

Project-based Learning – Fall Prevention Exercise Game for the Elderly

In the project-based learning (PBL) activity, VPET students have to explore, apply and evaluate the use of digital technology in their area of study. The Fall Prevention Exercise Game demonstrates how technology can be applied in health promotion and education. Through the application of a human-centred design thinking approach to work out solutions for the elderly, they are developing the necessary digital competence relating to content creation and application. The initiative also fosters students' professional competence and cultivates a caring and service mind-set to serve the elderly.

Main Objectives

- **Applying digital media and technology in teaching and learning**
Students embrace new technologies relevant for their area of study and acquire digital skills.
- **Practising design thinking skills**
In advancing the active ageing agenda, teaching staff and students co-create digital applications for preventive care for the elderly in an authentic setting.
- **Practising project-based learning for key 21st century competencies**
Foster soft skills like teamwork and the ability to work with people from different backgrounds.
- **Engaging industry partners and major stakeholders**
Collaboration with IT professionals, physiotherapists, elderly centres and the nursing community ensures that the project outcome addresses real-life needs.

Added Benefit of Use in TVET

- **Developing work-related digital skills**
Through the collection of user requirements, students develop an understanding about the potential of

digital technologies in their professional field and learn to design digital solutions with empathy and pragmatism.

- **Enhancing learning motivation**
The use of digital media and innovative components of the project makes learning more fun and enhances the learning motivation of students.
- **Fostering professional action competence and strengthen human-centric mind-set**
The project focuses on understanding the needs of elderly and promoting health education. Students gain more confidence in communicating with the elderly throughout the project development and develop competencies to bridge the inter-generational gap.

Getting Started

- **Step 1: Project team formation**
Students were given a task to work on an open-ended problem. Industry partners were invited to provide professional advice to the working team.
- **Step 2: Define project details and manage learning activities**
Students were asked to talk to the elderly and empathize their needs to define the project details and plan the next steps.

- **Step 3: Engage with industry partners**
With the input and support of industry partners, students could learn how to apply the theory and knowledge learnt from the classroom and use different types of digital media to design a feasible solution to solve a real-life problem.
- **Step 4: Build the prototype and deploy the application**
The prototype was developed and deployed in the elderly centres and HealthTech Centre in the campus. Elderly from elderly centres were invited to test the application.
- **Step 5: Build the culture and repeat this form of project-based learning**
Extend this form of project-based learning exercises to more programmes and modules, encouraging students from various disciplines to further explore the use of innovative technologies that positively impact society.

Profile of Provider

The Vocational Training Council (VTC), established in 1982, stands at the forefront of vocational and professional education and training (VPET) in Hong Kong.

As a statutory body, the VTC ensures the skills of the Hong Kong workforce remain relevant and future ready. Its mandate to provide VPET is vital in meeting industry needs, and in fulfilling the aspirations of some 200,000 students across 13 member institutions every year, including 50,000 full-time students.

The VTC provides flexible study pathways from diploma to degree levels, equipping students with professional knowledge and skills in a wide spectrum of professions. Our "think and do" approach cultivates the passions for learning while imparting the necessary skills and know-how for success.

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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.

Obtain more information via QR code or URL:
<https://www.bibb.de/en/105326.php>

HABI Gaming App – Occupational Safety & Health in Technical Trades

HABI is an interactive e-gaming application on Occupational Safety and Health (OSH) for mobile phones that aims to raise awareness, sensitize and educate TVET students and young workers in the bricklaying trade with regard to safety issues. Educating TVET students on the importance of safety and health at the workplace is an indispensable prerequisite for a safe future working life. Since the majority of young people play video games, gamification can contribute to foster the learning process. The app includes specialist tasks and related OSH requirements based on the TVET curriculum for bricklaying. The player has to choose correct safety and work tools to carry out the professional tasks.

Main Objectives

- **Supporting learning through a gamification approach**
Turn theoretical training content into a fun e-learning experience.
- **Raising awareness about safety issues in the construction sector**
Support TVET students and young workers to build, implement and continuously strengthen a culture of prevention at an early stage.
- **Providing an overview of the most important tasks of a bricklayer**
The player will learn about tools and materials that a bricklayer uses in his daily work and how to safely use these.
- **Raise young peoples' motivation for TVET and technical trades**
The TVET students will be motivated to implement the tasks with real tools and materials during their practical training.

Added Benefit of Use in TVET

- **HABI as a learning tool**

An interactive e-game on occupational safety and health in the bricklaying field that provides early information about adequate protection and prevention.

- **HABI as a career guidance tool**
The app is also suitable for children at a young age, so they can already gain insights about how to build a house, what a bricklayer does and familiarize themselves with working tools and materials of bricklaying. In addition, children will learn names of the technical tools and materials in Mongolian.

Getting Started

- **Step 1: Choose a player**
There are 3 options to choose: girl, boy or adult man.
- **Step 2: Choose 1st level of game**
Each level has a specific bricklaying task with brief description of the work to be carried out: The first task is to calibrate the layers of bricks.
- **Step 3: Work preparation**



The player has to choose appropriate work clothes, safety accessories, work tools and materials.

- **Step 4: Carry out the task**
By using the tool, the player will instantly get an information on OSH hazards and risks related to the usage of the tools or materials. The player has to restart the stage if she/he does not have correct work and safety tools.
- **Step 5: Finish the work and proceed to the next level**
If the player finishes the task, he/she will get "golden stars" and can move to the next level. With each level, the difficulty level will be increased.

Profile of Provider

The Mongolian Builder's Federation (MBF) is a national level representative organization of builders and developers that was founded in 1990. MBF's mission is "to develop and promote the construction industry in Mongolia and to foster the growth of the member companies to become excellent providers of all services in the construction sector". MBF plays an important role to better vocational training and further training of the labour force.

The TVET project implemented by GIZ in Mongolia supports the Mongolian Ministry of Labour and Social Protection in the sustainable development of seven TVET schools to evolve into Capacity Development Centres with enabling framework to fulfil the role as training hubs. Additionally, the project supports the establishment of pre-service and in-service qualification system for TVET teachers.

Contact

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Open Educational Resources: The TESDA Online Program

True to TESDA's vision to make technical education more accessible to Filipino citizens through the use of information and communication technologies (ICT), the agency launched the TESDA Online Program (TOP) in 2012 to offer the first Massive Open Online Courses (MOOCs) by a Philippine institution. TOP is a web-based learning management system for the provision of free online TVET courses composed of online modules with interactive e-learning materials, web-based learning scripts and formative tests. The program aims to bring technical education at no extra cost one click away from students, out-of-school youths, unemployed adults and Overseas Filipino Workers (OFW).

Main Objectives

- **Providing and expanding access to TVET**
Citizens gain the opportunity to access TVET by expanding the course offers through the TESDA Online Program. Online learning materials are accessible through PCs, tablets and smartphones.
- **Ensuring the quality of TVET provision through standardized content**
Provide relevant and up-to-date online learning materials aligned with TESDA Training Regulations (TRs), industry as well as international standards.
- **Promote TVET as a viable and accessible educational track and lifelong learning model**

Added Benefit of Use in TVET

- **Expanding access beyond borders**
Broaden access and improve opportunities to a TVET qualification through technology-based and –managed learning environment.
- **Fostering development of 21st century skills**
Equip the Filipino workforce with relevant skills such as communication and

information literacy, digital literacy, critical thinking and flexibility as part of the basic skills that online-/distance learning promotes.

- **Developing TESDA's e-learning development capacities**
Foster necessary skills and competencies of trainers of TESDA Technological Institutes (TTIs) for the development of e-learning materials (instructional design, scrip writing, validation, multimedia development and deployment) through the involvement in TOP courseware development.

Getting Started

- **Step 1: Registration**
Go to www.e-tesda.gov.ph
- **Step 2: Create personal account**
Create an account by filling out the required information.
- **Step 3: Confirm registration**
Upon the creation of your account, a confirmation email will be sent to your email. Click the link to activate your account.



- **Step 4: Enrol in a course**
 - From the list of courses, click on the course that you want to enrol in.
 - Click on the module that you wish to take.
 - Click on the “enroll me in this course” link on the left side of the navigation pane.
 - A message box will appear asking if you want to enrol in the module. Click the “Yes”-button to proceed.

- **Step 5: Get certified**

To earn a National Certificate, you may take the National Assessment from the nearest TESDA Accredited Assessment Center after submitting the TOP certificates of completion. Visit:
www.tesda.gov.ph/AssessmentCenters

Contact

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Profile of Provider

The Technical Education and Skills Development Authority (TESDA) is the government agency tasked to manage and supervise technical education and skills development in the Philippines.

TESDA sets direction, promulgates relevant standards, and implements programs geared towards a quality-assured and inclusive technical education and skills development and certification system in the Philippines.



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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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