



Solution approaches and a manual for handling the learning materials and designing e-learning systems



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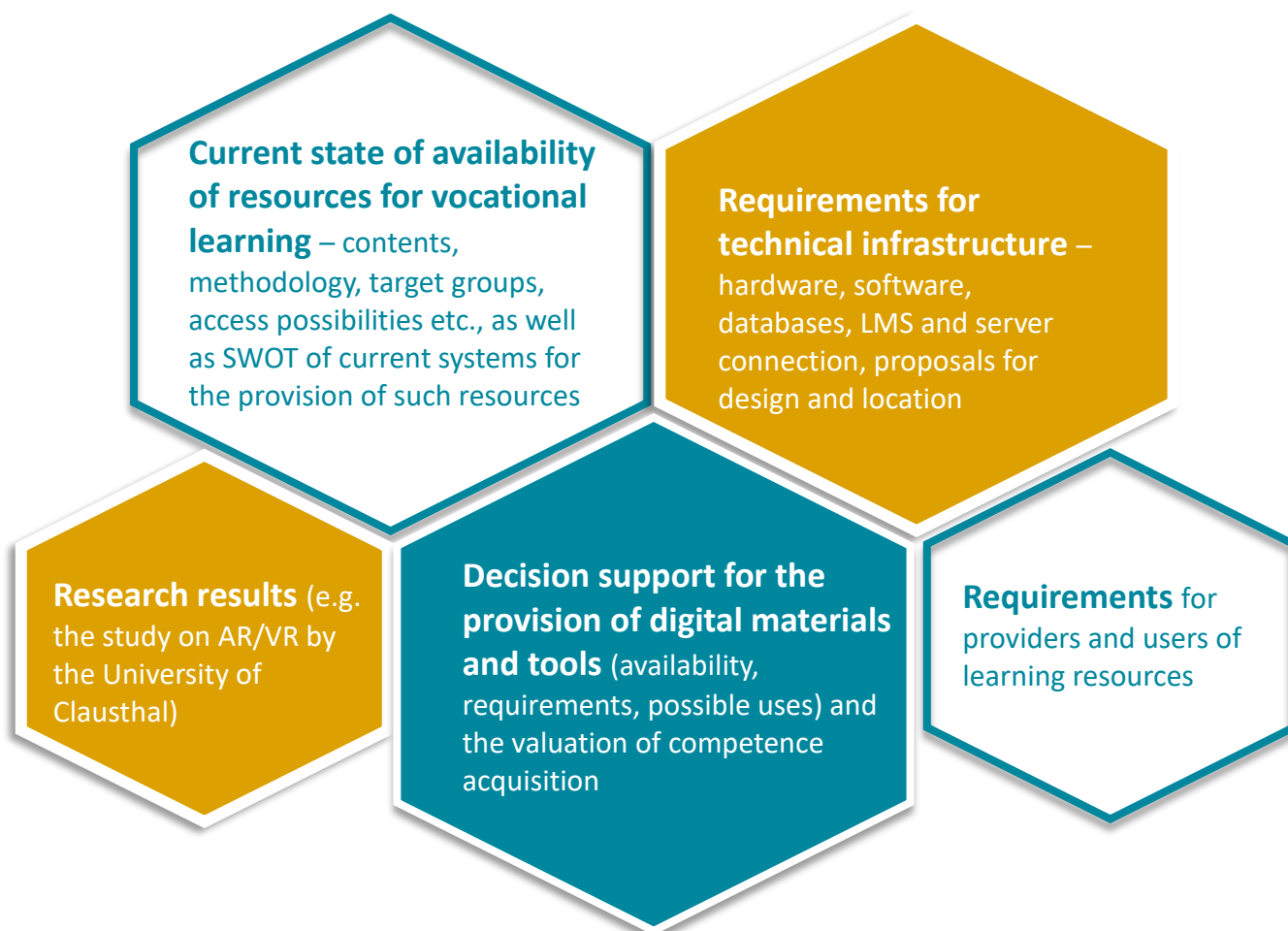
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1. INTRODUCTION

Within the framework of DigiCon, a collection of materials and tools for digital building (focus on OER) as well as piloting approaches on how to make them transparently accessible were created. Furthermore, solutions for e-learning were developed and illustrated in a guideline/ model which will be presented in the following pages. This guideline serves as a user manual for VET institutions as well as an aid for material developers and as a decision support for the regulatory level to provide the required resources.

The manual

highlights the following aspects:



2. E-LEARNING SYSTEMS

2.1 MOODLE

THE DESIGN OF E-LEARNING SYSTEMS is being driven forward, particularly at universities, due to the technical support provided by specialist staff. Universities invested a lot of time more than 10 years ago in finding suitable systems for digital support in teaching. In 2004, for example, the Austrian Ministry of Education commissioned a study of approximately 400 learning platforms to determine their suitability.¹ If you look at the distribution of different learning platforms in the German-speaking area (DACH), the system with the name **MOODLE** dominates.² For this reason, and due to our own positive experiences in digitalized teaching at the HTW Berlin with the Moodle system, an evaluation of different learning platforms was dispensed with.

MOODLE is an open-source learning platform (or learning management system) that is available worldwide in over 100 languages.³ The platform can be operated on a company's own server or by third-party providers, as a SaaS solution (Software as a Service) for a fee. Learning materials can be made available in a variety of forms in the freely configurable courses (see Figure 1). In the DigiCon project, the results from IO1 and IO2, including accompanying texts, process models and videos, were made available in corresponding file formats (see Figure 2). The mind map developed in IO3 forms the link here and provides the entry point to the learning platform (see Figure 3).

¹ Vgl. z.B. Baumgartner et. al., Evaluation von Lernplattformen: Verfahren, Ergebnisse und Empfehlungen, im Auftrag des Bundesministeriums für Bildung, Wissenschaft und Kultur, Wien, Österreich (2004)

² <https://blog.e-learning.tu-darmstadt.de/2010/04/09/moodle-instanzen-an-deutschsprachigen-hochschulen/>, abgerufen: 13.12.2022

³ <https://moodle.org/>, abgerufen: 13.12.2022

Figure 1:
 Selectable activities
 or materials in
 MOODLE

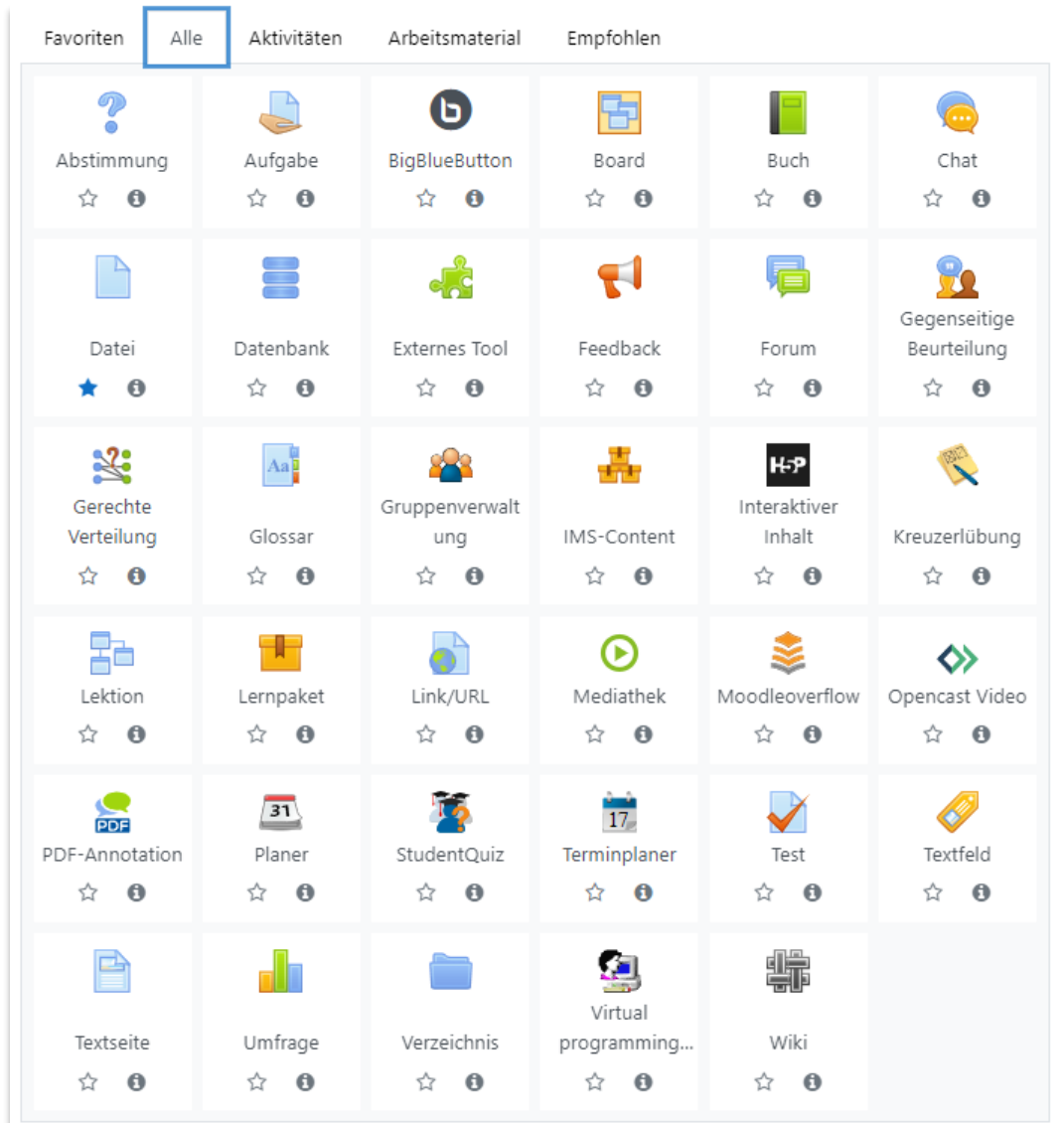
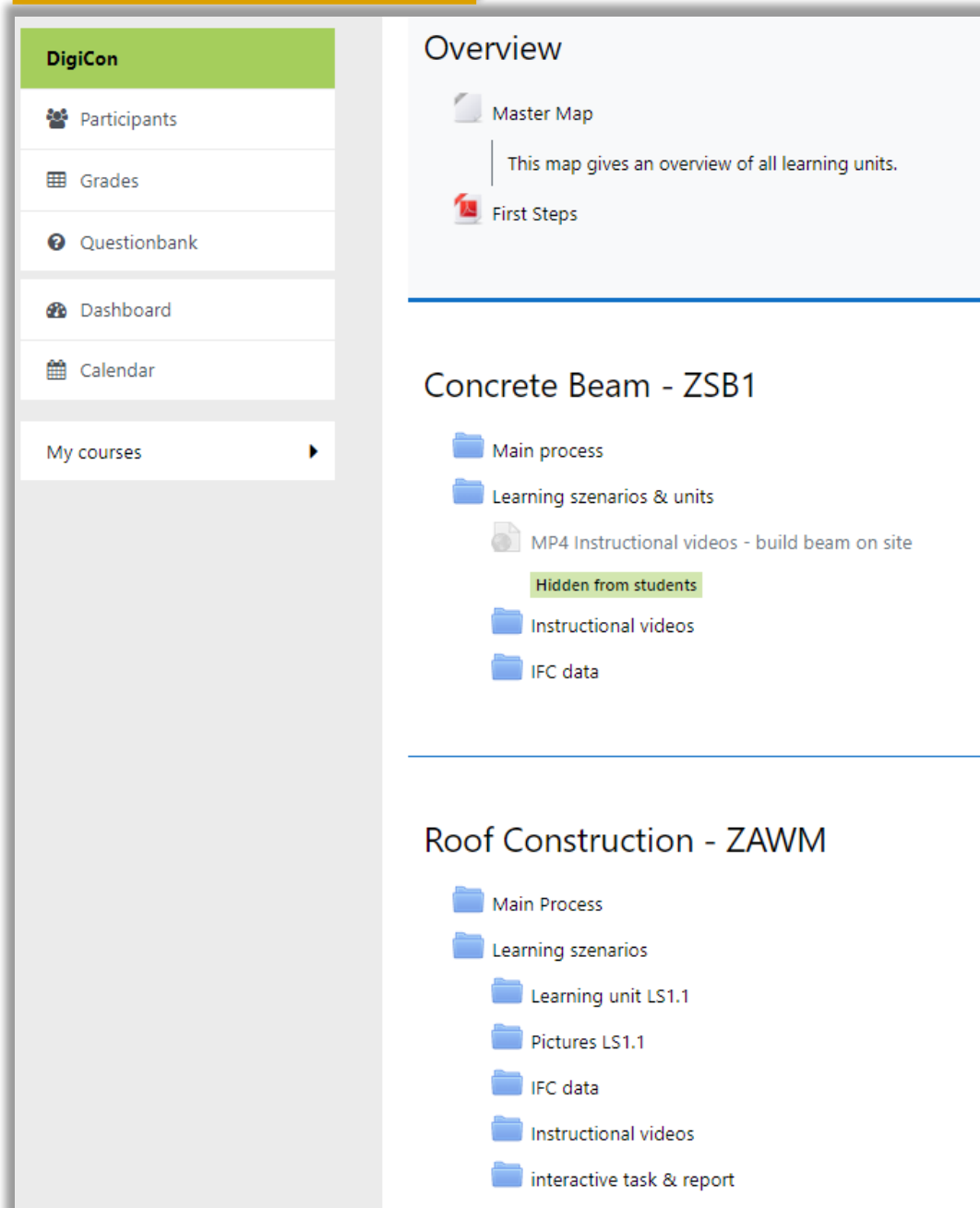


Figure 2:

Overview of the contents for the DigiCon project



The screenshot displays the DigiCon project overview interface. On the left is a navigation sidebar with a green header 'DigiCon' and menu items: Participants, Grades, Questionbank, Dashboard, and Calendar. Below these is a 'My courses' section with a right-pointing arrow. The main content area is divided into three sections: 'Overview', 'Concrete Beam - ZSB1', and 'Roof Construction - ZAWM'. The 'Overview' section contains 'Master Map' (with a description: 'This map gives an overview of all learning units.') and 'First Steps'. The 'Concrete Beam - ZSB1' section lists folders for 'Main process', 'Learning szenarios & units', 'Instructional videos', and 'IFC data'. Under 'Learning szenarios & units', there is an 'MP4 Instructional videos - build beam on site' item with a 'Hidden from students' label. The 'Roof Construction - ZAWM' section lists folders for 'Main Process', 'Learning szenarios', 'Learning unit LS1.1', 'Pictures LS1.1', 'IFC data', 'Instructional videos', and 'interactive task & report'.

DigiCon

- Participants
- Grades
- Questionbank
- Dashboard
- Calendar

My courses ▶

Overview

- Master Map
This map gives an overview of all learning units.
- First Steps

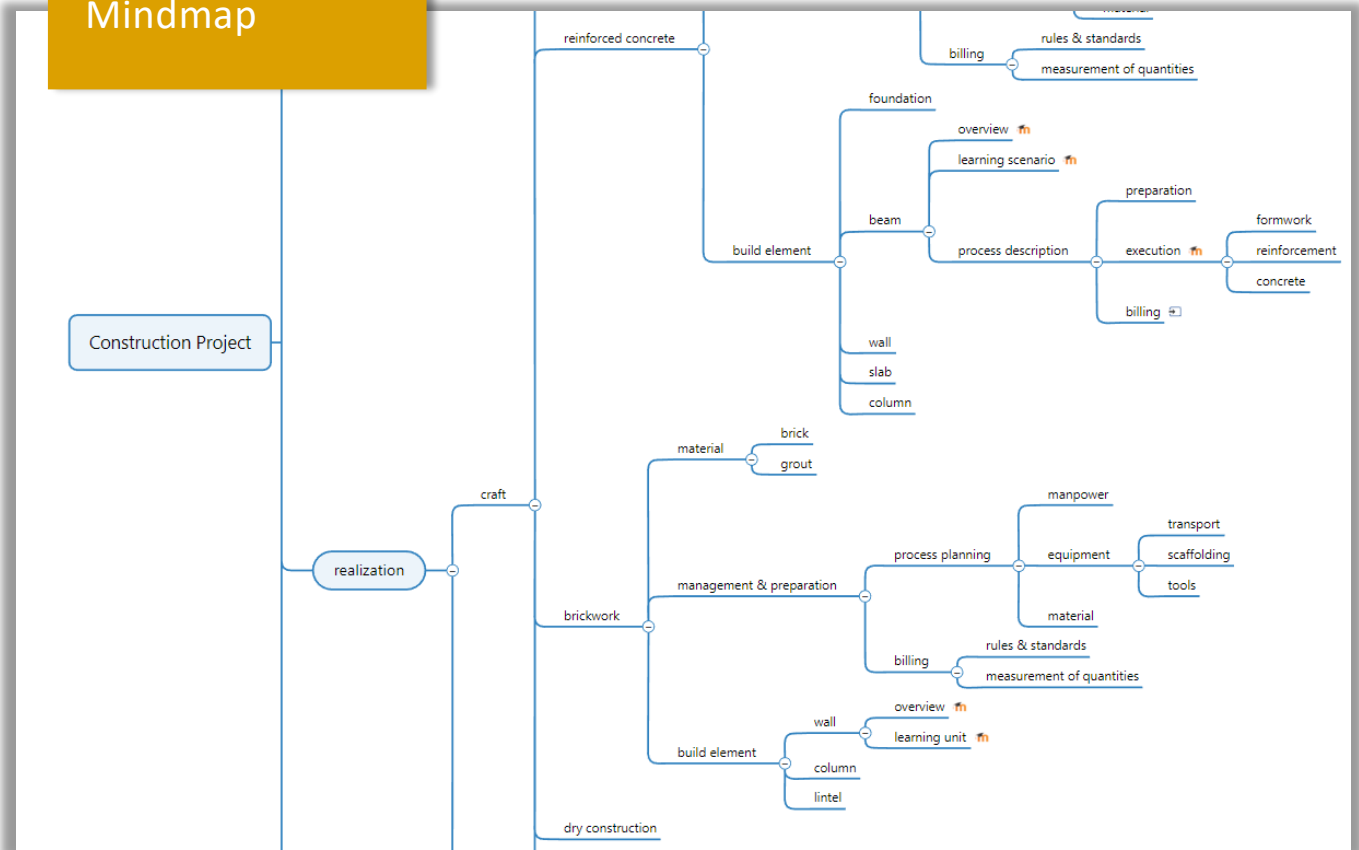
Concrete Beam - ZSB1

- Main process
- Learning szenarios & units
 - MP4 Instructional videos - build beam on site
Hidden from students
- Instructional videos
- IFC data

Roof Construction - ZAWM

- Main Process
- Learning szenarios
 - Learning unit LS1.1
 - Pictures LS1.1
 - IFC data
 - Instructional videos
 - interactive task & report

Figure 3:
Excerpt from the
Mindmap



To access the mindmap and click through the topics, following this link (strg + click):



LEARNING AND WORK TASKS

Learning and work tasks for the learning scenarios masonry construction:
The learning and work tasks are available in **English, German, French and Polish** and are integrated into the mindmap.

MASONRY CONSTRUCTION

Masonry construction homepage
German



Masonry construction homepage
English



Masonry construction homepage
French



Masonry construction homepage
Polish





www.zawm.be



www.bfw-bb.de



www.htw-berlin.de



www.put.poznan.pl

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