Elfie 融合教育電子學習協會
E-learning for Inclusive Education Association Limited

特殊學校校本教材電子化計劃
及成立 融合教育電子學習協會

- ⚖ **Equality in learning**
- 🤝 **Collaboration across community**
- 👥 **Mutual creation of learning materials**
- 👪 **Inclusion in society**

Special schools' school-based learning materials digitization scheme
and establishment of ELFIE

◗ *Special Schools school-based learning materials digitization Scheme Funded by the HSBC 150th Anniversary Charity Programme*

Every student can learn and benefits from education

With the right care, support and appropriate expectations, students with special needs, just like all children, can make definite progress through learning. We are committed to provide quality education for students with learning difficulties. By focussing on students' moral, intellectual, physical, social and aesthetic development, we aim to nurture and guide them to become full and productive members of society. It is the right of every student to experience information technology in education, and we hope that our students can not only use their core skills to solve daily challenges but also understand how to use technology to further their learning.

Origins of the project

This project is a collaboration between three special schools, the Education University of Hong Kong and the Open Knowledge Association. We believe every student is able to learn and can benefit from education, and that there should be no distinction between mainstream and special-needs students in terms of implementing e-Learning. Unfortunately, there is a lack of electronic books on the market that are specifically aimed at the needs of students with learning difficulties. Therefore, we applied to the HSBC 150th Anniversary Charity Programme for funding to develop a long-lasting resource bank to assist schools and teachers in developing electronic learning materials. As part of this project, we have also founded the E-Learning for Inclusive Education Association, to facilitate and encourage mutual sharing, creation and integration. This three-year project will produce a series of e-books and establish an e-Learning platform.

Project aims

- To convert paper-based teaching materials to an electronic format, establish a resource depository for school to conveniently create and share their e-learning materials.
- Establish an e-learning education platform that contains tailored electronic materials to meet the needs of special schools.
- Education policy that promotes the use of e-Learning in teaching children with special needs is put into practice.
- Found the E-Learning for Inclusive Education Association (ELFIE).
- Promote professional development for teachers in e-Learning. Form a learning community to provide a channel for teachers to exchange idea and share best practices.

Project content

Establish an e-Learning education platform that contains tailored electronic materials to meet the needs of special schools, including:

- ➤ tools for creating electronic books
- ➤ interactive classroom systems
- ➤ instant feedback and rewards
- ➤ evaluation and analysis of students' performance

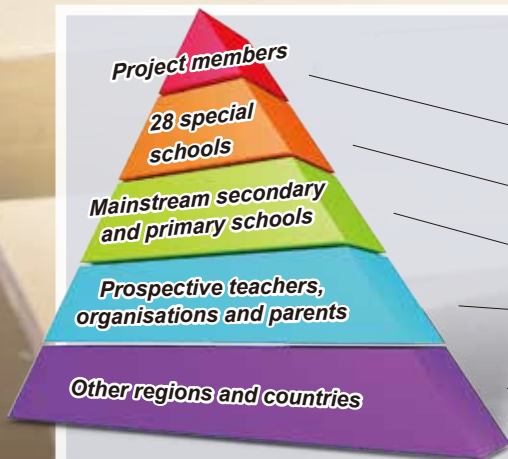## Establish the E-Learning for Inclusive Education Association (ELFIE) to:

- ➤ promote products created through this project
- ➤ make progress in e-teaching and facilitate sharing
- ➤ launch the partner school project

Offer a wide range of electronic teaching materials

- ➤ 572 electronic books in Chinese language, Mathematics, General studies and other subjects
- ➤ content of the electronic books is based on the EDB's curriculum framework for students with special educational needs, covering the four key stages of education
- ➤ include interactive learning, exercises and teachers' guidance

Promote professional development for teachers in e-Learning

- ➤ host seminars, sharing sessions and workshops
- ➤ share electronic teaching materials
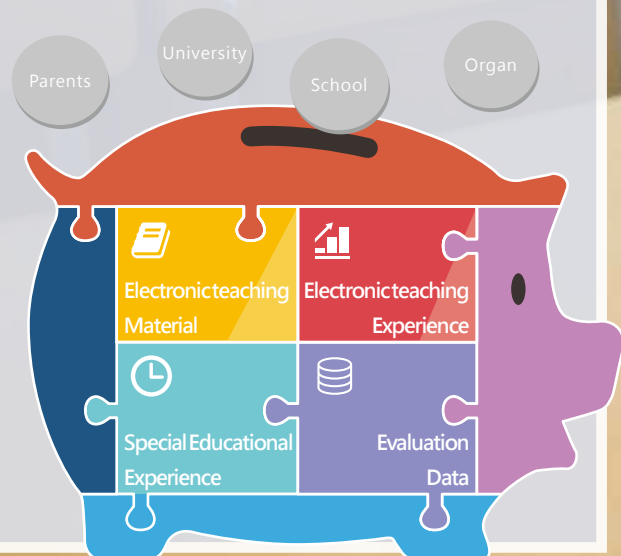- ➤ promote professional sharing

Outcomes and influence: beneficiaries

Project members
28 special schools
Mainstream secondary and primary schools
Prospective teachers, organisations and parents
Other regions and countries

- ● three core special schools
- ● 3,650 students; 861 teachers;
- ● teachers who are providing support to students with special educational needs
- ● to support those who are needed
- ● to benefit those who are located in other regions or countries

Project Effectiveness

- Learning becomes more efficient. Students are benefited and thus empowered to make valuable contributions to society in the future.
- Knowledge is transferred to more people.
- Professional sharing culture among teachers and schools are established.
- Raising the awareness and concern for special education in wider community.
- Share experience of e-Learning to other regions or countries.
- Refine and improve curriculum and learning materials through quantitative and qualitative assessment.

Parents University School Organ

Electronic teaching Material
Electronic teaching Experience
Special Educational Experience
Evaluation Data

Outcomes

- The project produced a total of 572 electronic textbooks in Chinese language, Mathematics, General studies, Liberal Studies, Visual Arts, Information and Communication Technology, Design and Technology, Technology and Life, Communication (English and Putonghua).

- Content of the electronic books is based on the EDB's curriculum framework for students with special educational needs, covering the four key stages of education, including interactive learning, exercises and teachers' guidance

- There were 31 special schools continuously tryout e-Books thought RainbowStar platform from 2017 to 2019. More than 860 teachers from 28 trial schools had participated in the trial, and a total of 3,650 student accounts were in use.

- The three core schools had now conducted more than 138 e-Book trials, and 31 specials schools with 308 teachers participated in 786 professional teaching exchanges in 166 lesson observations.

- There were 28 schools finished 28 lesson observations and 14 onsite teacher trainings by 3 co-applicant schools and the Education University of Hong Kong. We had already supported 28 special schools from the beginning of this project. Teachers had studied the functions and the interactive features of e-Platform. Also, we had collected feedback and had provided suggestion and training to school members in using e-Book during onsite support.

- In addition, the Association had organized more than 50 professional development activities for teachers, including e-Book production workshops, pre-teacher workshops, e-Book sharing sessions for different subjects, seminars, exhibitions and e-Book competitions. In addition, there were also school exchanges and visit from oversea (Finland, South Korea and Nanjing). Over 11,150 principals, teachers, prospective teachers and parents had participated in different activities.

- Many mainstream schools had expressed their interest in the tryout scheme during our promotion. They were very enthusiastic in using our e-Books, over 100 mainsteam schools are interested in RainbowStar and have applied for tryout scheme in the Learning and Teaching Expo 2018.

- The EdUHK Team had conducted survey and research by means of questionnaire, group interviews and lesson observations in 3 co-applicant schools and 28 tryout schools. They had evaluated the effectiveness of the teaching materials that are developed and had identified areas for further improvement. Quality Review Report with the Hong Kong Special School e-Book Teaching Research Report (2017-2019) was also completed at the end of this project.

Products

- A learning and teaching platform for special education that integrate the main teaching process. The major functions are creating e-Learning materials, tag and sharing system, interactive e-lessons, data collection and analysis, feedback and rewarding, and other administrative tools for school.

- Chinese Language, Mathematics, General Studies, Liberal Studies and Technology Education e-Learning materials (572 e-Books) for primary 1 to secondary 6.

- Establish "E-Learning for Inclusive Education Association (ELFIE)". Promoting this project and e-Learning in special education through seminars and workshops.

- Teacher professional development. Train more teachers to effective employ e-Learning and benefit from it.
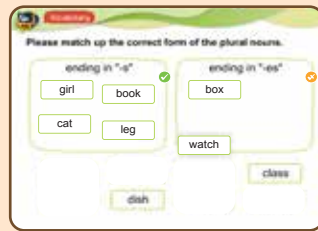
All-in-one learning platform "RainbowStar"

One of our product in the scheme is a learning and teaching platform for special education, 'RainbowStar', which integrate the main teaching process, and with various comprehensive functions that help SEN students.
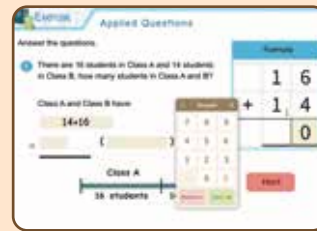
RainbowStar

Chinese

English

Mathematics

General Studies
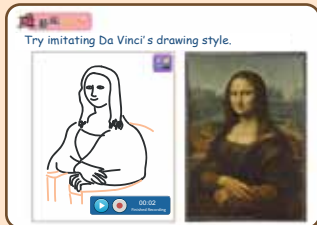
Putonghua

Music

Visual Art

Technology and Life

OpenKnowledge.hk

RainbowStar developer: OpenKnowledge

We are an NGO strted at 2013, providing e-learning opportunities for underprivileged children and Special Education Needs (SEN) Students. We designed awarded e-learning platform 'RainbowOne', published school-based ebooks and e-textbooks for EDB.

We produced 572 e-textbooks using RainbowStar in this project, which based on the EDB's curriculum framework for students with SEN.

Bronze Award 銅獎
Hong Kong ICT Awards 2016 香港資訊及通訊科技獎

Teach, learn, assess, altogether in RainbowStar:

E-Learning materials creating tools, tag and sharing system, interactive e-lessons, data collection and analysis, feedback and rewarding, and other administrative tools. Everything in one platform.

E-teaching materials
Obtain from bookstore/ Make it by yourself/ Find us for help

E-Class
Student answering/ Immediate result/ Group activities/ Assessment

Reading
Post-lesson reading/ Homework or tests

Review & feedback
Performance review/ Check on students' individual progress/ 'Good-work Board' and award

Data analysis
Instant analysis/ Long-term performance analysis/ Inter-class comparison

Improve teaching
Regular amendment/ Annual assessment/ Materials revision/ Repetitive Use

Edit Tool
Create your e-books

Users Management
Flexible grouping

Bookstore
Resources sharing

Bookshelf
Reading materials, homework or tests

Learning Objectives
Set learning points

Prize
Students get their reward

Good Work
Post students' Good work

Analysis
Inter-books, periods & group

A powerful coding-free e-book editing tool

iOS, Mac   Android   Windows

As simple as ever, a restrain-less layout, you can create any teaching contents and activities as you want. Over 80 learning functional components designed for teaching, with various templates, which allow you to freely compose any teaching activities and learning content in e-books. Here are some editing tools in RainbowStar:

Media

| Photoalbum | Sound and Video player | Camera and Video recorder | Sound Recorder | YouTube Player | Browser and search engine |

Drag & Drop questions

| 1 to 1 | Group | Reuse | Order group | Count | Free Drag & Drop |

Common questions

| Multiple choices | Choosing | Fill in the blanks | True False | Line Matching | Spot Answer |

Language subjects

| Article Text | Text with sound | Pinyin text | Sentence Reorder | Extend Sentence | Stroke Writing |

Mathematics

| Graphs and charts | Clock | Pin board | Shapes and Ruler | Column calculation | Counting grain |

Interactive and creative

| Games | Mind map | Discussion | Maze | E-Pen | Self-assessment |

Other featured components

| Speech recognition | Karaoke | Self-learning Course tool | More learning games | More are coming! |

Founding the E-learning for Inclusive Education Association (ELFIE)

In addition to the software products, we established the E-learning for Inclusive Education Association (ELFIE). The association's goals include:

- promote and advocate the use of electronic books and our e-Learning platform
- to encourage different stakeholders in the education sector to join our project
- facilitate the sharing and creation of new learning materials
- enable teachers to share their e-Learning experience through sharing sessions and classroom observations
- develop an e-Learning platform for parents in both mainstream and special schools to share resources
- promote the e-Books and the e-Platform of this projects
- allow stakeholders of the education sector to engage and facilitate e-Learning for special education in Hong Kong
- to provide a channel for teachers to exchange idea and to share best practices on e-Learning
- to share the current development and strategies on IT in Education
- to prosper the spirit of integrated education through the participation of special schools, mainstream schools and parents

In the future, ELFIE will be responsible for organizing regular sharing sessions and workshops for the education industry to share their teaching experience, promote professional exchanges and e-Learning for special education in Hong Kong. They will increase, optimize and share teaching materials, promote and develop RainbowStar, and enrich the electronic library to cater different learning needs.

Sustainability

- ELFIE shall appoint Open Knowledge Association for the operation and maintenance of the e-Platform.
- All the e-Book in the project are free for the public and individuals to read and use after the project completed.
- During the project period, all the applicants and the pilot schools are free to use the e-Platform. However, if anyone want to use the e-Platform after the project completed, they need to pay a low but reasonable fee for operation, maintenance and cloud storage.

Future development:

- Promote e-Learning applications for students with special educational need.
- Provide e-resources tailored to special schools' needs, and achieve resource sharing through the motto of "Create, Share and Include".
- Use learning data and AI to analyze individual student performance.
- Promote self-directed learning
- Prepare students with special educational need for the future.
- For schools with moderate and severe intellectual disabilities, we look forward to assisting them in adapting e-Book content.

We expect our project will help teachers to make learning interesting. Students will be more engageed in learing. Apart from that, more e-textbooks and learning tools will be produced and shared to further the development of e-Learning in integrated education.

Sam Shui Natives Association Lau Pun Cheung School is the lead applicant of the project. The school is responsible for curriculum planning, development of electronic books in various subjects and platform development.

Third-Party Reviewer Committee had conducted yearly review of the project by reviewing the annual report and the quality review report of EdUHK. The views are very positive and will help us to improve the quality of e-Learning. They agree that everyone has made efforts throughout the year and said that the plan is of great help to special schools. The KPIs of this project were achieved and the outcome is better than expected.

CORE PROJECT MEMBERS

TWGHs Tsui Tsin Tong School is responsible for curriculum planning and development of electronic books in various subjects.

CCC Kei Shun Special School is responsible for curriculum planning and development of electronic books in various subjects.

The Education University of Hong Kong's Centre for Special Educational Needs and Inclusive Education is responsible for providing professional consultation on education for special schools and monitor the quality of the e-Books. They have evaluated the project's effectiveness and the quality of the products through collecting views from stakeholders involved. Professional training is also provided to prospective teachers.

OpenKnowledge.hk

Open Knowledge Association is responsible for providing technical support for using the e-Learning platform and the creation of electronic books and platform.