Yan Oi Ton Tin Ka Ping Secondary School - 101VR

學校	Yan Oi Ton Tin Ka Ping Secondary School
老師	Oa Yang Hau Chung
應用科目	OLE
年級	S4
學習目標	Enhance students' understanding and revision of the subject knowledge in Chinese, Biology and Mathematics learnt in S3 through creating a virtual environment of the relevant context
運用了的電子教學設備或工具	教學平台：101VR 設備：VR glasses，HTC Vive，Smart phone，Computer with VR ready display card

Introduction of Lesson Design

This curriculum aims at enhancing S3 students' understanding of the subject knowledge in Chinese, Biology and Mathematics learnt in S3 through creating a virtual environment of the relevant context.

Lesson Plan

Students need to build a virtual environment using a VR editor to realise a topic learnt in S3 including:

Biology : Biodiversity

Chinese:　Ancient poems

Mathematics: Quadrilateral, Area and Volume

1.   Students will choose a topic learnt in S3 from subjects including Biology, Chinese, and Mathematics with the guidance of the relevant subject teachers.

2.   Students will be trained to create and build the virtual environment related to the chosen topics by making use of the VR / AR editor.

3.   While creating the VR / AR environment, students will be allowed to design and manipulate objects related to the selected topic settings within the virtual environment in order to gain a better understanding of the subject knowledge.

4.   In order for students to experience an interactive environment, textual information and questions will be inserted into the VR settings to enable interactions between students and different characters. This serves as a realistic and diverse presentation of the key knowledge which allows a deeper understanding of the knowledge.

5.   After completion of this project, a resource bank in S3 will be set up for students, teachers and school community, In order to help students learn and revise the relevant topics using VR and to enhance teaching.

6.   Trained students will re-apply the skills for creating the VR content to produce others subject learning materials.   This aims to increase students' motivation in learning in general.

1. Course Overview

   ➢ Lesson One – What is VR？ Introduction to 101VR
      1. History of VR
      2. VR devices
      3. VR vocabulary
      4. Applications of VR
      5. VR in Education
      6. Operating 101VR- an introduction
      7. Scenes, materials, interface and basic operation
      8. Add/Delete, Enlarge/Shrink and Rotate objects
      9. Camera positioning

   ➢ Lesson Two – Getting Started with 101VR (1)
      1. Editing in Timeline Mode
      2. Editing in Event Mode
      3. Event Mode exercise 1
      4. Event Mode exercise 2
      5. Event Mode Classwork

   ➢ Lesson Three – Getting Started with 101VR (2)
      1. Asking question
      2. Switching scenes
      3. Copying a behavior in the Timeline/Event Panel
      4. Weather system
      5. Camera movement

➢ Lesson Four – 101VR Advanced (1)
1. Setting variables
2. Variables exercise 1
3. Scoring system

➢ Lesson Five – 101VR Advanced (2)
1. Switch
2. Countdown timer
3. Prior conditions, multiple conditions
4. Variables exercise 2
5. Variables exercise 3

➢ Lesson Six to nine
101VR Creation for VR project, VR creation workflow, script writing, scoring criteria

➢ Lesson Ten
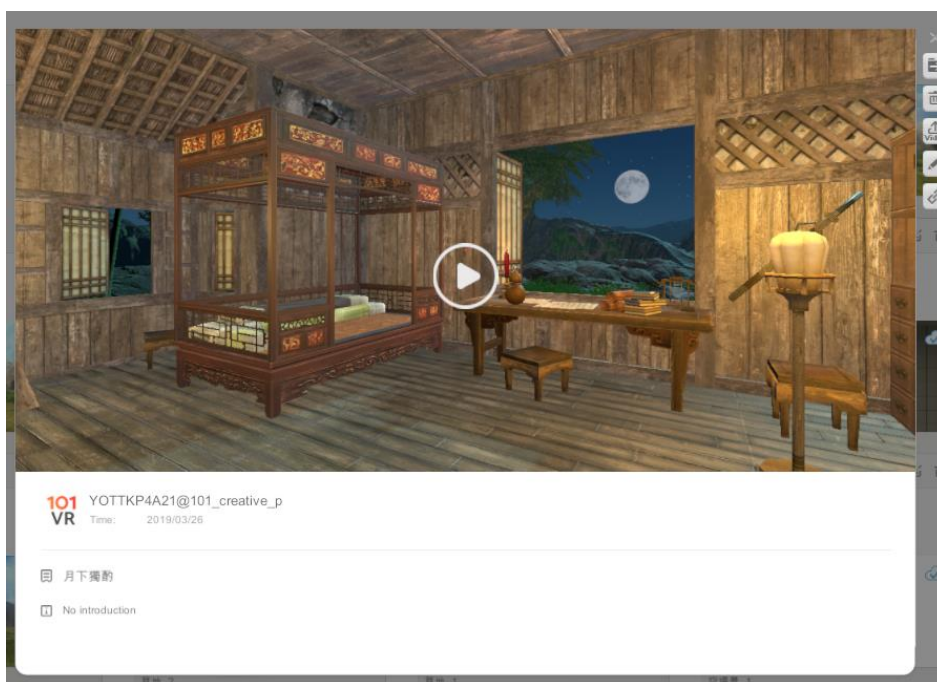Students' presentation and sharing

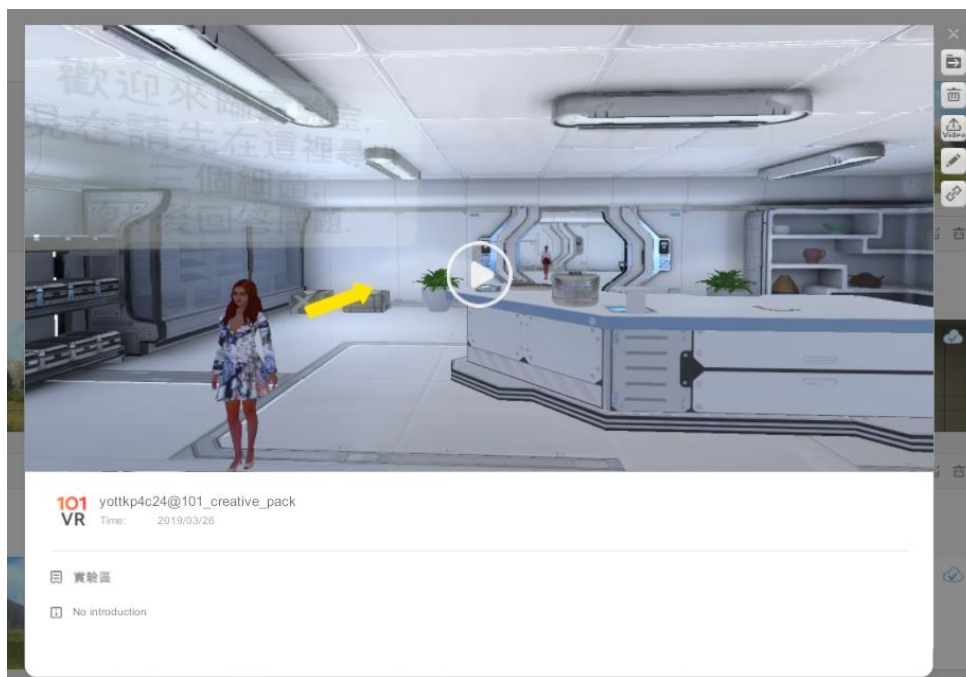## Introduction of Lesson Content
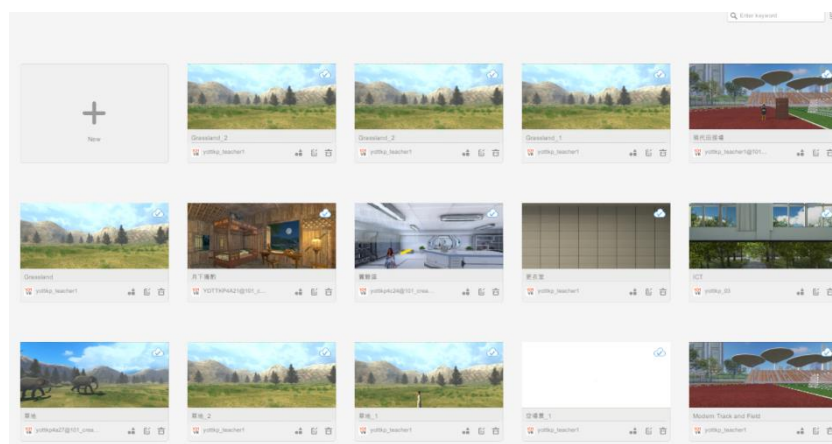
101VR projects

Student VR project - Biodiversity

Student VR project - Ancient poems

Student VR project - Biodiversity

Intended Outcomes:

1. Students become more motivated and proactive in learning Biology, Chinese, Mathematics and Computer Literacy with the use of VR technology.

2. Students are equipped with technical skills for creating and building VR content with VR editor software.

3. Students' creativity in designing and developing games is unleased through VR-based training.

4. Students' learning interest towards Biology, Chinese, Mathematics and Computer Literacy is aroused by conducting the VR-based e-learning programme.

5. Teachers' understanding and skills for designing VR-based e-learning materials are enhanced.