賽馬會 JOCKEY CLUB
無障易學計劃
E-LEARNING FOR ALL PROJECT

Jockey Club E-Learning For All Project

Tel.　　　: 3996 0760

Fax.　　　: 3996 0759

Email　　 : ELFA@hkbu.org.hk

Website　 : http://ELFA.hkbu.org.hk

　　　　　:　　　　　16　　　　12　1202

Office Address: Room 1202, 12/F, Houtex Industrial Building,

　　　　　　　16 Hung To Road, Kwun Tong, Kowloon.

CASEBOOK

Jockey Club E-Learning For All Project

➤ **Accessible e-learning**

CONTENT

1

FOREWORD

Mr. CHONG Chan-Yau, MBE, President, Hong Kong Blind Union

2013 6 (WIPO)

2011

2013 8

2014 6

Braille is a great invention. It is a window of knowledge, learning opportunities and dreams for blind persons worldwide, including many of my friends and myself. However, producing braille books requires hours of transcription, copying, binding and mailing. Getting a book is a matter of months' waiting.

We are in the electronic era. Braille is still braille, but you can now view it on an electronic display attached to a computer. A book can be minimized into just one electronic text document. One time, I listened to Lung Ying Tai's introduction on her book "Dear Andreas". I wrote to ask for an electronic version so that I could read the book in braille. The publisher sent me an e-copy of the book, allowing me and many of my blind friends to share the joy of reading.

Sadly, less than 0.1% of books published each year are accessible to the blind. This is a "reading divide" that could have been closed by technology. Even though the United Nations Convention on the Rights of Persons with Disabilities and local laws promise equal rights for disabled persons, it is seldom realized when it comes to reading. Hong Kong laws state that disabled persons are exempted by copyright laws. In June 2013, World Intellectual Properly Organization (WIPO) passed the Marrakech Treaty which allows the legal sharing of books used by visually impaired persons across countries. Still, the biggest challenge is the lack of resources put into the production of electronic books. If technology can make learning easier and more effective for students with special needs, I am sure that it is the responsibility of the government, schools and organizations, to invest in supporting disabled students.

Hong Kong Blind Union introduced a new electronic learning project in 2011, supported by the Quality Education Fund. The project provides support services for persons with print disabilities, including primary and secondary students who are visually impaired, physically handicapped and dyslexic. Since August 2013, thanks to the support of The Hong Kong Jockey Club Charities Trust, the project can continue to run and was named as "Jockey Club E-Learning For All Project".

Besides helping transcribe textbooks and learning materials into accessible electronic versions, the project also provides free assistive software. We also offer training for teachers, students and parents on using electronic materials. In June 2014, we launched the "E-Learning For All Online Resources Portal" to provide e-learning information and services. The portal includes a learning material database for use of disabled students and teachers.

I urge every student to face challenges fearlessly, realise your potentials confidently and make it your goal to contribute to society.

香港失明人協進會
Hong Kong Blind Union

FOREWORD

Mr. Douglas SO, Executive Director, Charities,
The Hong Kong Jockey Club

The Hong Kong Jockey Club is honoured to support the "Jockey Club E-Learning For All Project" which gives students with visual impairment or other print disabilities equal learning opportunities as able-bodied children. The all-round package of services being offered by the Hong Kong Blind Union uses the latest technology to convert textbooks into accessible electronic / tactile format, as well as providing needy students, parents and teachers with technical support in using the e-learning devices.

For more than thirty years, The Jockey Club has been a proud partner of HKBU in providing support services to people with visual impairment. HKBU has pioneered the development of information and communications technology to improve the learning environment of the visually impaired, using innovative e-learning hardware and software. Through this project, students can look forward to an easier learning without barriers.

FOREWORD

Mr. Kevin YEUNG, JP, Under Secretary for Education,
HKSAR Government

Digital technology facilitates the development of electronic learning materials, which enable the students with difficulties in accessing printed learning materials due to their visual impairment to learn better. Computer-text-based materials developed under the "Jockey Club E-Learning For All Project" of the Hong Kong Blind Union facilitated the students in need to access reading and learning materials through screen reading software on computers and mobile devices. The project also greatly enhanced the portability of the materials. This booklet is a sharing of the experience and feelings of the students, parents and teachers of the project, which I hope will enlighten students encountering similar difficulties in their learning on ways to overcome the obstacles and to achieve success in both academic and personal pursuit.

![Hong Kong Blind Union logo] 香港失明人協進會
Hong Kong Blind Union

Hong Kong Blind Union

1964

Established in 1964, Hong Kong Blind Union is the first self-help organization founded and managed by people with visual impairment in Hong Kong. It aims at promoting the spirit of 'self-help' and 'mutual help' among visually impaired persons as well as striving for equality, opportunities and independence for them.

Learning Needs of Print Disabled Students

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Students with print disabilities can be divided into the following groups:

- Visually impaired
- Physically handicapped (unable to hold or manipulate a book)
- Dyslexic

Print disabled students are facing the following learning difficulties:

- Unable to read sufficient learning content due to lack of available learning materials in appropriate format;
- Difficult to seek help from others as their parents and teachers are not familiar with the usage of the assistive aids;
- Inaccessible school environment and online system may create hurdle for them to use and access information;
- Participation and performance may be affected as the arrangement of school activities and examination may not meet their special needs.

Jockey Club E-Learning For All Project

2013 8

With the sponsorship from The Hong Kong Jockey Club Charities Trust, Hong Kong Blind Union has launched a three-year project "Jockey Club E-Learning For All" since August 2013. The aim of the project is to bridge the learning gap between students with and without disabilities by providing various kinds of supportive services for print disabled students so that they can make the best use of e-learning in their academic pursuit.

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Target

- Print disabled students
- Their parents and teachers
- Agencies serving students with print disabilities

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- **(http://ELFA.hkbu.org.hk)**

Services Content

- **Production of learning materials in accessible electronic and tactile format**
  To convert the textbooks, reference books and other learning materials of primary and secondary levels into accessible electronic / tactile format for students with print disabilities.

- **Training and support**
  To provide technical support and consultation service to needy students, parents and teachers on e-learning.

- **Assistive aids research and development**
  To evaluate latest technical aids and develop suitable software for the use of the target students.

- **E-Learning Resources Portal (http://ELFA.hkbu.org.hk)**
  To provide an online database of available accessible learning materials, up-to-date resources and information on local and overseas e-learning; to let students, parents and teachers share their e-learning experiences, skills and knowledge.

Reading becomes fun! E-learning makes visually impaired students willing to read
Interviewees: Visually impaired student Yan-Kiu and his mother

Yan-Kiu is a Primary 2 student. He has a mild vision loss, but reading for a long time makes his eyes turn red and fatigue. Reading and comprehension is an extremely tiring exercise for him. Yan-Kiu started using e-books since he was in Primary 1 to help him do assignments and revise. Most of the electronic exercises he uses is for the Chinese language subject.

Screen readers read aloud whole textbook passages, which help Yan-Kiu understand the textbook and learn new words through listening. Without screen readers, Yan-Kiu would have to spend much more time and energy to read the textbook thoroughly. A simple reading and comprehension exercise would be exhausting for him, ebbing his motivation to learn.
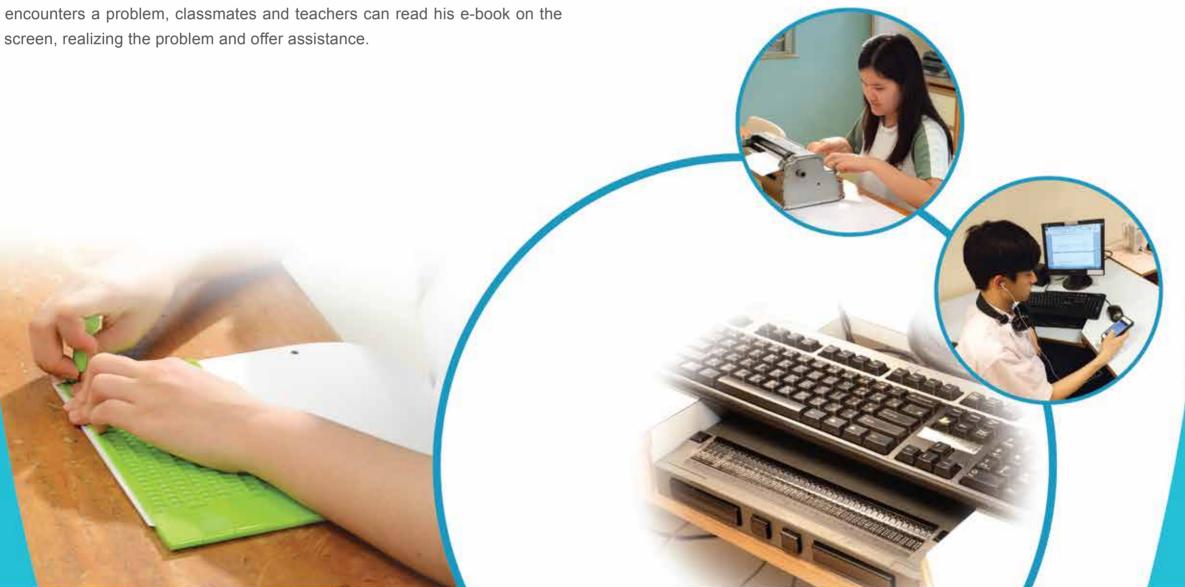
Tsz-Lok

Lok-Sze

Preparing for mainstream education
Interviewees: Visually impaired students Tsz-Lok and Lok-Sze

Tsz-Lok and Lok-Sze are Secondary 3 students at Ebenezer School. Both of them are profoundly blind, only being able to distinguish light and see vague shadows. Next year, they will transfer to mainstream schools to continue their studies. They both hope that e-books will help them adjust to the new way of learning.

Tsz-Lok and Lok-Sze both think that using traditional braille books are inconvenient. The use of e-books can greatly help them in their learning. Tsz-Lok has been learning braille for two years. Although he recognizes most braille characters, he is still slow when it comes to reading long paragraphs. He is worried about lagging behind in lessons. He thinks that listening to e-textbooks is much more efficient. He can also directly ask for help when he encounters a problem, classmates and teachers can read his e-book on the screen, realizing the problem and offer assistance.

Lok-Sze finds brailler (braille typing machine) inconvenient for taking notes. The brailler is heavy and not portable. Also the loud noise it produces affects her listening in lessons. If she uses a writing frame, she would not be able to catch up with the teacher. Now she can directly write notes on the e-book.

Tsz-Lok and Lok-Sze will start using e-books and screen readers more this year. They hope that they can familiarize themselves with e-learning, so that they can catch up with the teaching pace when they enter mainstream schools. They love to download e-books on their smart phones and tablets, so they can listen to books even when they are traveling around.

Lives enriched by information technology
Interviewees: Visually impaired students Tsz-Ling, Ka-Yan and Fei

Tsz-Ling, Ka-Yan and Fei are Secondary 1 students at Ebenezer School. They all use e-books and screen reading software to study. Screen readers not only help them with assignments, but also help them access other information, enriching their daily lives.

In the past, they used traditional braille books for studies, which were inconvenient and inefficient. Braille books usually come in many volumes, which means it takes a lot of time to search for the one you need. After using e-books and screen readers, they find reading much more efficient. The time it takes to read an article becomes shorter. They can also write notes directly on the e-books. This saves them more time to work on assignments.

E-books and screen readers not only help Tsz-Ling, Ka-Yan and Fei in reading textbooks, but also useful in browsing online for information. Just like other teenagers, using the Internet has become their favourite hobby. They frequently read the news to know about what is going on in the world. They also love to listen to music online. Ka-Yan's favourite Hong Kong singer is Linda Chung Ka-Yan, who shares the same Chinese name with her. Fei enjoys listening to music with piano accompaniment, and German music. All three girls spend their time on   FACEBOOK   , chatting with their friends and playing different games.

FACEBOOK

Fei

Ka-Yan

Tsz-Ling

(HKDSE)

E-learning helps examination preparation
Interviewee: Blind student Andy

HKDSE is not a small challenge for Andy, who is currently a Secondary 5 student at St. Paul's College. Luckily, e-learning has been a great aid to him during this time of preparation.

Firstly, a candidate must read an extensive amount of learning materials to prepare for public examinations. However, the production of braille books takes a long time, which limits the amount of learning materials available for visually impaired students. Also, braille books come in many volumes and are heavy to carry around. For example, a mathematics textbook of 300-400 pages will become about 20 volumes in braille. If a student uses e-books, he only needs to carry a laptop or a braille notetaker, making it much lighter and easier. Andy says that he cannot only rely on textbooks, but also extra notes and materials. Teachers hand out many sets of notes, for example in history lessons. He can read the electronic notes directly on the computer, without transcribing them into braille. Some subjects like liberal studies require students to write keywords onto the notes. It is not possible to do it with braille books, but it is just a click on an e-book.

Also, Andy thinks that e-books had helped him learn in a new way. Doing past examination paper exercises are very important for some subjects like economics and mathematics. Now, Andy only needs to save the past papers and model answers all on his braille notetaker before he goes home and study. When he is revising, he can open a new document on a notetaker to write down his answers and to check with the model answers afterwords. As compared with using traditional braille books, this is making a huge difference for him.

: 2013

A mom's unconditional support
Interviewee: Mrs. Poon, parent of a dyslexic student

Mrs. Poon's son Nam was diagnosed with dyslexia when he was six. Just like every other dyslexic child, Mrs. Poon's son has problems in recognizing words, and therefore has difficulties in studying. In 2013, Nam joined the Blind Union's "Jockey Club E-Learning For All Project". Now, his grades have significantly improved.

When Nam was in primary school, Mrs. Poon spent a few hours to help him study. There was not enough support from the school, and the child did not perform well, even scoring a 'zero mark' in examinations. Everyday, Mrs. Poon reads aloud the textbooks to help Nam understand the contents. Most of her time was spent on helping her son study, and she could not spare time deal with other issues.

After Nam joined the project, he gained access to e-books and screen readers. His ability to recognize words and read books has greatly improved since then and he has gained more confidence. Now when he prepares for a class, he uses the screen readers to listen to the textbook. After that, he reads the text while listening. Finally, he listens to the content again. When he goes to class, he can completely understands what the teacher is saying. Also, when he is having examinations, he uses the screen readers to help him understand the questions. His grades have been significantly improved. Mrs. Poon now has more spare time because her son can study on his own.

Today, Nam is a Secondary 4 student, and he will sit for public examinations in two years' time. Mrs. Poon hopes that e-books and other software can help her son face the examinations, enter university and pursue his dreams.

Sir

Jerry

Jerry

Jerry

Sir

Nam's message - story of a student with dyslexia

I use screen reading software to listen to books while I read them. Listening and reading the text together shortens the time it needs for me to understand the contents of the book. When I go to school, it is much easier for me to learn.

In fact, I even gained a better memory after I used screen readers. The software makes comprehension much more easy. I feel like I can catch up with other students and I feel more confident. Screen reading software helps me differentiate difficult words and Chinese characters with a similar pronouciation.

I prepare for my examinations by having the screen readers read out my brother's tailor-made notes. When I am in the examination, screen readers help me comprehen the questions I do not understand.

The weight of a book - the difficulties of students with physical disabilities
Interviewee: Mr. Lo King Hung, Senior Occupational Therapist, Hong Kong Red Cross Princess Alexandra School

Mr. Lo works at Hong Kong Red Cross Princess Alexandra School. He has seen how electronic learning is beneficial to students with physical disabilities. One example is Jerry, a Secondary 5 student with muscular dystrophy who frequently uses e-books to learn.

Jerry cannot raise his hands because of his physical limitations. To get a book out of his bag, or even to flip a page is very difficult for him. But Jerry's fingers can help themselves on the screen of a tablet computer. He can read books independently if there is an electronic version.

Mr. Lo thinks that students with physical disabilities like muscular dystrophy find it very difficult to read printed books, even when they have a normal vision. E-learning can address their special needs and help them read in a new way.

Not afraid of learning Chinese anymore!
Interviewees: Miss Ho Pik-Ling, teacher & Kenny, student of Hong Kong Red Cross John F. Kennedy Centre

Kenny's brain damage has caused him a lot of problems in learning, especially in learning Chinese. Due to the limitations in his vision and physical mobility, it is hard for him to read printed books. Simple actions like flipping pages are very hard for him. Also, Kenny's brain damage limits his ability to distinguish text. Complicated Chinese characters would take him hours to learn and comprehend. This has made Kenny's learning progress very slow.

Ms. Ho, a teacher at the Hong Kong Red Cross John F. Kennedy Centre is a witness to how e-learning has helped Kenny learn Chinese. When Kenny was in Secondary 1, Ms. Ho taught him Chinese and discovered his difficulties in learning. Staff or classmates had to help him flip pages, and sometimes read longer passages to him. It was almost impossible for Kenny to study on his own.

Last year, Kenny had became a Secondary 4 student and was in Ms. Ho's class again. Ms. Ho discovered an obvious improvement in Kenny's Chinese learning. School staff members would help Kenny set up his computer and download the e-books he needed. Then, Kenny could control the computer by himself. He used screen readers to read textbooks, take notes and do assignments. He was able to study on his own without anyone's help.

Kenny's change has been a great delight to Ms. Ho. He is now much more motivated to learn. She hopes that Kenny will be able to sit for the Chinese paper of HKDSE after two years, as a challenge to himself. Kenny has became more active in extra-curricular activities, like photography. It is Ms. Ho's and our wish that his life will be as bright and beautiful as his photos are.

: Stella Alan

Stella Alan Alan

PDF
OCR OCR

Stella

Alan

Stella

Alan

Stella Alan

A light in the darkness - our volunteers' selfless offerings
Interviewees: Volunteers Stella & Alan

Stella and Alan have been volunteering with the production of e-books for a period of time. Alan has served for more than three years.

Whenever students bring their textbooks to the office, the project staff will scan their books into PDF documents, and use OCR softwares to change the document into text. Then, our volunteers will proofread and correct the text documents.

After Stella's retirement, she saw Blind Union's volunteers recruitment appeal for e-books production on television. She thought that the project is very meaningful, and she can help on a flexible schedule. So she joined to become a volunteer. She is responsible for proofreading e-books.

Alan is responsible for describing images. It was not an easy job at first. But when he understood more about blind people, he knew more clearly how to describe with words the shapes, direction and size of things. His job became easy for him.

In a sharing session at the Blind Union, a mother of a dyslexic child shared how much e-books has helped her child learn. Her sharing made Stella realize how meaningful her work is, and made much more motivated and passionate about her work. Stella now comes to the office once a week. Sometimes even when she is ill, she still turns up because she does not want to slow down e-book production.

Alan feels that his volunteer work is meaningful, especially after learning about how blind students using screen readers help them read more efficiently. He is encouraged to know e-books helped needy students achieve excellent grades in public exams.

Both Stella and Alan admire visually impaired students for their determination to overcome their physical constraints. They hope that more people can spare some time to join in the volunteer work,
to help more students enjoy learning.

Sharing from Volunteers

I experienced the happiness of helping people and be helped through joining this volunteer project in the past two years. The project not only helped students in their learning, it also enriched my life after retirement. I look forward .to producing more textbooks to satisfy the needs of students in the coming year.

Tony

Two years ago, I had a chance know about the e-learning project and I found it very meaningful. I became a volunteer because I enjoy typing and working hours are flexible. I learned a lot in past two years. Firstly I understood more about the learning difficulties of blind people. The work also allowed me to refresh my knowledge through reading different textbooks. I now have a better understanding of Hong Kong's education. Also, the work trains my logical thinking and attention. I need to concentrate in order to describe the contents of the textbook accurately. It is a challenging and fulfilling job.

Stella Ngai

It is a great and meaningful in-house volunteer job to help the needy students.

Lilian

Getting to meet new friends during the volunteers' sharing was such a joy for me. We shared about our experiences in helping produce accessible e-learning teaching materials. It is a special experience for me to witness how visually impaired people use screen reading softwares to learn, surf the Internet, listen to music and access new information. I deeply admire the effort they put in in learning. During the sharing by a mother of a dyslexic child, I learned more about how the "Jockey Club E-Learning For All Project" are helping children with disabilities. My hope for the students is that they can overcome all difficulties and create for themselves a wonderful life. I also hope the project can continue to run, and that me and my friends will continue to serve in it.

Pauline

" "

Glad to join this project and hope I can help the lovely students who require support.

May

I am deeply impressed by the projects carried out by the HKBU in assisting the disabled to obtain the same knowledge as ordinary students. I am grateful that I can work on it and we are so lucky to have normal eye-sight.

Irene

It is a blessing to have the ability and time to help people. When I help to produce e-learning materials, I realize how lucky I am. It's such a meaningful job for me to be able to join in helping these students in need.

Patrick

Thanks god that we're so lucky that can do such meaningful things. Those students are really strong and tough even facing their difficult study situation. We are proud of you!!!

Jo

ELFA E-Learning Resources Portal

http://ELFA.hkbu.org.hk

2014 6

OCR

(Optical Character Recognition OCR)

24

ELFA E-Learning Resources Portal, launched in June 2014, provides various kinds of supportive services for print disabled students.

Project information

Provide information related to the "Jockey Club E-Learning For All Project", such as service content, ways to apply and provide online database of available accessible learning materials.

Free online OCR (Optical Character Recognition) service

Registered users can upload images for text-conversation to the online portal. The images will be converted into text format file and returned to the users in 24 hours.

Information on e-learning

Introducing various e-learning assistive devices, with the help of relevant videos.

Accessible e-learning material production guideline

Introducing three main principles of producing accessible e-learning materials.

Sharing from members

Members' stories and sharing after using e-learning materials.

ACKNOWLEDGEMENT