



# How Virtual Reality Changes K-12 Education

**Linda Cai**

8th International Skills Forum  
27–29 August 2019  
Asian Development Bank, Manila, Philippines



**Session 2A**

**August 27, 2019**

This is not an ADB material. The views expressed in this document are the views of the author/s and/or their organizations and do not necessarily reflect the views or policies of the Asian Development Bank, or its Board of Governors, or the governments they represent. ADB does not guarantee the accuracy and/or completeness of the material's contents, and accepts no responsibility for any direct or indirect consequence of their use or reliance, whether wholly or partially. Please feel free to contact the authors directly should you have queries.



# How Does Education Technology Evolve ?



## Old School Days



## VR





## How Real is Virtual Reality ?



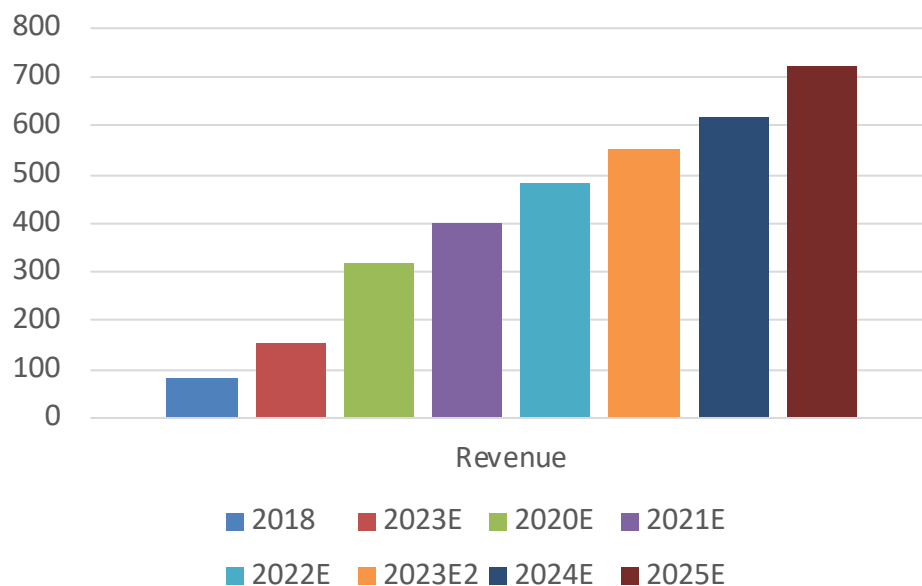


## What's the Market Size of VR Education?

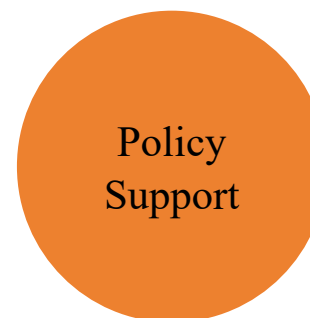


### 2018-2025 Global VR Education Market Size Prediction

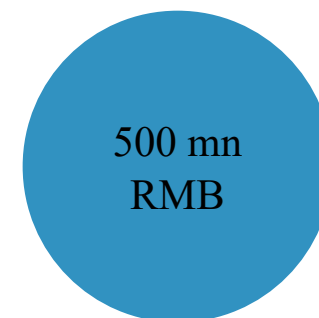
Unit: \$ 1,000,000



### 2019 VR Education Market in China



Policy  
Support



500 mn  
RMB



# Why We Choose to Apply VR in the Classroom ?



## Advantages



Immersive



Interactive



Multi-Sensory



3D Data







## An Example of VR Interaction in Chemistry Learning



### Ethanol and Sodium Reaction



1

Simulate an actual operation of ethanol and sodium

2

Connect the macroscopic and microscopic phenomena

3

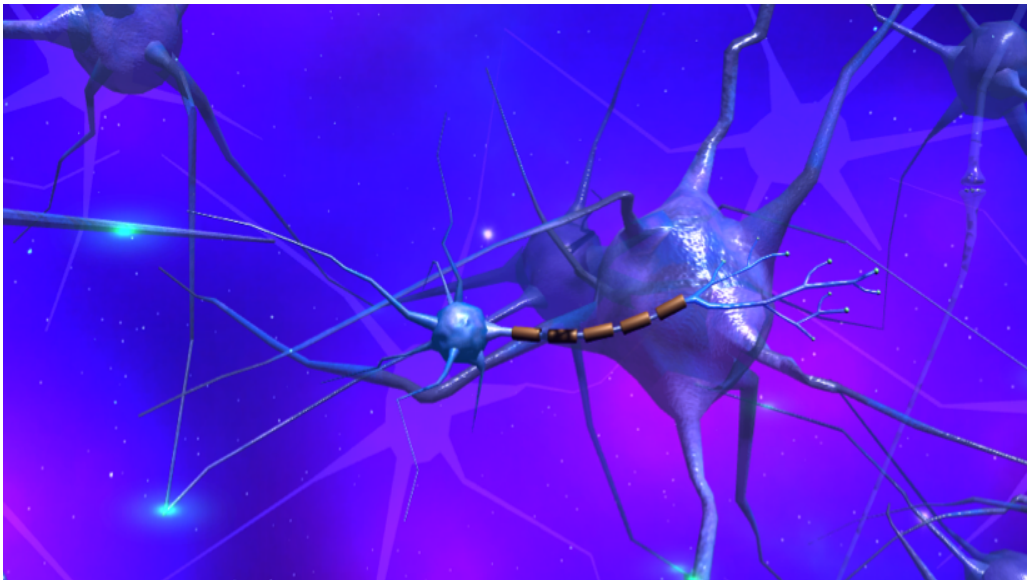
Easy, safe and multi-trial and error



# An Example of VR Interaction in Biology in Learning



## Interneuron Signaling



1

Go through the micro process to explore the excitement transfer process in 360°

2

Better observe the structure of synapses and the transfer process of nerve impulses

3

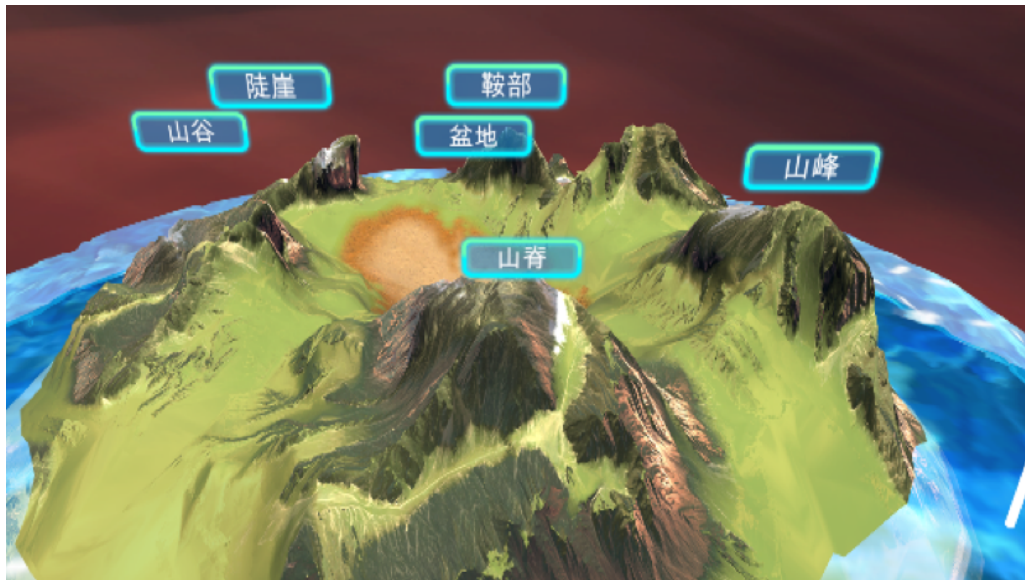
Live and vivid, arousing huge interests



# An Example of VR Interaction in Geography in Learning



## Knowing Basic Terrain Types



1

Observe each terrain in a more intuitive way of three-dimensional display

2

Learn from the bottom to the top of the observation and from the wireless to the highlight of the auxiliary line

3

Proactive, intuitive & effective





# An Example of Multi-People VR Interaction in Creativity



## Under the Sea



1

Teacher-student/student-student Interaction in the same learning environment

2

Create your own sea world with magic 3D brushes and an enriched gallery of creatures

3

Creativity, cooperation & Imagination



## Future Forms of VR Education

