

Social Virtual Learning: Joint Learning in Virtual Reality

Application of Social Virtual Learning (SVL) in both teaching and learning processes enables self-directed learning to take place in a virtual reality (VR) environment, which facilitates completely new types of interaction and collaboration concepts. Irrespective of the medium used (3D, AR, VR), learners can use PCs, tablets or VR glasses to take part in teaching, explore and interact with virtual machines, and work on tasks together with others.

Main Objectives

- **Learning in virtual worlds**
In a self-directed way, either individually or jointly with other learners.
- **New types of learning activities**
Direct interaction with objects of learning and learning environments via intuitive entry methods and voice control.
- **Creating content in virtual reality**
Preparation for teaching by recording actions, movements and instructions.
- **Learning across different media and in a collaborative way**
Learners are networked beyond the borders of augmented/virtual reality via PC/tablet/3D visualisation.

Added Benefit of Use in TVET

- **Interactive learning experience**
Interactive learning using a 3D machine model in a virtual space.
- **Learning with immersion and presence**
Realistic object and process visualisation to facilitate learning.
- **Cooperative multi-user setting**
Enables cooperation across locations in the areas of development, training and

maintenance to solve problems in peer groups and learn together.

- **A future-oriented form of communication for Industry 4.0**

Getting Started

- **Step 1: Defining learning contents**
 - Analysis of suitable specialist topics
 - Selection of appropriate learning content
 - Selection of an existing or new 3D model (e.g. via cooperation with manufacturer)
 - Development of a storyboard
- **Step 2: Creating virtual reality contents**
 - Import of the 3D model selected in the authoring tool
 - Realisation of the storyboard
 - Individual editing of the imported model with regard to didactic criteria
- **Step 3: Teaching using virtual reality**
 - Use of the SVL application via VR glasses
 - Integration of tablet and PC use into the teaching situation
 - Group-based VR teaching

Profile of Provider

The Central Committee for Vocational Education and Training in Print and Media (ZFA) is a unique institution in vocational education and training (VET) in Germany. Within the ZFA, the two collective wage agreement parties—the “Federal Print and Media Association” (bvdm) and the “United Service Sector Trade Union for Media, Art and Industry” (ver.di)—commit to work together to resolve specialist issues relating to VET in the print and media industry and to draw up nationally standardised examination tasks for the occupations in the sector.

Since 2000, the ZFA has been strengthening the appeal of initial and continuing vocational education training in the branch by engaging in ongoing project activities. The SVL teaching and learning application is being developed in conjunction with the SIKoM Institute (Institute for System Research in Information, Communication and Media Technology) at the University of Wuppertal, the Fraunhofer Institute for Computer Graphics Research in Rostock, Heidelberger Druckmaschinen AG, and the mmb Institute.

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Social Virtual Learning

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BIBB International Roadshow ‘Digital Media in TVET’

Initiated by the Federal Institute for Vocational Education and Training in Germany (BIBB), the Roadshow aims to show the potential of digital applications and technologies for teaching and learning in Technical Vocational Education and Training to make learning more flexible and enhance the quality and attractiveness of TVET.

The format builds on the German Roadshow ‘Digital Media in TVET’, which has been successfully implemented and conducted by the Federal Ministry of Education and Research in Germany (BMBF) in cooperation with BIBB since 2016.

More information:
<https://www.bibb.de/de/105326.php>