with low vision was estimated to be 110 millions.
In Greece, the estimate is 21.000 blind people for 1990, while the blind people registered in the Prefecture of Thessaloniki are 1031 (approximately 1% of the total population). But it is likely that the real number will be different on account of the fact either many blind live in distant regions or some families avoid registering their child's disability.

Global distribution of blindness by age

The data on visual impairment by WHO (1995) indicate that 58% of the blind people are elder than 60 years old, 31,7% are between 45 - 49 years old, while 6,5% are at the age between 15 - 44 years old. A low percentage (3,8%) are younger than 14 years old.

The number of blind in the world is not accurately known, but it has been estimated various times by WHO as mentioned above. Main causes are avoidable through prevention and therapy. The 3,8% refers to children population (up to 6 years old), the visual acuity of whom varies depending on the geographical area they live.

<u>**Research: Very low vision in young people: Aetiology and prevention**</u>
(From the School for the Blind in Northern Greece during the period 1980-1999)

The causes of vision impairment are numerous and differ in their age of expression and in relation to the socio-economic level of a country. In industrialised countries these causes are due mainly to genetic factors, and these are even more common in Europe. The picture of the causes of blindness, however, is completely different in the developing world, in regions such as Southeast Asia, Tropical Africa, Central and South America. Bad

nutrition, low hygiene standards and the measles contribute to the causes of blindness, which is why vitamin A administration is considered essential. 4/5 of the blind of the world are to be found in countries where these diseases are endemic - especially so in Africa, where the blindness index is 10 times that of Europe.

The main causes of blindness were investigated among 180 students at the "SUN" School for the Blind in Northern Greece (SBNG); these included 109 boys and 71 girls between 1980 and 1999. The study was carried out for every decade and for the total population. The "SUN" SBNG is the only institution in the region of Northern Greece to host and train people with impaired vision.

The age of the people included in the study population ranged from 5 to 35 years. Younger ages were not included, as these persons do not attend school yet; nobody above 35 was included either, as the study concentrated on the study of causes of blindness among children and young adults. Therefore, this study is concerned with people who lost their sight at a young age.

It was observed that ante- and peri-natal causes come first in the classification of aetiological factors for sight loss - they are presented in detail in the tables, both for each decade (77%) and for the total number of cases from 1980 to 1999 (75.6%). This prevalence in comparison to post-natal factors is statistically significant and concerns each decade, as well as the whole study population. Among these causes, hereditary ones come first (52.8%); these are either certain (13.9%) or suspected as possible ones (38.3%). It is noted that the higher the socio-economic level of a country, the more frequent hereditary blindness causes are.

Post-natal causes account for 15.5% of our cases. There was a decrease in their frequency from the first decade to the next, despite the increase in the number of accidents; similar data have been presented by other reliable researchers as well. In the study, accidents were the first cause among post-natal factors. It should be noted that besides road accidents, accidents due to negligent use of firearms also occurred; out of the 11 cases, only 2 victims were older than 20 years of age.

In the last decade there has been a decrease in the number of cases of blindness in our country as well as in the developed countries around the world. A great role has been played by mass inoculation programmes as well as by higher standards of living.

Knowledge of the causes of impaired vision lays the foundations for better prevention of such a serious handicap. The famous Helen Keller, deaf and blind, wrote: "If 1/10 of the sum spent for the support of the blind was spent to prevent blindness, society would save huge sums of money and the happiness offered to humanity would be immeasurable".

The daily life of the blind in contemporary cities in Greece - Mobility problems and everyday activities

People with impaired vision must learn to adapt to the activities of daily life either very early - persons who were born blind - or practise certain techniques and aids - as this happens in cases of persons who were blinded and are already familiar with these skills. In certain cases, besides the special aids, correct lighting helps and facilitates the use of residual vision in the partially blind.

The problems blind people are faced with in their daily lives in modern cities are numerous:
• Bad condition of pavements that makes walking difficult
• Difficulty in accessing pedestrian crossings, which are often blocked by illegally parked cars
• Bad driving, violation of pedestrian right of way by drivers, violation of traffic lights
• Lack of sound signal at traffic lights
• Lack of information systems on mass transport means and elevators in public places

These vital limitations in the free movement of people in space - something that is no problem for seeing people - has a negative impact on the personal and social development of the blind, limiting their opportunities for richer experiences and significantly handicapping their social relationships. Because the blind cannot move freely in any place they wish or need to visit, they cannot develop other skills or competences, so their personality development is impeded.

Unfortunately, it is a fact in Greece that any person facing a serious vision problem has to readapt his/her life. They must organise their lives based on a realistic plan, which will almost exclusively depend on one's own abilities and different needs. The role of society in this effort is definitive, yet it proves to be rather passive. An active social role concerns knowledge, participation and acceptance of differences, in this specific case blindness and its special features.

Being aware and convinced that each one of us, irrespective of their physical or intellectual ability, has the right to enjoy the full range of services offered to facilitate our daily lives is something that requires persistence, incessant effort and, mainly, action. Such effective actions and support activities in the case of blindness are implemented through programmes of early intervention for children with vision problems, by facilitating and adapting their social life environment and by providing equal services to the blind at educational institutes, libraries, cultural venues, athletic facilities and, of course, workplaces.

Referring to the causes of blindness the picture is completely different in the developing countries such as in tropical Africa, Southeastern Asia, Central and South America. Malnutrition, sanitary conditions and the disease of measles lead to the development of great damages in the field of visual because of vitamin deficiency A. According the survey results from the School for the blind of Northern Greece, during a two-decade period from 1980 to 1999, the most frequent diseases were due to congenital and hereditary conditions while accidents predominated in the postnatal period.

The education of the blind and visually impaired people in Greece

Based on the Deliverables of Workpackage 7/ European research project TESTLAB: "Thessaloniki: Study of an area without services", produced by Polyplano Euroconsultants, Thessaloniki, 1997, about the situation of the library access provided to blind and visually impaired users, the following conclusions regarding the education status have been drawn. *(*)*

In Greece there are 4 special primary schools for Blind pupils: KEAT in Athens and Helios in Thessaloniki. There are only primary special schools but not secondary special schools. The students of the secondary school attend the schools for the sighted. The organisations for/of the blind FAROS and PANHELLENIC ASSOCIATION OF THE BLIND (PAB) offer some kinds of education services and training courses like in handicrafts, as telephone operators and recently in computer use.

The survey that Polyplano Euroconsultants conducted in 1997-1998 under TESTLAB project in 121 blind people revealed that 41% of them have graduated from High School while 20% (nearly) obtained a University degree. Only 5% of the blind have not attended any level of school education.

In the table below, statistical figures are shown concerning the number of blind pupils educated in public and private schools in Greece during the period 1986-1995 (source: National Statistic Service of Greece).

Education of Blind	Groups of Age				
Years	**up to 6 years**	**6-12 years**	**13-18 years**	**19+ years**	**Total**
1986-87	46	86	27	57	216
1987-88	44	68	30	31	173
1988-89	9	69	21	26	125
1989-90	8	61	15	34	118
1990-91	5	110	58	45	218
1991-92	4	78	14	30	126
1992-93	no data	no data	no data	no data	no data
1993-94					121
1994-95					100

Libraries and access

Based again on the Deliverables of the Workpackage 7/ European research project TESTLAB: "Thessaloniki: Study of an area without services", produced by Polyplano Euroconsultants, Thessaloniki, 1997 concerning the situation of the library services provided to the blind and visually impaired in Thessaloniki, the following conclusions are indicated. *(*)*

The situation in Thessaloniki and generally in Greece as the library services provided to the visual impaired people are concerned is rather disappointing. There are only special libraries - usually part of organisations

for/of the blind - which offer some kind of reading material to their users/members. Blind users can use these special libraries for either to borrow talking books (PAB in Athens and the Local Union of Central Macedonia), or in the case of blind students in Thessaloniki to get the books from the University in sighted print and bring them to Helios - School for the Blind of Northern Greece to convert them into recording cassettes. The pupils get their schoolbooks in Braille print at Helios School.

The situation in all the Special Libraries -with an exception of FAROS probably- is the same: the material is very poor, the quality of recording and the quality of speech not always acceptable, the schools for the blind are not able to help all the students, and Braille format is not quite available.

Apart from the special libraries for visually impaired people, there is no Public or Academic library in Greece that provides access to its catalogue or to their reading material for the visually impaired people. Based again on the results of the survey that Polyplano Euroconsultants conducted in 1997-1998 under TESTLAB project the majority of the blind and visually impaired readers would by all means visit and use an accessible library - if existed.

May we referring to some detailed results of the TESTLAB/ WP7 to enlighten the situation.
From the 1.031 blind and visually impaired people living in Thessaloniki Perfecture (approx. 1% of the total population of the country), 831 consisted the target group of the TESTLAB field research.
64 persons were finally approached (19,74% of the total population). The total number of the respondents was 121 representing (14,56 % of the total population).

The sample was more focused on people aged up to 40 years old who represent the most dynamic group of the population-target. To overcome the fact that the results are based on the 14,56% of the population-target, we have to stress that we tried to interview almost all people belonging to groups of special interest like:

- library users
- P/C users
- pupils up to 15 years old
- students at the Telephone Operators School
- students at the University

17 of the respondents were University students (Tables 10., 11. below) mostly preferring Education, Law and Literature studies. 30 respondents to the survey are retired (25%) a percentage which is actually higher in the visually impaired population as more elder people lose their sight.

Students / University	Frequency	Percentage
Aristotle University	16	94,12%
Technological Institute of Thessaloniki	1	5,88%
Total	**17**	100,00%

Students /University/ School	Frequency	Percentage
Education	5	29,4%
Law	3	17,6%
Classic literature	4	23,5%
History	2	11,8%
Other	3	17,6%
Total	**17**	100,0%

Out of the 121 respondents 82 (68%) are aware of the special technology used today to provide adaptive equipment and alternative-reading formats for visually impaired readers. But still one third of the sample does not know or has not heard anything about that.

Despite the fact that 82 of the respondents are aware of the special technology produced today to assist in reading, only 46 know how to use a computer. In other words, one third (32%) has not heard anything about the special technology while almost the two thirds (62%) do not know to use a computer.

The respondents used the computer for

Computer use for	Frequency	Percentage
Writing	23	71,88%
Reading	15	46,88%
Access to networks	5	15,63%
As a tool for work	6	18,75%
Other	3	9,38%
Total	**32**	162,50%

Reading Attitude

86 out of the 121 users are readers (71%) while 35 (29%) respondents don't read. Asking the readers about the kind of reading material they read we had multiple answers with literature well ahead (76%) while scientific/ professional writings and magazines/ newspapers following with the same 45%. Pupils and students prefer to read their school material (14 cases).

What do you read?	Frequency	Percentage
Literature	65	75,58%
Scientific/ Professional writings	39	45,35%
Magazines/ Newspapers	39	45,35%
School books	14	16,28%
Other	11	12,79%
Total	**86**	195,35%

As for the reading formats the survey showed that talking book on audiocassettes is the most used type (81%). We have to take into consideration here that audiocassette is also almost the only format available.

Use of reading format	Frequency	Percentage
Print text	19	22,09%
Audio-cassette	70	81,40%
Digital text	10	11,63%
Braille	25	29,07%
Via another reader	24	27,91%
Other	3	3,49%
Total	**86**	175,59%

Requiring about the reading formats that the users preferred the choice was reversed. Out of the 70 users of audiocassettes only 23 of them prefer to read this way; the message is that audiocassette is a "no-way out" choice. On the contrary 21 users prefer digital text, to twice the 10 respondents who use it already.

Preference of reading format	Frequency	Percentage
Print text	11	12,79%
Audio-cassette	23	26,74%

Digital text	21	24,42%
Braille	26	30,23%
Via another reader	4	4,65%
Other	1	1,16%
Total	**86**	100,00%

In general, Braille is ahead. For the blind readers, Braille book/print means the same as the book/printed text for the sighted. Many respondents expressed the view that Braille is closer to the heart of reading. According to the prevailing belief, Braille print has more efficiency as reading material and sets the user independent from the source.

Concerning the library use, from the 86 readers, 60 (70%) replied that they do visit a library while the rest 26 (30%) replied that they did not.

Do you visit a library?	Frequency	Percentage
YES	60	69,77%
NO	26	30,23%
Total	**86**	100,00%

The reasons of not visiting any library were lining as: 12 out of the 26 readers but not library users -almost half (46,15%) explained that there is no alternative material in the libraries, no adapted equipment or any services provided. Six said that they have difficulty in access, 5 said that they have no interest and 5 that they have no time for that.

Visited Libraries	Frequency	Percentage
Library of the Panhellenic Association of the blind - branch of Central Macedonia	47	78,33%
Library of HELIOS- School for the blind of Northern Greece	13	21,67%
Hellenic Girls Guide (HGG)	13	21,67%
Central Municipal Library of Thessaloniki	2	3,33%
Central Library of A.U.Th	1	1,67%
Local Library	1	1,67%
Library of Lawyers Association	1	1,67%
Total	**60**	130,00%

As for the public and academic libraries in Thessaloniki, only two (2) users visit the Central Municipal Library of Thessaloniki and 1 visits a small local Library while only one (1) student visits the Central Library of Aristotle University of Thessaloniki and one (1) lawyer the Thematic Library of the Lawyers' Association.

The grave situation in the library access appeared clearly while 43% of the library users say that actually there is no reading material in the format they prefer in the libraries while 37% of the users say that there is not sufficient reading material in the format they prefer. This was an important result saying that the 80% of the library users of the sample were not satisfied with the format of reading material provided by the libraries they used to visit.

Do you find sufficient reading material in the format you prefer?	Frequency	Percentage
SUFFICIENT	12	20,00%
INSUFFICIENT	22	36,67%
NOT EXIST	26	43,33%
Total	**60**	100,00%

The respondents evaluated the library services provided to visually impaired people in Thessaloniki today rather negatively: 37% of the users believe that the library services provided to visually impaired people in Thessaloniki today are bad or do not exist.

Evaluation of library services provided to visually impaired readers in Thessaloniki	Frequency	Percentage
Very good	0	0,00%
Good	7	5,79%
Mediocre	29	23,97%
Bad/ not exist	45	37,19%
I don't know	40	33,06%
Total	**121**	100,00%

Taking a look closer at the second higher percentage (33%) representing 40 out of 121 respondents, we find those who gave no answer. They have no opinion on the subject because they are in no position to know the situation of library services; they have never visited any library!
This can be explained if we consider the usual attitude and belief that libraries cannot be accessible by visually impaired people. Eyesight problems for many people -blind and sighted- mean exclusion from a lot of goods and services, among of them the reading.

Potential use of a public library

Concerning the attitude and the desires of the respondents towards the potential development of the services in the public library. The majority of all respondents -90 out of 121 (74%) - said that they would surely use a public library, while 4 more said maybe - on condition that alternative reading formats would be provided.

Would you use or visit a public library in case that it could offer alternative reading formats?	Frequency	Percentage
YES	90	74,38%
NO	27	22,31%
Maybe	4	3,31%

What kind of reading materials would you like to find in a public library	Frequency	Percentage
Literature	78	82,98%
Scientific/ professional writings	61	64,89%
Magazines/ newspapers	54	57,45%
School books	8	8,51%
Other	13	13,83%
Total	**94**	227,66%

As for the adaptive equipment desired for the use of and access to the library, the potential users indicated that they would need the speech synthesiser (57%) for listening to the material, since it is a widely known and easy to use method of reading and the scanner (37%), enabling access to almost everything from the print world. Fewer users preferred screen magnification (22%) and the Braille display (17%).

Although the last two percentages are half of the first ones, we have to take into consideration that this equipment is the most unknown and practically the least - used, if at all. Even so, it is still important to notice that the visually impaired users wish to have a variety of adaptations available like everybody else who is eager today to use the new tools of technology and communication.

It is also remarkable that nearly the one third of the potential library users (29%) do not actually know the kind of adaptive equipment available for them and their use.

What kind of adaptive equipment would you like to find in the library in order to make it possible for you to search	Frequency	Percentage
Braille bar	16	17,02%
Speech synthesizer	54	57,45%
Screen magnification	20	21,28%
Scanner	35	37,23%
None	7	7,45%
N/A (I don't know)	27	28,72%
Total	**94**	169,15%

The preferences in reading formats were declared as follows: Talking books come first with more than half the potential users (54%), Braille is second with 43% and the electronic digital text is preferred by 40% which is quite high. Although the audiocassette is most preferred, the users would much like to find also other alternative reading formats; and the relevant figures together consist the big number of 83% of choices.

What kind of reading formats do you prefer to find in the library?	Frequency	Percentage
Print text	12	12,77%
Audio-cassette	51	54,26%
Digital text	38	40,43%
Braille	40	42,55%
Via another reader	10	10,64%
Other	3	3,19%
N/A (I don't know)	2	2,13%
Total	**94**	165,96%

Last, the overwhelming majority (93%) of the respondents said that they would very much like to be able to have access to the catalogue of the public library. They were very fond of that because in this new open space there is a great challenge, desire and freedom. They wanted to search, find and choose whatever exists there for them and not only to read the so far limited material available.

Would you like to have access to the catalogue of the library?	Frequency	Percentage
YES	87	92,55%
NO	4	4,26%
N/A	3	3,19%
Total	**94**	100,00%

Proposals of the users concerning the organising of the public library and the services provided to visually impaired people

At the end of the questionnaire there were two open questions asking the respondents to give their opinion regarding the organising of the public library and the potential services provided to them. Having put the responses in groups we selected the following.

94 out of 121 total respondents answered that they would visit a public library if it could provide alternative reading formats. 32 out of the 94 respondents did not give any answer cause they were not aware of the matter. The remaining 62 users proposed that the Public Library should have:

- Helpful staff (56%) assisting visually impaired people in using the library

- Special services easing access (31%)

- Adaptive workstations in the library (26%)

- Presentations (books/ new publications), Events (18%)

- Library catalogue in alternative formats (16%)

- "Special" thematic material (16%). The visually impaired users expressed their desire to get access also to special thematic material like geographical maps, music scores, children's library.

Concluding on library access provision to the blind and visually impaired

- The clear message we have got from the survey results is that there is absolute need for library services for the visually impaired people in Thessaloniki. Although sometimes a positive answer replying to a theoretical question like: "Would you visit a public library if..." can be given free and easy, the enthusiasm was quite obvious indicating at least the desire of the respondents.

- The survey respondents expressed big dissatisfaction from the existing library services provided today to the visually impaired people from the Special Libraries in Thessaloniki.

- Talking books are far more often used than the other formats first because it is almost the only format available and second because it is easy to use - there is nothing hard or special to learn about it. The reading material in general is very poor and there is practically no Braille.

- A conclusion, which can be drawn from the contacts, and discussions we held with the users during the survey is that the users do not have access either to plain information. Users mostly know what is happening to their Association or to HELIOS - School for the Blind which both are also meeting points.

- It has been proved that the blind people are very fond of reading, which stands as their most preferred hobby.

- Library visits are inconvenient to the elderly users.

- Before developing anything, the public libraries have to think over the image they have in front of the potential users and design an information and promotion campaign. How the new services can be widely known, how can be spread among the users and be attractive.

- Digital sources are preferably used by younger people who are at work or in education.

- Despite the fact that the percentage of computer users is comparatively small, it is still remarkable and tends to be increased among the survey respondents.

- The public libraries should develop services based on computer and telecommunications technology like digital books electronic catalogues provided that the computer use is known and there will be computer availability.

- However we have to keep in mind the demographic characteristic of the overall user group where the majority of the users may not be familiar with those technologies and prefers easier reading formats to use. Therefore the help of the library staff should be considered as necessary and more traditional materials should also be provided maybe in cooperation with the Special Libraries.

{} For more information and detailed survey results you may visit the site:*
www.svb.nl/project/testlab/testlab.htm

Medical and Statistical Data on Blindness in Cyprus

According to the current laws of the Cyprus Republic the term "blind" means, Cypriot citizen permanent resident of the Cyprus Republic, of whom it is proven that the sharpness of his vision in both eyes is such that it does not exceed, even with corrective lenses, the 6/60 of the better eye.

The Ministry of Labour and Social Insurance, Department of Labour (Disabled Care Unit), has a scheme for financial assistance for the provision of technical means and other aids to disabled persons. Blind people may apply to the above Service for Economic and up to 80% of the total value of the artificial parts they need. In exceptional cases, for people with very low income, economic aid is granted up to 100% of the value of the necessary part.

The number of members of the Pancypriot Organisation of Blind today exceeds 561 persons, of which 250 are women and 311 are men. The number of blind students, under the age of 18, is estimated at present to be 82, of which 40 are girls and 42 are boys. The number of blind and visually impaired people who study at colleges and Universities of Cyprus and abroad currently amount to 12.

Professions currently practiced by blind and visually impaired people, as recorded by the Pancypriot Organisation of Blind, include the following:

> Assistant nurse, Baby Nurse, Designer at the Public Works Department, Lawyer, Administrative Officerl, Teacher, Auditor, Worker, Public works Foreman, Office-cleaner, Gardener, Social Worker, Boarding school Administrator, Musician, Infant School, Teacher, hotel Administration, Construction Worker, Blacksmith, Technician, Telephonist, Security Guard.

Medical and statistical data on blindness in the European Union

The Epidemiology of Blindness and Visual Impairment, Demography and Definitions

Epidemiology and Functionality

1. There is no common standard within the EU for counting the number of blind and visually impaired people. Even at the basic epidemiological level classifying the impairment for the purposes of health statistics - the various systems are not compatible.

2. Most statements concerning visual impairment rest upon a measurement of visual acuity comparing the subject to a notional optimum expressed as "20/20" where people see at 20 metres `what they ought to see' at 20 metres.  The level of impairment is then expressed as a fraction of the optimum so a common threshold for judging people to be visually impaired is that they only see at 2 metres what the `normal' person sees at 20 metres, so such a person has "2/20" vision. Further complications involve using different denominators such as 60 metres; and some visual measurements express sight as a percentage of the "norm".

3. Some countries use a 6/60 threshold to define "blindness" whereas others use it to define "partial sight" with "blindness" set at 3/60.

4. Yet another way of measuring visual impairment is the breadth of the visual field; somebody is considered "blind" by most definitions if the field is 15 Degrees or less.

5. All definitions of "blindness" and "visual impairment" are "after correction", or the provision of proper, ordinary spectacles (as opposed to Low Vision Aids).

6. Functional capacity varies enormously at any given level of visual impairment and so the epidemiological data cannot be extrapolated to produce functional data. This is a vital and widely misunderstood issue because the two distinctive sets of data are often conflated.

Demography

1. Even with a lack of epidemilogical data and functional analysis based on random sample surveys, the demography of blindness and visual impairment is clear at a global and at an EU level; the percentage of blindness and visual impairment rises increasingly steeply with age; as standards of living rise, longevity

increases and the incidence (the rate of onset) of blindness and visual impairment rises. The incidence rises with age because of incurable conditions but more than half of the prevalence (the overall figure at a given time) is caused by operable cataract where results have improved immeasurably since the development of the intra occular lens implant.

2.   Independent of formal or informal classifications, it is generally accepted that the majority of those who are "blind" have some residual vision; by definition, all those who are "visually impaired" or "partially sighted" have residual vision. The total number of those who never use print as a communications medium but are classed as "blind" or "visually impaired" is very low (in the United Kingdom it is estimated at 5%).

The Nature of Visual Impairment and Information Access

Most blind and visually impaired people do not confine themselves to one information medium; most use different media for different occasions; many use media simultaneously when accessing information (using sound to support images or images to support sound). Those using any medium will not use it in an identical set-up.

Speech, image and Braille code customisation are vital to efficient access. The physical environment also needs to be flexible so that hardware positioning and lighting can be easily adjusted.

Very little is known about the way in which blind and visually impaired people operate in a multi-media environment, so little is known of how to weight intelligence, sensory apprehension and experience.

Little is known about the browsing strategies of blind and visually impaired people.

There are no common hardware, front end, navigation or prompt standards for access technology.

There are no interface protocols in the EU between on-line public sector initiatives to enrich citizenship; and none of these have an acknowledged accessibility dimension.

Standardisation, customisation and navigability are key factors in efficient access. These three concepts can combine to provide blind and visually impaired people with portable customisation.

The better the access, the more customised the service, the higher the ratio of output to input; if the ratio falls below a certain, unknown level, clients are likely to switch from autonomous to mediated access.

Libraries and Access

Libraries and their resource managers require an understanding of the autonomy versus mediated routes to access.

Because of the dispersed nature of the blindness and visually impaired population there are the twin extremes of over-concentration in large centres, leading to the need for dedicated personnel, and under-utilised training on the part of generalists in sparsely populated areas.

Some awareness of blindness, visual impairment, visual acuity and variable reading performance ought to be part of the general training of all librarians.

The boundary between the responsibility of specialist visual impairment agencies and the library sector ought to be mobile but clearly defined. What is considered to be a peripheral access device today may be part of the standard configuration tomorrow.

03. Use of Braille and adaptive technologies: History, state of the art, emerging trends

A Brief History of Braille Production and Use

Braille, the reading and writing system for visually impaired readers that uses raised dots to represent numbers and letters of the alphabet, was introduced in the early nineteenth century by Louis Braille. The idea of using a series of raised dots to represent numbers and letters was already being used in the "night writing" code developed by Nicholas Barbier for the French army. Barbier used a "cell" composed of twelve dots to facilitate communication on the dark battlefield , while Braille devised the six-dot arrangement still in use today by most of the world's languages. Many people think of Braille as the primary information medium of blind and visually impaired readers. This hasn't been the case since the 1930s, when the circulation of "Talking Books" (first as phonograph records, later audio cassettes) exceeded that of Braille titles. The new audio technology had two advantages over Braille: tapes and records were much less bulky than Braille, and production costs were significantly lower as well. Microcomputer technology has created even more options for the print-impaired reader. Screen-reading programs provide aural access to the computer display for low vision or blind readers. Optical Character Recognition (OCR) technology, including stand- alone scanners as well as more sophisticated reading machines (such as the Kurzweil products), can translate a page of text into any number of formats, including but not limited to immediate speech output. Each new development in adaptive technology has had its effect on the supply and demand for titles in other formats. For college students and other academics with visual impairments, this usually means that a variety of media will be used. While students may have had time to order and receive textbooks in Braille (or on audio tape), there will be other readings assigned throughout the semester, as well as long-term research that will necessitate the student's use of a lot of material that is simply not available in an accessible format. Most of our students have a preference for one medium over the others, but will settle for the most readily obtainable for their immediate needs. Some readers, however, are unable to use the complete range of adaptive technologies due to multiple disabilities. Some blind people have limited sensitivity in their fingertips (resulting from stroke or other cause), which makes it difficult or impossible to use Braille. Deaf/blind readers, on the other hand, must use Braille as their substitute for print.

State of the art, VIP and the Web

Access to on-line information systems has become much more easier and user-friendly with the invention of the World-Wide Web. The average computer user needs little knowledge to navigate, search and read documents using dedicated programs, also called browsers. The availability of adaptive hard- and software providing general access to popular operating systems opens the door for visually impaired people to a number of various information services. The fact that most of the document content is available as some kind of text information, suggests to carry out an investigation how far the content is accessible for visually impaired readers.

However, since the invention of the web a few years ago the web has rapidly evolved more and more to an information system which is increasingly based on graphics and multi-media components (e.g. video clips, animated images, sound clips, etc.) rendered by so-called plug-in applications. Consequently most of the available web browser available nowadays rely on a graphical user-interface and include the necessary extensions to render multi-media information properly. Only a few of the web browsers developed and maintained frequently use a character-based display and keyboard for input.

The Hyper Text Markup Language (HTML), which is used for writing and encoding documents on the WWW, has evolved quite fast in the last few years. The development of this document markup language has not only been carried out by universities and research institutions, but also by commercial companies. More and more the development of HTML focussed on layout and presentation features for on-line documents. However, mistakes in the basic design and frequent use of bitmapped objects lead to the problem that documents became largely inaccessible for visually impaired users because assistive devices (Braille displays and screen readers) could not render the displayed information. The fact that awareness on disability-related issues has risen considerably in the Web community resulted in the integration of new features in both document formats and web browsers. As a consequence basic accessibility to the Web is provided nearly by any browser available.

Emerging trends:

What can be expected in the field of assistive technology in the near future? Are there any trends towards easier access to electronic information system for visually impaired people?

In this section we will highlight some of the current developments in information technology important to those questions. The focus in this section is on graphical interfaces instead of character interfaces because that's undisputedly where it is all going.

The World Wide Web Consortium (W3C), founded in 1994 to lead the Web to it's full potential, is an international industry consortium. Members include respected research institutes, like MIT, as well as the major companies in information technology, among which major players Microsoft and IBM.
W3C controls the specifications of web protocols and is engaged in continuous research to unify and extend these specifications. Their commitment includes promoting a high degree of usability of the web for people with disabilities.

The latest versions of the web language HTML (4.0) and cascading style sheets (CSS2) contain new elements that explicitly deal with the access problem. Until now, web specifications have been abused by software vendors to create spectacular effects on webpages. In practise, this has led to the development of websites that are completely inaccessible to visually impaired people. The new specifications are better designed and explicitly take the access problem into account. How the use of stylesheets can contribute to better access was clearly demonstrated in the Austrian workpackage.

To further promote the need for better access, W3C launched the Web Accessibility Initiative (WAI) in 1997. WAI pursues accessibility through five areas of work: technology, guidelines, tools, education and research.

Microsoft has kept its promise and integrated its 'Active accessibility' technology in Windows 98 and subsequently in the latest versions of all its major software products. Although the implementation of this technology is still facultative to other software developers, we can see a definite trend towards real use. The technology allows for far better navigation and information presentation for people that use adaptive devices. This will relieve the developers of assististive technology of the dirty technological tricks they had to resort to in the past to create access to information on the screen.

The majority of visually impaired computer users is not blind. The adaptive devices they use are primarily screen magnifiers, sometimes in combination with synthetic speech. There is a trend towards the integration of customisable screen magnification and speech into the operating system itself, instead of installing it as add-ons. The quality and usability of such tools will improve as will the technical support.

Gradually the adaptive devices for graphical interfaces will become better products. If more attention is given to the early introduction of access design criteria in the development of standard software products, one can expect better results for the use of adaptive devices. We are still a far way off from sound industry standards on assistive technology. The market for adaptive devices is too small to be of any real economic interest to the computer industry.

04. Description of a workstation-General specifications

General Computer equipment

PC in actual configuration
Standard keyboard
Networking via LAN or Modem
Cdrom- and Floppy drive

Braille input and output devices

Braille keyboard
Refreshable Braille: Refreshable Braille output displays permit reading of any textual information (usually twenty, forty or eighty Braille characters) at a time. Pins on the display are raised or lowered to correspond to the letters on the screen.

Braille printer

Braille translation software/firmware: For effective use of Braille, Braille translation software or firmware is required. This permits the user to type in and review the text (using a speech synthesizer or refreshable Braille device) in Arabic letters, produce a hardcopy in Braille, and then back-translate the text to produce a final version that may be shared with a sighted person.
Braille Paper

Speech synthesis hardware and software

Speech synthesis hardware and software and speech control for input and output. Translates the information on the screen into spoken form; most systems also include provisions for specifying preferences-e.g., whether words should be read letter-by-letter or as a full word, and how much material should be read (a sentence, line, paragraph, or entire page). The system should be easily controlled-e.g., the user should be able to stop the speech output at any point-and should work with a wide range of standard software.

Scanner and OCR software

After Scanning OCR permits printed materials to be translated into computer-readable format and stored as a text file. Some OCRs designed specifically for users with blindness can read the material aloud as it is being translated.

Technical devices to communicate with sighted people

Blackprint printer
Screen

General and communication software

email
word
editor
web browser

Magnifying screen

Magnifying screens both reduce glare and provide screen enlargement so that the characters are approximately twice standard size. This is a simple solution for users with minor visual disabilities. Adjustable character magnification software that permits large-type copies to be viewed and printed Character magnification software

permits large-type copies to be viewed and, in some cases, to be printed and permits the range of magnification to be adjusted, usually up to about 16 times standard size. Some types of character magnification software may also permit screen colors to be changed, the cursor shape to be modified, and graphics to be enlarged as well as text. Standard on some computers.

Large color monitor and software to permit the selection of colors used

Character magnification software will not work effectively on a screen that is too small to see more than a few characters at a time. A large screen-roughly 19" to 25"-is therefore recommended. Users with color-blindness or low vision are likely to find that certain color combinations are easier to work with than others. This may also be true for users with learning disabilities. Color monitors and software which permits the selection of colors used are available; these allow individual users to adjust the information on the screen to accommodate their personal abilities.

Description of the workstation at the University of Macedonia Library

The workstation which is installed in the Library of the University of Macedonia for servicing people with disabilities consists of:

1) a modern PC with the following characteristics
     A Pentium III processor operating at 667 MHz
     64 MBytes of RAM operating at 133 MHz
     10.1 GBytes of hard disk space exhanging data at 66 MBps
     a PCI sound card
     two speakers with volume control
     a CD-ROM with maximum transfer speed of x52
     a network card able of operating at transfer rates of either 10 or 100 MBps
     a vga card with 8 MB of memory for graphics
     a 15 inch color monitor (with plans to upgrade it to 21 inch)
     a 3.5 inch floppy drive
     a mouse and a keyboard
     Greek Windows 98 as the operating system

2) a Braille printer with the ability to print on both sides of sheets of normal A4 printer paper aside from the harder special paper usually used for such purposes, at a rate of approximately 84 characters per second.

3) a Braille display with 40 refreshable cells, and various navigation buttons including a set which acts like the keyboard arrows keys.

4) a special voice synthesizer for the Greek language used in conjunction with the screen reader software installed.

In this workstation there has been installed the following software:

1) JAWS for Windows for reading the screen and producing audio or tangible output

2) HAL for Windows working similar as JAWS for Windows

3) a test version of Supernova, which includes HAL but also magnifies the screen for people with poor eyesight

The above screen reader software work very well with the Braille printer, Braille display and the voice synthesizer in the Greek language.
Furthermore there is a book scanner available with an excellent optical character recognition software for the Greek language installed on its host computer for producing material in adaptive forms.

Greek Braille coding

The following coding is the standard Greek Braille code. It includes only the letters of the alphabet and the punctuation.

ASCII code	*Greek letter*	*Braille code*	*comment*
128	Α	(4,6)(1)	capital alpha
129	Β	(4,6)(1,2)	capital beta
130	Γ	(4,6)(1,2,4,5)	capital gamma
131	Δ	(4,6)(1,4,5)	capital delta
132	Ε	(4,6)(1,5)	capital epsilon
133	Ζ	(4,6)(1,3,5,6)	capital zita
134	Η	(4,6)(3,4,5)	capital ita
135	Θ	(4,6)(3,4,5,6)	capital theta
136	Ι	(4,6)(2,4)	capital giota
137	Κ	(4,6)(1,3)	capital kappa
138	Λ	(4,6)(1,2,3)	capital lamda
139	Μ	(4,6)(1,3,4)	capital me
140	Ν	(4,6)(1,3,4,5)	capital ne
141	Ξ	(4,6)(1,3,4,6)	capital ksi
142	Ο	(4,6)(1,3,5)	capital omicron
143	Π	(4,6)(1,2,3,4)	capital pi
144	Ρ	(4,6)(1,2,3,5)	capital ro
145	Σ	(4,6)(2,3,4)	capital sigma
146	Τ	(4,6)(2,3,4,5)	capital taf
147	Υ	(4,6)(1,3,4,5,6)	capital ypsilon
148	Φ	(4,6)(1,2,4)	capital phi
149	Χ	(4,6)(1,2,5)	capital he
150	Ψ	(4,6)(1,2,3,4,6)	capital psi
151	Ω	(4,6)(2,4,5)	capital omega
152	Α	(1)	alpha
153	Β	(1,2)	beta
154	Γ	(1,2,4,5)	gamma
155	Δ	(1,4,5,)	delta
156	Ε	(1,5)	epsilon
157	Ζ	(1,3,5,6)	zeta
158	Η	(3,4,5)	ita
159	Θ	(1,4,5,6)	theta
160	Ι	(2,4)	giota
161	Κ	(1,3)	kappa
162	Λ	(1,2,3)	lamda
163	Μ	(1,3,4)	me
164	Ν	(1,3,4,5)	ne
165	Ο	(1,3,5)	omicron
166	Ρ	(1,2,3,5)	ro
167	Σ	(2,3,4)	sigma
168	Τ	(2,3,4,5)	taf
169	Υ	(1,3,4,5,6)	ypsilon
170	Φ	(1,2,4)	phi
171	Χ	(1,2,5)	he
172	Ψ	(1,2,3,4,6)	psi
224	ω	(2,4,5)	omega
225	ά	(5)(1)	accent alfa
226	έ	(5)(1,5)	accent epsilon
227	ή	(5)(3,4,5)	accent ita
228	ί	(5)(2,4)	accent giota
229	ϊ	(2,4)	giota diairesis
230	ό	(5)(1,3,5)	accent omecron
231	ύ	(5)(1,3,4,5,6)	accent ypsilon
232	ϋ	(1,3,4,5,6)	ypsilon diairesis
233	ώ	(5)(2,4,5)	accent omega
234	Ά	(4,6)(5)(1)	accent capital alfa
235	Έ	(4,6)(5)(1,5)	accent capital epsilon
236	Ή	(4,6)(5)(3,4,5)	accent capital ita
237	Ί	(4,6)(5)(2,4)	accent capital giota
238	Ό	(4,6)(5)(1,3,5)	accent capital omecron
239	Ύ	(4,6)(5)(1,3,4,5,6)	accent capital ypsilon

240	Ώ	(4,6)(5)(2,4,5)	accent capital omega

On the following table some special Greek characters (mainly diphthongs) are listed which on real print are two letters and on Braille print only one.

ASCII conferens	*Greek letters*	*Braille code*	*comments*
(152,160)	αι	(1,2,6)	alfa_giota
(152,169)	αυ	(1,6)	alfa_ypsilon
(152,231)	αύ	(5)(1,6)	accent alfa_ypsilon
(128,169)	Αυ	(4,6)(1,6)	capital alfa_ypsilon
(128,231)	Αύ	(4,6)(5)(1,6)	accent capital alfa_ypsilon
(128,160)	Αι	(4,6)(1,2,6)	capital alfa_giota
(128,228)	Αί	(4,6)(5)(1,2,6)	accent capital alfa_giota
(156,160)	ει	(1,4,6)	epsilon_giota
(156,228)	εί	(5)(1,4,6)	accent epsilon_giota
(132,160)	Ει	(4,6)(1,4,6)	capital epsilon_giota
(132,228)	Εί	(4,6)(5)(1,4,6)	accent capital epsilon_giota
(156,169)	ευ	(1,5,6)	epsilon_ypsilon
(156,231)	εύ	(5)(1,5,6)	accent epsilon_ypsilon
(132,169)	Ευ	(4,6)(1,5,6)	capital epsilon_ypsilon
(132,231)	Εύ	(4,6)(5)(1,5,6)	accent capital epsilon_ypsilon
(165,169)	οι	(2,4,6)	omecron_giota
(165,228)	οί	(5)(2,4,6)	accent omecron_giota
(142,160)	Οι	(4,6,)(2,4,6)	capital omecron_giota
(142,228)	Οί	(4,6)(5)(2,4,6)	accent omecron_giota
(165,169)	ου	(1,3,6)	omecron_ypsilon
(165,231)	ού	(5)(1,3,6)	accent omecron_ypsilon
(142,169)	Ου	(4,6)(1,3,6)	Capital omecron_ypsilon
(142,231)	Ού	(4,6)(5)(1,3,6)	accent capital omecron_ypsilon
(169,160)	υι	(1,2,4,5,6)	ypsilon_giota
(169,228)	υί	(5)(1,2,4,5,6)	accent ypsilon_giota
(147,160)	Υι	(4,6)(1,2,4,5,6)	capital ypsilon_giota
(147,228)	Υί	(4,6)(5)(1,2,4,5,6)	accent ypsilon_giota
(158,169)	ηυ	(1,2,5,6)	ita_ypsilon
(158,231)	ηύ	(5)(1,2,5,6)	accent ita_ypsilon
(134,169)	Ηύ	4,6)(1,2,5,6)	capital ita_ypsilon
(134,231)	Ηύ	(4,6)(5)(1,2,5,6)	accent capital ita_ypsilon

Included in this file is some Greek punctuation that differs from the English punctuation.
In greek language the symbol of period is . = (2,5,6)
The symbol of koma is , = (2)
The semicolon is ; =(2,6)
The symbol of apostrophe is ' =(3)
The symbol of open quote is (2,3,6) and the symbol of closing quote is (3,5,6)
The symbol of left parenthesis is (=(2,3,5,6) and the right parenthesis is) =(2,3,5,6,)
The symbol of colon is : =(2,3)

05. Checklist for the Library

Introduction

To ensure that patrons with disabilities need not regard computers as a barrier instead of an aid to their successful library use, libraries need to plan for and implement accessibility measures. Since library staff members may also have disabilities, it is important to remember that the points made in this document about access for patrons apply to access for employees as well.

Since about 10% of the general population is disabled, a reasonable goal would be to have about 10% of computer equipment and resources earmarked for accessibility.

Potential Access Problems
Patrons with disabilities may have access needs in one or more of the following categories:

INPUT
issues affect people who have trouble with the devices used to input characters or commands into the computer.

OUTPUT
issues affect people who cannot access the computer's output. This includes: people who have difficulty reading the screen or handling a standard computer printout due to visual impairment.

ENVIRONMENT
includes a variety of non-computer components. Examples of potential problems include whether a visually impaired person can easily find appropriate signage indicating how to find the computer area.

DOCUMENTATION/SUPPORT/TRAINING
perhaps the most important category, affects the user's ability to find help in using equipment. This handbook covers alternatives to having to read and handle printed documentation. Support ensures that staff will have the knowledge to provide guidance on equipment use and the sensitivity to work effectively with patrons with visual impairment. Training components provide new users of adaptive equipment with basic information and strategies for equipment use, which should both increase user success in equipment use and reduce the staff resources required for support.

All staff likely to come in contact with patrons should be trained in sensitivity to the needs of persons with disabilities, and should be readily available to provide services as needed. This might entail asking a person with blindness exactly which parts of the screen he wishes to have read off. These services should be widely publicized, and should be able to be requested with a minimum of embarrassment to the user.

GENERIC ACCESS STRATEGIES

For many users, solutions need not be complicated or expensive. For example, Braille labels placed over certain keys on the keyboard may do wonders for some patrons with visual disabilities. Most well-thought-out solutions will not hamper the ability of a non-disabled person to use the computer, and may indeed prove to be a boon to all users.

Many patrons will have already found strategies to cover some or all of their needs, and may be willing to share these strategies.

The Checklist

This handbook provides two checklists covering generic systems. Each checklist includes an outline with items to be checked off as they are implemented, followed by explanatory comments on each checklist item. The first checklist covers team preparation measures, while the other covers different levels of implementation.

The items in Checklists 2 are meant as indicators rather than anything hard and fast; depending on the library's situation, one or more steps may be implemented at different levels. In addition, not all solutions are available for all types of computerized systems.

CHECKLIST 1--TEAM PREPARATION

This list is not meant to be exhaustive.

A.   Initiate contact between library personnel and interested users
Initiate contact between library personnel and interested users. The initial impetus for the process of establishing adaptive computing in libraries is likely to come from representatives of one of these two groups; certainly both groups are affected by the process.

B.   Develop team of consultants on library adaptive computing.
To be effective, most plans for the implementation of adaptive computing require awareness of needs and demographics of people with disabilities (both in general and among current and projected library clientele), awareness of types of adaptive computing equipment and its compatibility with standard equipment, awareness of the existing library computing environment, and awareness of related issues such as funding. Since one individual or group may not be versed in all these areas, a team of experts drawn from the library staff and the community should be assembled to evaluate and discuss issues, share information, and represent their particular concerns. This group may initially be fairly large during planning phases and may become smaller as goals are met, but will need to continue to exist on a long-term basis.

1. Team should include persons (usually more than one in each area) with expertise in the following areas:
   a.   Equipment currently being used in the library. The type of standard equipment that patrons will need to access will influence purchasing decisions of adaptive equipment, since the standard and adaptive equipment will need to work together.
   b.   Adaptive computer equipment and peripherals. This team member will need some level of familiarity with equipment and strategies for access to input, output, environmental, and documentation/training/support for people with visual impairment.
   c.   Current and projected demographics of users with disabilities. This information facilitates the process of determining the order of priority in which equipment should be acquired.
   d.   Library funding. The way in which the library chooses to fund acquisition, maintenance, and training for computers in general is likely to influence, if not dictate, the ways that these considerations are budgeted for adaptive technology.
   e.   Library computer use policy. Issues such as copyright of materials in alternative formats and policies for fair use of computer workstations when needed by both disabled and non-disabled patrons need to be developed in accordance with existing policies.

2. Team members should ideally be drawn from the following groups of people:
   a.   Library administrative staff. These persons will know about issues such as library funding, policies, and plans for future developments in the library infrastructure.
   b.   Library computing staff. This group will know about day-to-day operations of and problems in the computing areas.
   c.   Potential users. These persons are not only the most likely to know about potential barriers to effective computer use, they are also the most likely to have had actual user experience with adaptive technology.
   d.   Outside consultants. This may involve members of local disability-related groups, vocational rehabilitation counselors, etc.
   e.   Professionals with clinical expertise in disability-related areas
   f.   Rehabilitation technologists/engineers. These are persons with a thorough knowledge of disability and rehabilitation, coupled with a background in the use of technology by persons with disabilities.

g. Representatives of library's parent organization (company, university, etc.). These persons may have a broad overview on ways that technology in general, and adaptive technology in particular, is being implemented throughout the organization.

h. Other groups as appropriate. Depending on the library's individual situation, it may seem evident that representatives of other groups need to be involved. For example, if adaptive technology is being implemented over a multi-branch library system, then representatives of all branches will need to be involved.

C. Team walk-through of existing facilities to determine existing accessibility accommodations/problems.

A variety of accommodations are likely to already exist in the computer labs, particularly since some computer manufacturers are building in accessibility features as part of their standard hardware or system software (check the manuals for further information) and since the buildings may already fully or partially comply with architectural accessibility laws. One or more members of the consultant team may also be aware of equipment purchased for the benefit of a few students but never publicized or made generally available.

D. Survey patrons to determine existing accommodations/problems.
The survey should not only serve as a way to gather information; it should also be a means of notifying patrons of what is being planned, and of giving them as early an opportunity as possible to express opinions. The survey may also pique interest among patrons experienced with adaptive computer use, who are likely to have useful suggestions and may make excellent new members of the consultant team. The survey should be administered anonymously.

E. Placement of article(s) in standard information sources about intention to implement computer accessibility.
It would be difficult to over-publicize the implementation (and later, the availability) of accessible computers. The survey discussed above may only reach those patrons who have identified themselves as having adisability.

F. Identification of personnel to implement accessibility measures.Responsibility will need to be assigned so that it is clear who will be executing the implementation measures at every step and for every item. A follow-up procedure should also be instituted to ensure that measures are implemented in a timely, efficient, and thorough manner.

CHECKLIST 2 IMPLEMENTATION MEASURES

A. Input

Software allowing control of keyboard delay and repeat rate
Software allowing cursor control from keyboard instead of mouse
An illuminated magnifying lamp that can be swung over the keyboard

B. Output
Earphones for speech synthesizer users and people who need to set the auditory output to a loud level. Speech synthesizer users and persons who require that the auditory output be at a high level will require headphones so as not to disturb other patrons. These headphones are supplied with many speech synthesizer packages. Patrons should be warned, however, against the prolonged use of headphones with high levels of auditory output.

C. Environment
Heavy earphones (such as those worn by jackhammer operators). Heavy earphones should be provided so that an appropriate environment can be created for people who require a very quiet atmosphere to work effectively.

Position terminals to best take advantage of lighting source. PC's should be positioned in such a way that glare on the screen is minimized. If the main lighting is provided by sunlight, position monitors at right angles to windows with adjustable blinds or curtains. (If this is not possible, polarizing lenses that fit over the screen are available inexpensively). Overhead lighting should be provided by 75-watt fluorescent lights; a higher-wattage bulb may be needed for labs with unusually high ceilings. All lamps should be of the positionable swing-arm variety.

Internal telephone should be placed next to the PC of the workstation for the V.I.P. to contact librarians for any help.

Plan strategies for removing existing architectural barriers
Any architectural barriers found during the team walk-through described in Checklist 1, Item C should be discussed with the person or department responsible for building operations. Follow-up should be done to ensure that existing problems are recognized and fixed in a timely manner.

Braille text should be placed next to the buttons of the elevators indicating the floors and the services in each floor. Also, a vocal floor ammouncement should be installed at the elevators.

Permanent signage near entrances indicating location of computer area(s) and route(s) from that entrance
Permanent signage near all entrances should indicate the location of the computer lab and the most accessible route from that entrance. The signs should have text in both large raised letters and Braille, and a visual/tactile map of the route. This can often be done quickly and relatively inexpensively.

Embossed guides on the floor should indicate the route from the Library's entrance to the workstation area.

D. Documentation/Support/Training
Indicate accessible equipment/entrances in any general brochure of library hours and features. General library literature is an excellent place to list information on types of available accessible equipment.

Post large-print signs on library doors indicating that adaptive equipment is available Signs on computer lab doors indicating that adaptive equipment is available should be large enough for people with low vision to read. The signs should briefly indicate what types of equipment are available, what the procedure is for accessing the equipment (e.g., "Ask the reference librarian for assistance"), and where additional help can be obtained. Label computers and workstations designated as accessible.

Establish a priority system so that non-disabled persons may use the equipment with the understanding that they should yield use of the computer to a disabled person as soon as another workstation becomes available. Identify personnel to construct and install simple mdifications. Simple modifications to standard equipment in accessible workstations may frequently need to be made to accommodate users.
A small budget should be allocated for construction materials.

Train staff on sensitivity to people with disabilities, and equipment function and procedures. All library staff should be trained in sensitivity to needs of people with disabilities, general information on adaptive equipment, and procedures for obtaining help if a person requires training or if equipment malfunctions. At least one full-time long-term staff member should be trained in operation of adaptive equipment. New employees should be told who the trained staff members are and how they can be contacted for assistance.

Arrange for library information to be available in alternative formats. Have crucial information-hours, sources of help, basic computer operation procedures-read onto a tape. Implement a policy for distributing the tape-e.g., if users bring in a blank tape, the library will copy the tape for them. Where appropriate, materials should also be made available in Braille using Brailling equipment.

If the library has a general goal statement, prepare a goal item on accessibility. This statement should be consistent with the findings and actions of the cnsultant team, and should be reviewed annually.

Obtain documentation on disk. If documentation is available on disk, it may be searched directly by users or printed out in large type or Braille. Contact product manufacturers to see if documentation is available on disk. If not, the documentation may be available on disk from Recordings for the Blind. Recordings for the Blind also provides many popular general computing books on disk.

Recruit volunteers on a short-term basis to train users and library staff in adaptive equipment use. These volunteers should be carefully screened for their ability to work comfortably with patrons and staff, and their technical ability. They should be given the same training as mentioned above for library staff.

Design and implement a training program for users of complex equipment. The training program should include provisions for alternative formats of print materials (such as Braille). The program should be offered regularly, and should be listed with other training courses given by the library. On demand, "mainstream" courses should be adapted so they can be offered via alternative formats.

06. Setting up accompanying structures at university level

Very often a librarian has never had a blind or visually handicapped patron ever. Therefore we suggest arranging a workshop for awareness raising. In the Appendix you will find a small questionnaire to be filled out by the participants as "icebreaker". None of the possible answers are false or true – the purpose of the questionnaire is only to start a discussion.

General hints when helping disabled users:
- Let language empower. "Wheelchair user" and "Braille reader" are active and positive; they imply ability rather than disability. By contrast "Wheelchair bound" or "can't read" emphasise what people cannot do.
- Allow the user (as far as is reasonnable) to be at the same height as the member of staff: eg. Both seated.
- Focus on intellectual needs.
- Offer assistance in a way which allows the person to say how they can best be helped.
- Adress the disabled person, not their carer.

For people with motor disabilities:
- Move at their pace.
- If helping a wheelchair user, allow them to see where they are going.
- Do not lift a wheelchair user up or down steps unless properly trained.
- Do not move someone's walking aid.

For people who are hearing impaired
- Look directly at them when you speak.
- Do not speak louder than normal.
- Do not speak too quickly (but not too slowly either).
- Remember to use non-verbal indicators to show understanding etc.

For blind and partially sighted people:
- Say who you are and what your job is.
- Do not grab hold of someone's arm. Let them take yours or put a hand on your shoulder.
- When guiding stand slightly ahead and parallel to the VIP.
- Tell them about hazards, doors, changes of floor surface, steps, slopes up or down, where handrails are etc.
- Smile as if the person were sighted - it affects your voice.
- Do not pat or distract someone's working guide dog.
- Do not move someone's white cane.

We will now continue with organisational aspects:

Support of integration in the class

Main task supporting visually impaired students is the transcription of study materials. To guarantee efficiency of budget and time, to guarantee high quality and to avoid double work at different universities the forthcoming strategies are chosen:

Contact to students, survey on:
- Who will join what lectures
- Who will be the lecturer
- What study materials will be used
- When and how will these materials be available

Experiences show that the procedures connected with transcription should start at least two months in advance. High responsability of students is needed as well as support from the staff of the Joint Institute.

Contact to teachers

- Discussion of visual and non-visual methods
- Research and development of alternative methods
- Discussion about the methods for exams

If the problem of appropiate access to information in special disciplines or lectures cannot be solved, staff members of the Joint Institute must contact the responsible persons to discuss alternatives or even organisational details of the curriculum. If possible generic solutions should be attained.

Analysis of study materials

- Books
- Scripts / papers
- Foils
- Blackboard concepts
- Computer programs
- Electronic information media
- Video and other

Size and quality of adapted study material must guarantee that the visually impaired students are enabled to pass examinations successfully. On the long term the quality of materials, provided for visually impaired students, must be improved.

Co-operation with authors and publishers

- Contact with authors of books and papers
- Skeleton agreements
- Copyright agreements with authors and publishers
- Co-ordinated information system

Co-operation with authors and publishers can give access to a version of papers or books that is the more easy to transcribe than others. Co-ordination and confidence can establish long term agreements.

Transcription of materials

- Producing materials
- Typewriting materials
- Scanning, OCR processing
- Conversion of digital sources
- Re-structuring of generic and complex structures
- Textual description of nonconvertible information
- Re-coding of nonconvertible methods
- Results in Braille, large print or digital

The digital version is the favorite, because the others are to heavy and voluminous. The more intellectual work can be done by students, working and beeing payed as tutors. Ideally they themselves have already successfully finished the concrete course and have special knowledge about the content. For problems like mathematics, chemistry, statistics, wiring diagrams, musics, tabular bookkeeping, cost accounting solutions must be looked for worldwide or new codes must be developed.

- Organisation of transcription
- Studymaterials for internal use
- Studymaterials for external use
- Control and cataloguing
- Secure document delivery
- Overall information system
- Evaluation of quality and accessibility

Librarianship is needed to catalogue and store the adapted study material for other users. Worldwide interlibrary loan will be the future of digital libraries for the blind.

Services

Preparatory support:
Information days for pupils, study guidance and psychological support for newcomers have proved to be very helpful.

Opening and accompanying support:
Organisation of mobility trainings, support to overcome bureaucracy, search for accomodation, network installation of private electronic equipment, organisation of meetings between teachers and students etc.

Transitional Support.

Organization and administration

- Co-ordination of the works done during transcription of study materials
- Control of study material
- Co-ordination of time schedules
- Coordination meetings
- Technical support of computers
- Budgeting
- Initialising, organizing and making partner of projects

More details on alternative formats:

Characteristics of large print

Typographically, large print is primarily distinguished by its point size. But as a format offering access to reading for visually impaired people other characteristics apply which affect legibility. These include, the weight and thickness of the letter, space between letter (body size), space between line (leading) and contrast between the print and its background.

As a general rule a sans serif typeface (Arial, Univers or Helvetica) with a medium or bold weight is recommended. The recommended minimum point size is 14pt. Use of contrast varies but a matt surface is preferred and a black print-out on white or yellow background are common preferences.

It is important to note that the above is a generalisation and large print preferences such as size and typeface can vary according to the sight impairment of the reader. For example, some people prefer serif rather than sans serif or might have a particular preference for type size. It is therefore important to identify the individual reader's personal preferences when these can be taken into consideration.

Magnified print

Distinctions need to be made between large print and magnified print. Enlargement of print by magnification retains the attributes of the original copy which may not necessarily match the legibility features of large print. Although extending access to publications which would otherwise not be available, enlargement by this means may not always be suitable for individual large print readers.

Electronically generated large print

The production of large print and magnified print via the use of equipment such as enlarging photocopiers, CCTVs and computerised systems considerably extends access to reading and information which would otherwise only be available in standard print. Although copyright restrictions are a difficulty currently, this offers a valuable option for students requiring texts for course work within a realistic timescale.

Computerised systems have the added advantage of attaining acceptable standards of legibility via the use of scaleable fonts and laser quality printout for hard copy. The use of scanners provides an opportunity to produce better standards of print than available in the original. Print and screen outputs can also be customised to meet personal preferences in terms of font size and colour contrast.

Large print books

These represent the main source for general and recreational reading, most of which are published commercially. Even so, the number of titles produced each year, 2000, is small compared with the annual output of publications

in standard format. The range of titles is also limited, mainly confined to popular fiction and non-fiction which is deemed commercially viable and with little or no representation of minority interests or of minority groups. Type size is usually 16pt-20pt.

Audio cassette

For those with very little or no vision, audio cassette is the most commonly used medium for reading and information. It therefore extends the range of people who can access reading and information to those who are unable or find it difficult to read large print or Braille.

As well as being available for visually impaired people audio formats can be used by anyone with has difficulty reading the printed word i.e. people who are dyslexic, have difficulty in holding books or turning pages, etc. For some people, viz. those who have other disabilities, speech can be less easy to assimilate. This applies to people with learning or literacy difficulties and for people who have difficulty in hearing. For the latter, since visual impairment is generally age-related, it constitutes a significant proportion of the client group.

Synthesised speech

Irrespective of format, the quality of speech and the design factors are equally important. These include clarity and pace of speech and the absence of background intrusion ie. extraneous noise.

For this reason, synthesised speech is not favoured by many for general reading. Although the quality of synthesised voice has improved in recent years the level of acceptability by users varies. Even so, for many blind and partially sighted people there is a strong dependency on its use for non-recreational reading. This extends to any text that can be scanned and digitised, as well as text that originates as digitised data. Synthesised voice therefore has an important part to play in library provision since it provides access to information which would otherwise not be available.

Tactile (Relief) maps/plans/diagrams

These are diagrams produced by either photocopying or printing onto heat sensitive 'swell' paper. When the paper is passed through a 'Tactile Image Enhancer' the dark lines absorb the heat more quickly and swell up. Tactile images need careful storage to ensure that the raised surfaces are not damaged or flattened.

07. IPR and licensing

Copyright in Databases and Text

In 1998 a draft of new EU legislation on copyright and related matters stemming from the information Society Initiative was issued. In general, there are two distinct sets of rights issues: those relating to the access to intellectual property; and those relating to the access to databases collating records of intellectual property.

By the end of 2000 the negotiation of Clause 5 of the Draft Directive on Copyright and Related Rights within the European Union (European Union: Proposal for a European Parliament and Council Directive on the Harmonisation of Certain Aspects of Copyright and Related Rights in the Information Society, 10.xii.97) had reached a crucial stage. The Draft Directive indicated that the rights of visually and hearing impaired people to intellectual property should be defined by Member States at the discretion of each. This approach was explained in the Background Paper (European Union: Copyright and Related Rights in the Information Society: Proposal for Directive - Background, 10.12.97) which stated that an EU-wide regulation is not required for disabled people "in view of their more limited economic importance". The Draft Directive clearly went against the general principles of the EU as expressed in its People First document (European Union: Living and Working in the Information Society: People First, Draft 22.vii.96. Final (96) 389.) wher it is clearly stated (sub-Section 5.5. the third Challenge: Empowerment and Integration, in paragraphs 96- 113) that disabled people, as of right, must enjoy the fruits of the Information Society.

In matters of access to intellectual property there has been a tendency for the access rights of disabled people to be considered subsidiary to the intellectual property rights of content creators. There may be a few extreme cases where there is a conflict in this area but by far, the rights of disabled people to the enjoyment of content do not conflict with the rights of creators to enjoy the proper fruits of their creation. A great deal of work needed to be done in this area not only because of the false perception of conflict, particularly in the digital environment, but also because intellectual property laws tend to the principle that silence on any point of permission means no consent; thus, a great deal of intellectual property deprivation suffered by visually impaired people arises not from deliberate acts but from oversight.

The second aspect of the copyright issue is in respect of databases where new legislation vests IPR on database providers for fifteen years and this applies also to the creators of alternative format bibliographic databases.

It is evident tha a principle should be established whereby any alternative format bibliographic databases (and other content) created with the use of public sector funding or private funding for the general benefit of blind and visually impaired people cannot be sold at a profit and that, therefore, charges can only be made for handling and collating the data but not for the data itself. Further charges for collation and handling should only be levied in one-way transactions and not in inter-lending or interavailability arrangements.

The Recent EU Directive on Copyright and Related Rights

On 9 April 2001 a Directive establishing pan-EU rules on Copyright and Related Rights in the Information Society was adopted by the EU's Council of Ministers after more than three years of negotiation. The Directive is due to be implemented by Member States in national law within 18 months of its publication in the EU's Official Journal (within a few weeks after its adoption). The text, as adopted, includes all nine of the compromise amendments voted by the European Parliament at its February 2001 plenary session.

The Directive harmonizes the rights of reproduction, distribution, communication to the public, the legal protection of anti-copying devices and rights management systems. Most of the adopted amendments are of relevance to libraries. The main points are:
- Technical copies on the net: The Directive provides an obligatory exception for service providers, telecommunications operators and certain others in limited circumstances for particular acts of reproduction which are considered technical copies.
- Exhaustive list of optional exceptions: A detailed list of exceptions to the reproduction right and the right of communication to the public, which are optional and therefore, Member States may choose to apply any or all of them. No other exception can be added and/or applied since the list is exhaustive.
- Fair compensation: It applies to three of the exceptions, namely reprography (photocopying), private copying and broadcasts reproduced for viewing or listening in certain social institutions. The interpretation

of this clause is rather flexible and in certain minor cases there may be no obligation for payment or further payment.

- Legal protection of anti-copying devices and exceptions: This addresses the issue of the application of some exceptions (e.g. copying an illustration for teaching) when a special anti-copying device has been used by the copyrightholder. In this case the Directive provides that the rightholder either voluntarily or by way of agreements with other parties have to provide those who would benefit from a particular exception e.g. schools, libraries in the case of teaching, with the means to do so.

The Greek Law on Copyright and Related Rights

Note:
After the adoption of the new EU Directive on Copyright and Related Rights, it is expected that Greece will take action in order harmonize with the new Directive. As mentioned above, the Directive should be adopted and implemented by Member States within 18 months of its official publication, i.e. till the end of 2002. Therefore, in this Handbook, Greek Law on Copyright and Related Rights is presented before the adoption of the new EU Directive.

The Greek legislation in force regarding copyright and related rights is based on Law 2121/1993 as amended by Law 2435/1996 (articles 3 and 10), Law 2557/1997 (article 8) and Law 2819/2000 (article 7). The Greek law is harmonized with EU Directives: 91/250, 92/100, 93/83, 93/98 and 96/9 and with international Treaties, such as: the Treaty of Bern, the Treaty of Rome and the TRIPS (Trade Related Aspects in Intellectual Property Rights) Treaty.

The thorough and effective protection of intellectual creators is the ultimate goal of the Greek Copyright Law. In this way, emphasis is given on rightholders' rights with a provision for exceptions regarding the right of reproduction. According to these provisions free reproduction of a copyright protected document is allowed for quotation purposes, for the communication of current events, for teaching and examination reasons and for private use.

Libraries are included in the exception for teaching and examination purposes. Non profit libraries and archives are allowed to make an additional copy of a document belonging to their collection only for archiving purposes and only if the document cannot be purchased anywhere. For lending documents from its collection a library must have acquired the permission of the rightholder at first and secondly, a fair compensation must have been agreed.

Greek Copyright Law doesn't include any special provision for the needs of disabled people. Consequently, the same rules exist for people with disabilities posing in this way an extra barrier to their access to information and education.

In this framework, librarians wishing to support visually impaired users by providing them with alternative formats of material must be thoroughly aware of the provisions of the Greek Copyright Law and proceed accordingly in each case following the clauses of the law. With this consideration, it was estimated that a concise guide to the most significant (to libraries) clauses of the Greek Copyright Law would be useful to Greek librarians and would in every case facilitate their actions in providing services to blind and partially sighted users, without infringing copyright. This concise guide is available on-line at: http://www.lib.uom.gr/accelerate/deliverables/c_right.doc (in Greek language).

Cyprus Copyright Law 1976-1993

The Copyright Law was originally enforced in 1976(N. 59/76) and was consecutively amended in 1977(N. 63/77) and in 1993 (N. 18(I)/93). The Cyprus Government is the authority responsible for legislations concerning Copyright Law while the Council of Ministers is entitled to issue supporting regulations to facilitate the enforcement of the provisions of this Law and to clear any ambiguities.

Copyright Law covers scientific, literary, musical, artistic, cinematograph films, photographs, sound recordings, broadcasts and other works that in general are originally created in Cyprus by citizens or corporate bodies of the Cyprus Republic. Copyright protects also works from other international bodies or other government organizations as may be prescribed by the Republic of Cyprus.

The duration of the Copyright protection calculated fifty years from the end of the year in which the author dies, or in other cases (where no physical person is a Copyright holder), calculated fifty years from the end of the year in which the work was originally presented publicly.

There are rules and characteristics required for specific work to be classified as Copyright protected. On the other hand no Copyright subsists:

a) in a literary, musical or artistic work unless it is of an original character, and has been reduced to writing, audio recorded, recorded in any way by electronic or other means or has otherwise been reduced to some material form (p.3),

b) in cases of fair dealing for purposes of research, private use, criticism or review, or the reporting of current events, on condition that, if such use is made in public, it shall be accompanied by an acknowledgement of the title of the work and its authorship (p. 7).

Libraries as non-commercial organizations are excluded from Copyright protection when reproductions are made for purposes of research, private use, and when such use is in public interest and no revenue is derived there from and no admission fee is charged for the communication.

Copyright infringements in the Republic of Cyprus are punished with economic and/or imprisonment penalties.

08. Distance Learning and e-learning

Learning Theories
Behaviorism
Cognitivism
Constructivism

Behaviorism1913 by John B.Watson
Instruction is planned carefully to identify the desired target behavior, then to elicit the desired student response.
Instruction should look a lot like traditional drill and practice exercises, with plenty of attractive things available for positive reinforcement.
The teacher provides controlled experiences in which the student is exposed to the desired stimuli in a series of sequential steps. After each presentation a response must be elicited from the student, followed by immediate feedback. As correct responses are rewarded, the student eventually learns the target skill or knowledge.

CognitivismBetween 1950 and 1970.
Cognitivism views humans as symbol processing systems whose essential behaviors can be accurately modeled by abstract formalisms realized via computer-based operational models (simulations), logical models, quantitative models and formal grammars.
The cognitivist version of the human mind is an input / output model of information processing.

Constructivism

Principles of Constructivism
Situated Learning takes a new look at learning in which all learning is situated in communities of practice and cannot be analyzed in isolation from either the practice or the community. It emphasizes the interconnectedness of persons, learning, practice, participation, and the social world.
And constructivist learning is based on students' active participation in problem-solving and critical thinking regarding a learning activity, which they find relevant and engaging. They are "constructing" their own knowledge by testing ideas and approaches based on their prior knowledge and experience, applying these to a new situation, and integrating the new knowledge gained with pre-existing intellectual constructs.
Software-solutions

In order to make use of the right knowledge at the right place, the right time and in the right quality, one needs specialized tools and procedures, because even experts can hardly oversee the enormous amount of information that we are confronted with nowadays any more.

Dorado® combines web based training and knowledge management in one application. Dorado® also includes group-ware function and it is based on didactic guidelines.
Dorado ® assists you in the following areas:
    training of a large number of people regardless of time and place
    designing of a comfortable education management
    immediate up-to-date versions and fast distribution of your contents
    effective designing of work-groups
    a uniform, user-friendly and individually designable surface guarantees a

Distance learning

Offers exciting training options for administrators, staff, and clients in the rehabilitation field. The Internet is a flexible, powerful, and efficient tool for the delivery of such programs and facilitates access for people with disabilities.

The Internet "information highway" creates a revolutionary forum for the exchange of ideas, fundamentally changing the way we communicate. It is an indispensable tool in the information age. For distance learning programs, it can be used to deliver instruction, store information, and facilitate communication. People equipped with appropriate technology, including individuals with disabilities, can gain access to unlimited opportunities for interaction and learning without leaving their homes or offices.

Distance learning occurs when an instructor delivers instruction to students who are not in the same location. This approach eliminates the constraints that once limited education to students and instructors in the same place at the same time. Distance learning programs show promise in the rehabilitation field and may help address shortages of trained personnel. They use a variety of technologies to deliver instruction, including print media, voice technologies (real-time, voice mail), video technologies (tapes, live telecasts, cable television), postal mail, and computer technologies. Increasing numbers of schools, government agencies and other institutions are using the Internet to deliver distance-learning courses.

The Internet provides a rich medium for distance learning. The Internet connects thousands of computers and millions of people around the world. As network technologies become indispensable tools in post-secondary programs and careers, schools and employers provide direct network connections in labs and offices. However, most personal computer users with access to the Internet are connected to host computers through modems and standard phone lines.

Many Scholars require adaptive hardware and software products to control input, interpret output, and read documentation. Hundreds of adaptive devices are commercially available. For example, students who are blind use optical character readers, voice output, and Braille translation software and printers. Products that present large images on the screen are used by those with low vision.

Use of the Internet for distance learning can benefit both clients and administrators in the rehabilitation field. The Internet is a flexible medium for instructional delivery, information access, and communication between all participants, including those with disabilities.

General information on the key benefits of e-learning

A broad overview of career plans can additionally be offered.

The focus should be on the learner. Tutors take time to analyse the learner's experience, their motivation etc. After that learner get recommendations about training steps which suit them well.

And the best opportunity learner can get today is a reliable guide for their career. Current offerings and trained tutors are always there when a learner need advice. Social security, fiscal, legal, educational, and salary advise or anything you need to make career successful.

Focus on What You Need

Anytime, any place delivery is perfect for a geographically dispersed workforce

Sophisticated testing and tracking of learner performance

Access control

The proven effectiveness of self-paced study

Ease of content update

Virtual office hours can take place for specific questions, comments and discussions

This platform ensures you optimize your search for information that suits all the users. The index and table of contents features allow you to look up what you need.

Learner presentation area for personal experiences

Communication tools for individual feedback, teamwork and projects like electronic mail, bulletin board, discussions forums, chat, annotations, video-conferencing and so on.

Comfortable educational management

Access to information and knowledge for all

Being able to obtain information and communicate in writing is essential for citizens of modern society and a necessity for becoming educated and employed. So it is of utmost importance that the Internet and other kinds of knowledge pools are available to all.

A specific aim of e-learning can be to make e-content accessible to people who have vision, hearing, speech, mobility, and attention/memory disabilities.

An interface can be created with proper applications so individuals can learn to navigate the program quickly with skills they have developed using other applications. The use of toolbars, menus, cursors, and dialogs is designed in a way, that screen readers, and other assistive technology software, are able to recognize these standard components.

Keyboard access to all program functions and features can be provided. So all aspects of the program, including installation, will be operable without a pointing device.

Text labels for all iconic elements can be provided so they can be rendered by screen readers and Braille displays.

Delivery of Instruction

For administrators of rehabilitation programs, distance learning can be used to train rehabilitation counselors and other staff, develop leadership and administrative skills of managers, and provide continuing education. The Internet facilitates delivery of instruction, group work, and class discussions. Individuals with disabilities who have adaptive technologies can benefit from the growth of distance learning programs where students and educators "meet " electronically for instruction, discussion, and support.

Information Access

As a research tool, the Internet is unsurpassed. Electronic connections can provide access to databases for academic research, electronic journals for professional development, on-line library catalogs, encyclopedias, dictionaries, newspapers, and resources for addressing the needs of clients. There has been an explosion of electronic versions of books, periodicals, and other printed materials that are being made available over the Internet. Some suggest that traditional libraries will someday become largely electronic libraries in which catalogs, books, journals, and other printed materials are available over international networks.

Instructors of distance learning courses can store their own course materials on-line and link to thousands of pages of reference materials for people in their classes using Internet resource tools. On the Internet it is easy to share resources and obtain resources from others.

Communication

A challenge for any distance learning instructor is assuring active participation between participants and between the teacher students. The Internet is a learning environment that promotes the engagement of learners. Students can regularly share and discuss ideas, viewpoints, and beliefs with other learners and with the instructor. They can communicate at their convenience (not necessarily at the same time), contemplate issues before presenting ideas to the group, and develop long-term relationships. Electronic mail facilitates student-teacher interaction, "classroom" discussions, and collaboration on group projects at their convenience; electronic communities never sleep. Such interaction is important and satisfying to learners (Moore, 1990; Wagner, 1993).

Electronic mail and Internet discussion groups provide new and limitless opportunities for communication and collaboration with colleagues from around the world. Participants can become part of a community of learners that extends far beyond the class list as they join the ever-growing global community (Wilson, 1992). They can choose people to communicate with based on common interests, not common locations and convenient schedules. Telecommunications is an important communication tool for individuals with disabilities which make communicating in other ways difficult because of social isolation and difficulties speaking, hearing, and/or moving. The inability to speak, hear, see, or move is not a limitation in electronic communication.

Challenges

The greatest challenges in using the Internet to deliver or enhance distance learning courses are related to difficulties some potential students face in gaining access to the Internet. For example, use of the Internet to deliver distance learning programs has great potential for reaching those in rural areas and individuals with

disabilities. However, people in rural areas and people with disabilities tend to have more difficulty accessing the Internet than others. Equal access to this technology will require the commitment of legislators, educators, information providers and others to overcome financial and technical barriers. A question yet to be answered is whether electronic resources will be managed in such a way that there will be equal access to on-ramps to the information highway.

Students must have access to appropriate technology in order to participate in courses that use the Internet. For those who already have computer equipment and can obtain local Internet access, costs can be low. Once on the Internet, there are no line charges. However, for those who must dial long distance to make their connection to a host computer, long distance charges can be significant. Thus, Internet access can be particularly problematic in rural areas. Access will become less of a problem as more people connect to the Internet. An interim solution for some distance learning providers is to provide both Internet and non-Internet distance learning options. This solution may create more work for instructors now, but help programs move ahead toward more Internet delivery as time goes on. Instructors and administrators who currently have distance learning courses in place, can consider providing an Internet option for one course, evaluate the experience, and add offerings in response to the resulting experience and interests of potential students.

Besides access issues, challenges facing instructors and administrators of distance learning programs who desire to use Internet as all or part of its delivery mechanism include providing Internet training to instructors and students and converting existing materials into formats accessible over the Internet network.

Conclusion

Administrators and instructors should consider available technology for delivering distance learning options that allow all individuals, including those with disabilities, to fully participate. The Internet is a flexible, powerful, and efficient tool to supplement or replace other distance learning delivery modes. Existing programs like those at the University of Washington demonstrate the successful use of the Internet for communication, instructional delivery, and information access in support of distance learning. Rehabilitation administrators are in a unique position to help other distance learning programs make effective use of this powerful technology. An added bonus to rehabilitation administrators who work through the problems in gaining Internet access for staff and programs is that the rich networking resources will be of personal benefit to them in their own professional growth, research, and collaborative efforts.

References
Barker, B. O., Frisbie, A. G., & Patrick, K. R. (1989). Broadening the definition of distance education in light of the new telecommunications technologies. *The American Journal of Distance Education*, *3*(1), 20-29.
Bitter, J. A., Gregg, J. G., & Jackson, W. A. (1994). Leadership training by distance. *Journal of Rehabilitation Administration*, *18*(2), 81-86.
Burgstahler, S. E. (1994). Disabilities, opportunities, internetworking & technology = DO-IT!. *Exceptional Parent*, *24*(11), 33-36.
Bussell, L., Harrison, P., McFarlane, F. R., Saba, F., & Turner, T. A. (1994). Region IX distance learning through telecommunications. *Journal of Rehabilitation Administration, 18*(2), 87-91.
Closing the Gap 1994 resource directory. (1994). *Closing the Gap*, *12*(6), 31-224.
Coombs, N. (1991). Window of equal opportunity - online services and the disabled computer user. *Research and Education Networking*, *2*(9).
Coombs, N. (1992). Teaching in the information age. *EDUCOM Review*, *27*(2), 28-31.
Ehrmann, S. C. (1992). Challenging the ideal of campus-bound education. *EDUCOM Review*, *27*(2), 24-27.
Eldredge, G. M., Gerard, G., & Smart, J. (1994). A distance education model for rehabilitation counseling. *Journal of Rehabilitation Administration*, *18*(2), 75-79.
Kreutzer, J. S., Sherron, P., Wehman, P. H., & West, M. (1992). Computer technology in vocational rehabilitation. *Journal of Head Trauma Rehabilitation*, *7*(3), 70-80.
Moore, M. G. (1990). *Contemporary issues in American distance education.* New York: Pergamon Press.
Smart, S. (1988). Computers as treatment: The use of the computer as an occupational therapy medium. *Clinical Rehabilitation*, *2*(1), 61-62.
Wagner, E. D. (1993). Variables affecting distance educational program success. *Educational Technology*, *33*(4), 28-32.
Watkins, B. T. (1992, September 2). Information technology. *The Chronicle of Higher Education,* pp. A19-A21.
Wilson, D. L. (1992, September 30). Huge computer network quickens pace of academic exchange and collaboration. *The Chronicle of Higher Education,* pp. A17-18.

List of distance learning programs

- California Coast University offering off-campus accelerated undergraduate and graduate degree programs for mid-career adults.
- American Coastline University - offers a wide range of academic degree programs including ministry programs leading to ordination; as well as continuing education, avocations, and upward mobility professional development courses.
- American College - graduate and professional education, primarily on a distance self-study basis, in the field of financial services.
- American College of Metaphysical Theology
- American College of Prehospital Medicine - ACPM offers Associates and Bachelors degrees to qualified EMS personnel. ACPM is an accredited distance education college through the DETC.
- American Global University - offering courses of instruction leading to Bachelor's, Master's, and Doctoral degrees.
- American Institute for Computer Sciences - offers bachelor and master degrees in computer programming via a unique distance education format.
- American Military University - distance education university, specializing in military and defense studies.
- American River College
- Andrew Jackson University - an entirely off-campus education with bachelor's and master's programs in communications, business, criminal justice and public administration.
- Athena University - institute of higher learning offering courses via the Internet.
- Auburn University - participate in quality educational experiences in your own locale and at times that are convenient to you.
- Barrington University - offers distance learning programs in business, computers, law, and other areas.
- Bienville University - founded to provide selected distance-learning opportunities for professional men and women with career interests in business, sports, and the health professions.
- Brigham Young University@
- CALCampus - offers courses through Internet in English, math, science, social studies, computer science, business, and foreign languages.
- California Institute of Integral Studies@
- California National University - to address the needs of today's and future workers by providing higher education through distance learning.
- California State University at Humboldt - variety of online courses in Computer Science and Information Systems offered by Dr. Hal Campbell, CSUH.
- Canyon College - offers bachelor or masters degrees in business, health care administration, psychology, and more.
- Carnegie Mellon University - School of Computer Science
- Castlebridge University - offers Bachelor's, Master's and Doctorate programs in psychology, business administration, health sciences, human services and other fields.
- Catholic Distance University - site has descriptions and registration info for adult distance learning programs in the teachings of the Roman Catholic Church.
- Central Michigan University
- Central Pacific University - offers bachelors, masters, and doctorate degree programs through correspondence.
- Central State University - offering BBA, MBA, and DBA degrees by distance learning.
- Centre for Educational Development - provides Bachelor, Master, and Doctoral Degrees through open/ distance learning programmes in Hong Kong.
- Centro de Enseñanza a Distancia - private institution which offers learning courses in many areas, with branches in China, Germany, Greece, Poland, Portugal, Switzerland and most of Latin America.
- Century University - allows you to earn or complete your college degree without classroom attendance. Earn your bachelors, masters, or doctorate degree through guided independent studies.
- Chadwick University (2)
- Champlain College - offers a range of online, career-oriented, academic programs.
- City University@
- City University Los Angeles - distance education final year undergraduate and graduate programs for accomplished individuals worldwide.
- Connecticut State University - offering a variety of courses and several degree programs.
- Cyber University - provides health courses and medical board accreditation exams for physicians.

- CyberEd at UMass Dartmouth@
- Department of External Studies - offers an undergraduate curriculum designed for adult learners in the School of Religion.
- Diversity University, Inc. - a non-profit organization dedicated to promoting education through on-line services.
- Faculdade Carioca - pioneira no projeto Univir (Universidade Virtual). Todos os cursos com ênfase em informática.
- Fairfax University - offers international home study distance learning degree programs to candidates worldwide.
- Florida State University - information on distance learning opportunities and resources at the university.
- Frederick Taylor University - offers distance learning undergraduate and graduate degree programs in management and business administration.
- Golden Gate University
- Greenwich University@
- Henson College
- Home Study International - a Seventh-Day Adventist distance education provider. Offering accredited and non-accredited programs for pre-K to 12; and certified, transferable college courses.
- Honolulu University of the Arts, Sciences, and Humanities - offers innovative, non-resident degree programs in your native language.
- ICI University@
- Idaho State University - cooperative effort by ISU, UI, and BSU providing a variety of graduate and undergraduate interactive on-line college courses.
- Indiana University, Bloomington - Division of Extended Studies - accredited college and high school courses offered using distance learning, internet, e-mail, video, CD ROM, and correspondence.
- INTEC College - Southern Africa
- International University - a university to develop and provide affordable courses, certificates and degrees to individuals world-wide, using electronic technologies.
- Internet University - real-time, instructor-led web-based training. Distance learning sessions for all types of educational and academic opportunities.
- Iowa Digital Education Association - offers K-12 and post-secondary courses through the Internet.
- Kennedy-Western University - complete a BA, MA, or PhD program while working. Not available to CA residents.
- Lacrosse University - accredited institution offering Associate's, Bachelor's, Master's, and Doctorate programs in a self-paced format.
- LaSalle University - offers undergraduate and graduate degree programs through distance learning.
- Louisiana State University - offers continuing education and distance learning courses to university and high school students.
- Magellan University - offers online courses in mathematics, MCSE certification, and desktop software.
- Malta University Radio Station (radju ta' l-Universita') - 103.7 FM - provides open distance learning through nationwide FM broadcasting.
- Massey University Open University Study - designed to inform people about the distance education program.
- ME/U Knowledge Online - Mind Extension University and Jones Computer Networks. Delivers educational opportunities from 12 universities and colleges.
- Mercy College - commuter college with campuses in the New York metropolitan area. Also offering distance learning programs.
- Michigan State University
- Monticello University - offering a range of degrees in law, management, history, and many other subjects.
- New Jersey Institute of Technology@
- North Carolina A&T State University
- North Central University - offers distance learning degrees in business, technology management, psychology, and law.
- Northern Arizona University - offers computer-based courses.
- Northwestern College - Christ-centered college education.
- Northwestern College [Lima, OH]
- Northwestern Michigan College - offering distance learning, vocational and traditional courses.
- Ohio University - Independent Study Program - over 350 courses are offered for distance learners as correspondence courses and credit by exam. Special projects arranged.

- OnLine Education
- Open University - UK@
- Open University of Sri Lanka - offers further education through distance learning techniques.
- Open University of the Netherlands@
- Pace University
- Penn State Continuing and Distance Education (C&DE) - applies Penn State's resources to business, academic, and professional clients and adult learners through courses, seminars, workshops, conferences, and services.
- Phoenix Special Programs and Acedemies
- Queen's University - offers distance/continuing education degree courses via correspondence, CD-ROM, and the Web.
- Robert Kennedy University - an American university in Switzerland offering Bachelor, Masters, and Doctorate degrees online through distance learning.
- Rochester Institute of Technology - offers graduate and undergraduate degrees, certificates, and courses online.
- Rochester Institute of Technology - Health Systems Administration - offers a master of science degree, graduate certificates, and an undergraduate certificate through distance learning study.
- Rogers University - offering associate degrees in business, computers, humanities, and liberal arts.
- Sheffield University
- Sogang University - introductory and novice Korean, and understanding South Korea.
- South Atlantic University - offers Bachelors, Masters, and Doctorate degrees.
- Southern California University for Professional Studies - SCUPS is a distance learning college designed to fit the needs of today's busy adult learner.
- Southern Christian University - offers numerous undergraduate and graduate distance learning programs in theology.
- Southwest University
- St. George University - international university.
- Steward University - awarding degrees based on previous education and experiences.
- SUNY Learning Network - online learning for SUNY students.
- Texas A&M University
- TheU - a World Virtual University project.
- Thomas Edison State College@
- Trinity College & University - sells degrees based on your prior learning. Also offers homestudy or on site programs in alternative health, business, writing, and sports coaching.
- Troy State University
- U.S. Army War College
- UC Berkeley - Cal VIEW - televised instruction program at UCB that broadcasts graduate EE/CS courses to participating NTU member companies.
- UC Berkeley Extension - courses now available over the Web.
- University Access (1)
- University College of the Fraser Valley Online - Earn college credits, diplomas and degrees from home using your computer.
- University of Alabama - education via correspondence, videotape, satellite uplinks etc. Credit Courses offered at high school, undergraduate, and the graduate level.
- University of Alaska Southeast - includes programs in Alaskan Wildlife, business, and education.
- University of Alaska, Fairbanks
- University of Asia - offers bachelor, masters, and doctoral degrees in international business via distance learning.
- University of Berkley - earn a college degree without taking classes.
- University of British Columbia - UBC Access Guided Independent Study Catalogue for agricultural, health, and wood science instructional videos from our distance education courses.
- University of Colorado
- University of Findlay - offering online degrees in several fields.
- University of Florida
- University of Guelph - offers access to distance and continuing education courses, conferences, and workshops.
- University of Houston
- University of Iowa Guided Correspondence Study - online course catalog with descriptions for courses offered through correspondence study.

- University of London External Programme - undergraduate/postgraduate qualifications without coming to London through the External Programme. Open/distance learning and independent study: home or college.
- University of Maine System
- University of Maryland University College@
- University of Massachusetts at Lowell - distance education courses.
- University of Minnesota - Distance Education
- University of Minnesota, Morris
- University of Missouri - Extension Teaching - offers a variety of courses online enabling students worldwide to take full university courses for enjoyment or credit.
- University of Missouri at Columbia - catalog that provides complete list of high school and university courses as well as information on enrollment policies and procedures.
- University of Missouri at Kansas City - Virtual University Project - building an infrastructure for course delivery and preparation of courses both for departments and on-line delivery.
- University of New Mexico - Distance Education Center
- University of North Texas
- University of Oregon
- University of Phoenix - offers continuing education and degree programs to working adults around the world through multiple campuses and the Online Degree Program.
- University of Reno - Independent Study by Correspondence - complete courses in math, English, business, foreign languages and more.
- University of San Jose (Costa Rica) - master and doctorate degrees through distance learning with minimum on-campus presence.
- University of South Carolina - media-enhanced classrooms, college/high school independent learning (correspondence), satellite delivery.
- University of Southern Queensland
- University of Wisconsin - Steven's Point
- University of Wisconsin-Extension Distance Education Clearinghouse
- Utah Education Network - organization of public and higher education that represents higher, public, and vocational education. Provides educational television, telecourses, and on-line teaching.
- Virgnia Polytechnic Institute and State University - offers distance learning.
- Virtual Classroom at NJIT
- Virtual School, The
- Washington State University - Extended Degree Program - offers distance learning courses which enable students to earn a Bachelor of Arts Degree from a distance.
- Western Michigan University - Department of Distance Education
- Western States College of Commerce - program in the field of Law.

09. International and Greek electronic texts

Electronic resources available freely or with restricted access through the University of Macedonia Library.

Electronic Periodicals

INTERNATIONAL ELECTRONIC PERIODICALS

- **Elektronische Zeitschriftenbibliothek** [Access: http://www.bibliothek.uni-regensburg.de/ezeit/ezb.phtml]
- **HEAL-Link Periodicals**: Alphabetical list of electronic periodicals available through HEAL-Link (Hellenic Academic Libraries Link) [Access: http://heal-l.physics.auth.gr/periodicals.htm (IP controlled)]
- **Science Direct** [Access: http://www.sciencedirect.com/science?_ob=HomePageURL&_method=userHomePage&_acct=C000006498&_version=1&_urlVersion=0&_userid=83476&md5=693d41338b95e939d886773fdf69fbe0 (IP controlled)]
- **ACM Digital Library**: A vast resource of bibliographic information, citations, and full-text articles. [Access: http://www.acm.org/dl/ (IP controlled)]
- **IEEE Computer Society Digital Library** [Access: http://computer.org/publications/dlib/ (IP controlled)]
- **MCB University Press** [Access: http://www.emerald-library.com/cgi-bin/EMRlogin (IP controlled)]
- **IDEAL** [Access: http://www.idealibrary.com/servlet/useragent?func=showHome (IP controlled)]
- **SPRINGER** [Access: http://link.springer.de/ (IP controlled)]
- **Kluwer Academic Publishers** [Access: http://www.wkap.nl/ (IP controlled)]
- **Swetsnet** [Access: http://www.swetsnet.nl/prod/ (IP controlled, password protected)]

GREEK ELECTRONIC PERIODICALS

- **Computer Arts** [Access: http://www.computerarts.gr/home.htm]
- **Computer gia Olous** [Access: http://www.cgomag.gr/]
- **Executive Know-How** [Access: http://www.knowhow.gr]
- **Plant-management** [Access: http://www.plant-management.gr]
- **RAM** [Access: http://www.in.gr/ram]
- **Strategies** [Access: http://www.strategic.gr/publications/strategies/]
- **Anaptyxe** [Access: http://www.acci.gr/anaptixi]
- **Chrema kai Agora** [Access: http://www.athenstock.com/secondpad.htm]
- **Deltio Forologikes Nomothesias** [Access: http://www.dfn.gr (password required)]
- **Demosios Tomeas** [Access: http://www.special-edition.gr]
- **Dioiketike Enemerose** [Access: http://www.special-edition.gr]
- **EE** [Access: http://www.special-edition.gr]
- **Enose Hellenikon Trapezon** [Access: http://www.hba.gr]
- **Epiloge** [Access: http://www.allmedia.gr]
- **Epitheorese Ergasiakon Scheseon** [Access: http://www.special-edition.gr]
- **Ergatike & Asphalistike Nomothesia** [Access: http://www.ergatiki-asfalistiki.gr (password required)]
- **Euronea** [Access: http://www.ethniki.gr/publications/euronews/home.html]
- **Gnome tes OKE** [Access: http://www.oke.gr]
- **Helleniko Panorama** [Access: http://www.elliniko-panorama.gr/]
- **Logistes** [Access: http://www.logist.com (password required)]
- **Oikonomike Viomechanike Epitheorese** [Access: http://www.oikonomiki.gr/]
- **Oikonomikos Tachydromos** [Access: http://oikonomikos.dolnet.gr]
- **Phorologike Vivliotheke** [Access: http://www.forologistiki.gr (password required)]

Electronic Newspapers

INTERNATIONAL ELECTRONIC NEWSPAPERS

- **Newspapers Online - Newspapers by Country** [Access: http://www.newspapers.com/country.asp]

- **Electronic Newspaper:** World Wide Web - accessible electronic newspapers available free of charge on the Internet. [Access**:** http://www.mse.jhu.edu/research/newspaper/newshome.html]

GREEK ELECTRONIC NEWSPAPERS

- **Directory of all the Greek newspapers with circulation in national scale** [Access: http://www.in.gr/innews/kiosk/]
- **Adesmeytos Typos** [Access: http://www.adesmeytos.gr/]
- **Apogevmatini** [Access: http://www.apogevmatini.gr/]
- **Avgi** [Access: http://www.avgi.org/nea-avgi/main_page.asp]
- **To Vima** [Access: http://tovima.dolnet.gr/]
- **Ethnos** [Access: http://www.ethnos.gr]
- **Eleftherotypia** [Access: http://www.enet.gr/]
- **Express** [Access: http://www.kapatel.gr/express/]
- **Imerissia** [Access: http://www.imerissia.gr]
- **Isotimia** [Access: http://www.isotimia.gr/]
- **Kathimerini** [Access: http://www.kathimerini.gr/news/browser.htm]
- **Naftemporiki** [Access: http://www.naftemporiki.gr/]
- **Ta Nea** [Access: http://ta-nea.dolnet.gr/]
- **To Pontiki** [Access: http://members.tripod.com/~yiannich/HN/pontiki.htm]
- **Rizospastis** [Access: http://www.rizospastis.gr/]

Electronic Books

Some information about e-books - an alternative format information source - that can be used for VIP in many cases:

From 1995 to 2000 the degree of college courses using Web resources has increased from 10% to 40 %. (Source: *The Knowledge Web*, Merrill Lynch & Co.). These figures are for US and not applicable to Europe but show the potential. An E-Book has been defined as "a term used to describe a text analogous to a book that is in digital form to be displayed on a computer screen" (International Encyclopedia of Information and Library science / edited by: John Feather and Paul Sturges. 1997). Of course a CD-ROM of an encyclopedia is really an electronic book, and there are a few books available on the Web - so E-Books have been around for several years. What is new is the maturing of dedicated E-Book reader technology and the emergence of some large - scale distributors of electronic texts to be read on the PC, e.g. netLibrary, ebrary (http://www.ebrary.com/) and Questia. These companies are planning to make electronic texts available on a vast scale. By 2003, Questia aims to have 250,000 texts suitable for US undergraduates in the liberal arts available online.

Any electronic full-text document that can be used with a PC offers to VIP some advantages:
- Accessibility – blind readers can get spoken output or read with the Braille display.
- Searchability - however good a printed book's index is, it will be more effective to search the full text.
- Annotation - you can make large annotations on an E-Book, then extract them later for a final essay.
- Linking - you can highlight a word and jump to the dictionary definition.
- There are also some newer technologies developing, which will be worth watching: such as talking books in MP3 format.

Some examples of e-books and e-book reader technology:

Microsoft Reader - <http://www.microsoft.com/reader/> The Microsoft reader for PCs, laptops and the latest Pocket PCs can be downloaded from <http://www.microsoft.com/reader/> (Note: you have to have Internet Explorer installed and correctly configured). Installation is simple and the reader is free. Look on <http://www.web-books.com/cool/ebooks/Library.htm > to find free texts available. The Reader has some quite nice features - such as how it remembers the last page you were reading. The right mouse button calls up tools such as to bookmark a page, to make a drawn or textual annotation and to search. The Reader builds an index of your annotations so you can find them quickly. If this were a key textbook we think this would be invaluable for note taking. You can copy and paste text but not print directly from the reader.

24x7 Web site - <http://www.books24x7.com> 24x7 offer guest access to selected chapters of books in their library of business and computing books. The experience here is basically the usual web experience, everything is read in a browser. Sections are delivered bit by bit - so it would be difficult to print everything out - or save the book for re-use.

netLibrary - <http://www.netlibrary.com> netLibrary e-books can be accessed both through a web site - and on a free-for-download reader, on your PC. There are a few free books on their site, and you can register to use these free of charge. In the netLibrary system you download a book and check it out to use it. After you have used it once you don't have to download it again, but you do have to check it out. It is about as readable as any word document, though the ability to easily zoom in and out is nice. There are three windows to view: the book itself, the table of contents and your own notes and annotations. The toolbars offer the typical e-book functions, such as bookmarking, note making and annotation. You can search both through the e-book you are reading and any you have installed.

Questia - <http://www.questia.com/> Questia's academic service was launched on 22nd January 2001. There are three main book-finding options: quick search, power search, explore (i.e. browse). Search - gives you results nicely displayed, you have sort options (e.g. by author not default of relevancy/descending). There are the usual e-book features such as highlighting, making bookmarks, and margin notes. Citations can be downloaded in multiple citation styles - and pasted into Word (with embedded links to the item cited). Other tools such as Roget's Thesaurus, a dictionary and Encyclopedia can be called up.

INTERNATIONAL ELECTRONIC BOOKS

- **The Online Books Page:** Includes more than 12.000 English works in various formats. [Access: http://digital.library.upenn.edu/books/lists.html]
- **IFLA - UNESCO Directory of Digitized collections**: Includes more than 100 initiatives in various formats. [Access: http://thoth.bl.uk/ddc/index.html]

GREEK ELECTRONIC BOOKS

- **VIVLIA gia ten Anaperia kai ten Apokatastase:** Includes about 600 titles of books and articles in Greek language on disability and rehabilitation. [Access: http://www.disabled.gr/gr-arts/books01.htm]

Other Electronic texts

INTERNATIONAL ELECTRONIC TEXTS

1. WORKING PAPERS

- **NBER (NATIONAL BUREAU OF ECONOMIC RESEARCH)** [Access: http://papers.nber.org/papers.html (IP controlled)]
- **WORKING PAPERS IN ECONOMICS:** WoPEc is a service for finding and downloading the latest research results in economics. It contains over 29,000 papers. [Access: http://netec.wustl.edu//WoPEc/WoPEc.html (Free web access)]

2. TECHNICAL REPORTS

- **GrayLIT Network**-A science portal of technical reports [Access: http://www.osti.gov/graylit/ (Free web access)]

GREEK ELECTRONIC TEXTS

- **Modern Greek Literature** (texts, principally poems). [Access: http://members.tripod.com/~sarant_2/keimena.html]
- **Scifi.gr** (Greek Science fiction novels). [Access: http://www.scifi.gr/forum]

10. International and Greek bibliographic databases

International Bibliographic Databases

Abstracting and Indexing Databases

GENERAL BIBLIOGRAPHIC DATABASES

- **Ulrich's International Periodicals** Directory [Access: http://jimi.swets.nl:8590/ (IP controlled)]
- **Verzeichnis Lieferbarer Bucher** [Access: http://www.buchhandel.de (free web access)]
- **UnCover** [Access: http://uncweb.carl.org (free web access)]
- **Choice** [Access:
  Ultranet: (local and remote) http://www2.lib.uom.gr/Unete.htm
  Webspirs : (local and remote) http://webspirs.uom.gr:1821/]
- **Article 1st Information** [Access:
  http://heal-l.physics.auth.gr/cgi-bin/services.cgi
  http://firstsearch.oclc.org/FSIP
  (IP controlled)]
- **Contents 1st Information** [Access:
  http://heal-l.physics.auth.gr/cgi-bin/services.cgi
  http://firstsearch.oclc.org/FSIP
  (IP controlled)]
- **NetFirst Information** [Access:
  http://heal-l.physics.auth.gr/cgi-bin/services.cgi
  http://firstsearch.oclc.org/FSIP
  (IP controlled)]
- **Proceedings Information** [Access:
  http://heal-l.physics.auth.gr/cgi-bin/services.cgi
  http://firstsearch.oclc.org/FSIP
  (IP controlled)]
- **PapersFirst Information** [Access:
  http://heal-l.physics.auth.gr/cgi-bin/services.cgi
  http://firstsearch.oclc.org/FSIP
  (IP controlled)]
- Other databases also available through OCLC FirstSearch
  - **ECO Information**
  - **UnionLists Information**
  - **GPO Information**
  - **WorldAlmanac Information**
- **MLA International Bibliography** [Access:
  Ultranet: (local and remote) http://www2.lib.uom.gr/Unete.htm
  Webspirs: (local and remote) http://webspirs.uom.gr:1821/

SUBJECT SPECIFIC BIBLIOGRAPHIC DATABASES

ECONOMICS & BUSINESS

- **EconLit** [Access:
  Ultranet (local and remote)
  Webspirs (local and remote)]
- **ABI / INFORM Global** [Access:
  Ultranet (local and remote)]
- **AgECONCD** [Access:
  Ultranet (local and remote)
  Webspirs (local and remote)]
- **Agricola** (AGRICultural OnLine Access) [Access: http://www.nal.usda.gov/ag98 (free web access)]

POLITICAL SCIENCES

- **Political Science Abstracts** [Access:

Ultranet (local and remote)
Webspirs (local and remote)]
- **IBSS-Extra** [Access:
  Ultranet (local and remote)
  Webspirs (local and remote)]
- **International Political Science Association** [Access:
  Ultranet (local and remote)
  Webspirs (local and remote)]
- **Historical Abstracts** [Access: Ultranet (local and remote)]

COMPUTERS

- **INSPEC Ondisc-Electronics & Computing** [Access:
  Ultranet (local and remote)
  Webspirs (local and remote)]
- **Microcomputer Abstracts** [Access:
  Ultranet (local and remote)
  Webspirs (local and remote)]

EDUCATION

- **PsycLit** [Access:
  Ultranet (local and remote)
  Webspirs (local and remote)]
- **ERIC** [Access:
  http://heal-l.physics.auth.gr/cgi-bin/services.cgi (IP controlled)
  http://firstsearch.oclc.org/FSIP (IP controlled)
  http://ericir.syr.edu/Eric/ (free web access)
  http://www.galileo.peachnet.edu/Homepage.cgi (free web access)
  http://ericae.net/aesearch.htm (free web access)]

LAW AND LEGISLATION

- **Index to Foreign Legal Periodicals** [Access:
  Ultranet (local and remote)
  Webspirs (local and remote)]

MEDICINE

- MEDLINE Information [Access:
  http://heal-l.physics.auth.gr/cgi-bin/services.cgi (IP controlled)
  http://firstsearch.oclc.org/FSIP (IP controlled)
  http://www.ncpi.nlm.nih.gov/PubMed/ (free web access)
  http://igm.nlm.nih.gov/ (free web access)]

STATISTICS

- **European Union Agricultural and Fisheries** [Access: Ultranet (local and remote)]
- **United Nations Statistical Yearbook** [Access: Ultranet (local and remote)]
- **Internal and External Trade of the EU** [Access: Ultranet (local and remote)]
- **Statistical Yearbook** [Access: Ultranet (local and remote)]
- **International Statistical Yearbook** [Access: Ultranet (local and remote)]
- **World Trade Analyzer** [Access: Ultranet (local and remote)]
- **EU data for Agriculture 1973-97** [Access: Ultranet (local and remote)]
- **EU Agriculture, Forestry and Fisheries** [Access: Ultranet (local and remote)]
- **European Production and Market Statistics** [Access: Ultranet (local and remote)]
- **Statistics of the Common Wealth of Independent Countries** [Access: Ultranet (local and remote)]
- **Latin America and Mediterranean** [Access: Ultranet (local and remote)]
- **Annual and Historical International Trade Statistics** [Access: Ultranet (local and remote)]
- **OECD Statistical Compendium** [Access: Ultranet (local and remote)]

Full-text Databases

INDEXES WITH FULL-TEXT

- **PAIS Select** [Access:
  Ultranet (local and remote)
  Webspirs (local and remote)]
- **Wilson Web** [Access: http://hwwilsonweb.com/ (IP controlled)]

Greek Bibliographic Databases

GREEK GENERAL BIBLIOGRAPHIC DATABASES

- **Bibliographia 2000** (Greek Books In Print) [Access: Ultranet (local and remote)]
- **Greek Books In Print** [Access: http://www.biblionet.gr (Free web access)]
- **Serials Union Catalog** (National Documentation Centre, Greece) [Access:
  http://iris.ekt.gr:1111/skp/skp_search.login_1 (free web access)]
- **National Archive of Dissertations** (National Documentation Centre, Greece) [Access:
  http://jasmin.ekt.gr/scripts/abekt_zgate.exe/zconnect?lang=0 (free web access)]

11. International and Greek Internet Resources

International Internet Resources

SEARCH ENGINES AND SUBJECT DIRECTORIES
- **Alta Vista** http://www.altavista.com
- **Hotbot** http://hotbot.lycos.com
- **Google** http://www.google.com/intl/de/
- **Lycos** http://www.lycos.com
- **Infoseek** http://www.go.com
- **The Argus Cleaninghouse** http://www.clearinghouse.net/

UNIVERSITIES

Over 5500 Links to Higher Educational Institutions in 161 Countries: http://www.braintrack.com

ENCYCLOPAEDIAS

- **Microsoft Encarta 98** [Access**:** Ultranet]
- **Microsoft Bookshelf 98** [Access**:** Ultranet]

Greek Internet Resources

SEARCH ENGINES AND SUBJECT DIRECTORIES
- **Hack.gr** (Meta Search Engine) http://www.hack.gr/mse/
- **In.gr** http://www.in.gr
- **Pathfinder** http://www.pathfinder.gr
- **Phantis** http://www.phantis.com
- **Robby** http://www.robby.gr
- **Toxo** http://www.toxo.com

LOCAL GUIDES OF THESSALONIKI

- **031.GR** http://www.031.gr
- **GUIDE AND MAPS OF THESSALONIKI** http://www.it.uom.gr/dromoi/default.asp

UNIVERSITIES

Directory of Greek Universities and Technological Educational Institutes with links at the appropriate web sites http://www.gunet.gr/partners.html

LIBRARIES

1. LIBRARIES IN THESSALONIKI

- **Municipal Libraries of Thessaloniki** http://www.thessalonikicity.gr/bibliothik.htm
- **Institute for Balkan Studies** http://www2.hyper.gr/imxa/index.html
- **Goethe Institut-Thessaloniki** http://www.goethe.de/om/the/deibib.htm
- **Istituto Italiano di Cultura Salonicco** http://users.otenet.gr/~italcult/

2. GREEK ACADEMIC LIBRARIES

- **Athens School of Fine Arts** http://www.asfa.gr/greek/education/library/index.html
- **University of the Aegean Library** http://www.aegean.gr/services/library.htm
- **Aristotle University of Thessaloniki Library System** http://www.lib.auth.gr/gr/
- **Democritus University of Thrace Library** http://www.lib.duth.gr/
- **Library of the Agricultural University of Athens** http://lib1.aua.gr/
- **National and Kapodistian University of Athens Libraries** http://www.lib.uoa.gr/
- **Central Library of National Technical Universtity of Athens** http://www.lib.ntua.gr/
- **Library of the Electrical and Computer Engineering Department** http://www.lib.ece.ntua.gr/
- **Athens University of Economics and Business Library** http://www.lib.aueb.gr/
- **University of Thessaly Library** http://www.lib.uth.gr/ghomepage.htm
- **The University of Ioannina Library** http://www.lib.uoi.gr/
- **The University of Ioannina Humanities Library** http://www.uoi.gr/humanlib/start.htm
- **University of Crete Library** http://www.libh.uoc.gr/index.html
- **University of Crete Digital Library** http://dlib.libh.uoc.gr/index1.html
- **Technical University of Crete Library** http://www.library.tuc.gr/
- **Panteion University of Political and Social Sciences Library** http://www.panteion.gr/gr/library/
- **University of Patras Library and Information Service** http://www.lis.upatras.gr/
- **University of Pireaus Library** http://www.unipi.gr/greek/academic/library.html
- **TEI of Athens Library** http://zeus.library.teiath.gr/default.htm
- **TEI of Epirus Library** http://www.teiep.gr/library.html
- **TEI of Herakleion Crete Library** http://www.lib.teiher.gr/
- **TEI of Thessaloniki Library** http://alcyon.it.teithe.gr/greek/lib.html
- **TEI of Kalamata Library** http://www.teikal.gr/lib/home.htm
- **TEI of Kozani Library** http://www.teikoz.gr/tei/library.html
- **TEI of Larissa Library** http://library.teilar.gr/
- **TEI of Mesologgi Library** http://www.teimes.gr/vivliothiki.html
- **TEI of Pireaus Library** http://lib.teipir.gr/
- **TEI of Serres Library** http://lib.teiser.gr/index.htm

3. OTHER GREEK LIBRARIES

- **Koraes Public Library (Chios)** http://www.chiosnet.gr/koraes/default_gr.htm
- **Veria Central Public Library** http://www.libver.gr/
- **National Hellenic Research Foundation Library** http://www.eie.gr/Library/library.htm
- **Demokritos National Centre for Scientific Research Library Services** http://www.demokritos.gr/lib/
- **National Book Center Bibliological Library** http://book.culture.gr/l/index_gr.html
- **National Documentation Center Digital Library** http://www.ekt.gr/inform/biblio/ekt_digital_library.htm
- **Eugenides Foundation Library** http://www.eugenfound.edu.gr/en/libframes.html
- **Mediterranean Agronomic Institute at Chania Library and Documentation Center** http://www.maich.gr/library/
- **Music Library of Greece** http://www.mmb.org.gr/index.htm
- **Technical Chamber of Greece Documentation and Information Unit** http://www.tee.gr/teeassoc/central/library/libgen.htm

DISABILITIES

Directory of all Greek links at: http://www.robby.gr/Health_and_Medicine/Disability/

Special sites for the VIP:
- **Foundation of the Blind of Northern Greece (Hidryma Prostasias Tyflon Voreiou Hellados)** http://www.forthnet.gr/ipt/ipt_gr.html
- **Panhellenic Association of the Blind** http://www.vacation.net.gr/p/pab.html
- **Ministry of Transportation and Persons with Special Needs** http://www.yme.gr/news/amea.html
- **Institute for Language and Speech Processing – Research Projects (Project: Bilingual (Greek – English) Adaptive interface for the Blind)** http://www.ilsp.gr/AMEA.html

REFERENCES

1. TELEPHONE DIRECTORIES

- **Greekphones** http://www.grecian.net/greekphones_g/
- **O.T.E.** http://www.ote.gr/

2. BUSINESS DIRECTORIES

- **ICAP DATA**   [**Access:** Ultranet (local)]
- **Greek Economy and Industry**   [**Access:** Ultranet (local and remote)]
- **Members of the Greek and European Parliament**   [**Access:** Ultranet]

3.DICTIONARIES

- **English-Greek, Greek-English Dictionary** http://kypros.org/cgi-bin/lexicon (free web access)
- **Greek Dictionary** http://ermis.komvos.edu.gr/Lexika/Triantafyllidis/Triantafillidis.htm (free web access)

12. Selected Internet resources on Cyprus

Search engines and subject directories

- **Arachne!** - The search engine of Cyprus http://search.kypros.org
- **Eureka!** - The indexer of Cyprus http://kypros.org/Eureka
- **Yiasou** http://www.yiasou.com.cy
- **Cyprus Access Panel** http://www.kypros.org/CyprusPanel/cyprus/panel.html

Colleges and universities

- **Cyprus College** http://www.cycollege.ac.cy
- **Cyprus International Institute of Management** http://ciim.ciim.ac.cy
- **Intercollege** http://www.intercol.edu
- **University of Cyprus** http://www.ucy.ac.cy
- **Other colleges** http://yiasou.com.cy/edu1.htm

Libraries

- **Cyprus Library Network** http://www.intercol.edu/library/cln

Newspapers

- **Cyprus Mail** http://www.cyprus-mail.com
- **Financial Mirror** http://www.financialmirror.com
- **Politis** http://www.politis-news.com
- **Simerini** http://www.simerini.com.cy

Cyprus conflict

- **Contemporary conflicts: Cyprus** http://www.cfcsc.dnd.ca/links/wars/cyprus.html
- **Cyprus problem: detailed history** http://www.kypros.org/Cyprus_Problem/p_periexomena.html

Useful and interesting sites

- **Cypriot Painters** http://homepages.infoseek.com/~cyprus_art/painters.html
- **Greek-English-Greek dictionary** http://www.kypros.org/cgi-bin/lexicon
- **The Cyprus Home Page** http://www.kypros.org/Cyprus
- **Spidernet´s Artists database** http://www.spidernet.net/channels/arte/artists.html
- **Statistical Service** http://www.pio.gov.cy/dsr

Additional Greek sites

GREEK LITERATURE

- **Alphabetical list of Greek authors** http://www.haef.gr/chilias/greek/lit/alphlist.html
- **The Land of Gods - Greek poetry and literature on the Web**
  http://members.home.net/gdouridas/poetry.html
- **Spoudasterio Neou Hellenismou** http://www.snhell.gr

APPENDIX

Awareness raising questionnaire

How do you think about disabilities?

Mark the following statements with T (True) or F (False)

	T	F
People who are blind see nothing at all		
Deaf people develop a "sixth sense"		
Disability and illness go hand in hand		
Sensory impairment is usually accompanied by a learning difficulty		
Visually impaired people will not want to visit museums or galleries		
Wheelchair users are restricted in what they can do		
Disability always represents incurable personal tragedy		
Most visually impaired people are elderly		

Thank you !