



A case study:

Mathematics

Multimedia Courseware Development

For Curriculum Development Department,
Ministry of Education,
Negara Brunei Darussalam



About Us

The advent of Information and Communication Technology (ICT) has been creating a sea change in the way we teach and learn today. The application of ICT in Education Technology has greatly influenced the effectiveness of acquiring knowledge and makes the learning process highly productive. E-Learning has become imminent in providing a faster knowledge transfer.

Curriculum Software, Content Solutions and electronic delivery methodology have become highly successful in knowledge transfers. With over 8 years of presence in the education sector, we have been successfully delivering solutions & services that align knowledge, people and technology with the institution's goals.

Our Industry expertise, efficient processes and the ability to understand the organization's needs, has enabled us stand out as the ultimate educational technology provider today.

Business need

Curriculum Development Department of Brunei aimed to create a set of courses of instruction by embracing the educational use of digital technology, the E-Learning Courseware is an innovative development project implemented by the Ministry of Education.

Benefits

The Mathematics Multimedia Courseware Development leads the way towards a revolution in teaching and learning processes and environment by integrating and combining various media such as graphics, texts, sound, simulations and animations.

This e-Learning courseware project provides more options when compared to traditional classroom methods.

Challenges

Introducing ICT in curriculum initially created a discussion as it is an alternative for teachers, during storyboard review stage. Later it was realized that it will serve only as a supplement and useful resource in teaching, for the teachers.

Other challenges are:

1. Adapting different curriculum and the teaching style.
2. Customizing the resources like image of students, schools, characters and their name.
3. Filtering the comments given by various teachers came from different regions and from different schools.
4. Adapting 3 different approaches in a single courseware project, i.e., upper primary level, lower primary level and secondary level.



Project Details

The Mathematics multimedia courseware was developed for all the levels in the Brunei education system.

The different levels are:

1. Lower primary:

It consists of 9 modules. Apart from learning content, the teacher resource such as lesson plan and worksheet are given for each level (primary I, primary II, primary III).

2. Upper primary:

It consists of 12 modules. This has been designed in such a way that an user can view or select either teaching courseware or learning courseware.

Navigations and the additional features such as teacher resource, glossary is restricted in the learning courseware mode. A matrix styled sub menu will let the user to pick any of the following type for learning/teaching:

1. accessing all learning objectives year by year
2. accessing all learning objectives for one year
3. accessing specific learning objective for any year

3. Secondary:

It consists of 11 modules. This is very much similar to lower primary and upper primary level in type of learning/teaching style.

All levels have randomized assessment at the end of each lesson. The teaching resource such as lesson plan and worksheet are editable and printable.

Customization

As customization plays a significant role in developing courseware; characters, background scenarios and language usage was localized to the Brunei environment.

Details of development

The development work started in September 2007. The duration of the project was 6 months and an additional 3 months was extended to provide full time support from the curriculum project department.

Initially storyboards were approved after CDD review. The development was carried out at the offshore development centre. Coordination activities, review meetings with the CDD are carried out in Brunei for 6 months till the courseware sign off.

The 32 courseware was signed off on May 2008.

T raining

At the end of the courseware development, end user training was conducted in 2 sessions on "Courseware navigation and guidance", as a part of the project.

About 60 primary and secondary school teachers from all districts of Brunei attended the training.

Reasons for success

The courseware was developed for both primary and secondary level. All local elements were integrated in the lessons. During review stage and in the training session, it was identified that the courseware had given a new dimension for the learning and teaching process and it was accepted as a supplement material for text books in classrooms.

Sample print screens from the project:

Lower Primary



Secondary

Upper Primary

