TECHNISCHE UNIVERSITÄT DRESDEN

The Media Centre 2020

Annual report on the target agreement of the Media Centre

Report

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MEDIEN ZENTRUM

Foreword to the Annual Report

Development of the Media Center

In 1999, the Media Design Center (MDC) was founded as an interdisciplinary predecessor institution of the Media Center at the TU Dresden. At that time, five scientists from the fields of computer science, psychology, engineering and education were conducting research in the area of digital media and their impact on teaching and learning processes. By resolution of the Senate, the MDC, which had grown steadily in the meantime (exclusively because of third party funding), merged with the then AVMZ (Audiovisual Media Center of the TU Dresden) to form the Media Center as a central scientific research and service institution on March 1, 2008.

With the organizational analysis from 2016 and the subsequent resolutions of the rectorate in 2017 and 2018, a restructuring process was initiated, with which the service tasks were separated out and the media center (from mid-2021 under the new name Center for Open Digital Innovation and Participation - CODIP) will be continued as a decidedly research-focused institution, largely free of service tasks.

Vision Statement

CODIP understands the need for lifelong learning, where knowledge is freely available to all - at all times. This is the driving force for shaping our future. As staff members, we believe in creating impact together through free knowledge and digital tools, and in shaping social, cultural, academic, and scientific spheres of life in a sustainable way.

Completion of Goals

In the second quarter of 2020, the coordinated target agreement was signed with a term until December 31, 2023. This resulted in an increase in staff of 1.5 FTE for the areas of communication, young scientists and project acquisition. All three complexes are also reflected in the indicators for the target agreement, some of which have several objectives.

In addition to an increase in third party funding, the main target areas of the agreement are an increase in the number of staff and completed doctorates, as well as activities in the area of publishing and the third mission. The specific indicators are attached.

The Media Center in Pandemic

2020 was particularly marked by the pandemic situation, which also had an impact on the work of the Media Center and its staff. However, as a research institution in the context of digitalization, researchers at the Media Center are very familiar with virtual and hybrid ways of working. In combination with the challenges of individual life circumstances, however, new work and research scenarios had to be considered here as well, which reconcile research work at home, homeschooling and childcare.

Despite the multiple workloads, there were enormous successes, e.g. in project acquisition, which illustrate the high level of commitment of all colleagues in this situation. Among other commitments, the Media Center received on December 18, 2020, for example, two calls for full proposals under the INVITE Directive of the BMBF for projects with a total volume of 4.36 million euros, of which 1.67 million euros alone will flow to the Media Center in the years 2021 to 2024. Within the framework of the guideline, the Media Center prevailed twice among more than 100 applications.

At this point, we would like to thank all employees who contributed to this excellent overall result of the Media Center in 2020 and who, despite the ongoing pandemic situation, are constantly pushing ahead with research projects, their own qualification work and acquisition activities etc.

Photo: Retreat 2019 - with part of the scientific staff Military History Museum Dresden.

Research cluster at the media center

With the re-organization and the focus on research, the Media Center has also put its own structures up for discussion. These should focus less on administrative and control processes, but rather on the research process and the research interest.

In the Institutional Strategy, which was developed as a basis for the target agreement, various approaches to solutions are outlined. The preferred cluster model was already implemented in 2019.

For this, the following five clusters have been formed based on the competencies and research interests of the employees, as well as the current research projects and overarching work priorities:

- Digital Cultures of Learning and Teaching (DLL)
- Digital Learning and Play Cultures (DLSK)
- User Experience & Design (UXD)
- Digital Transformation (DT)
- AI and Digital Humanities (AIDH)

All staff is expected to be a member of at least one cluster.

The participation in the clusters is strongly differentiated, due to the different number of projects on one topic. The number of members ranges from five (UX design) to more than 20 (DLSK). The personnel structure also influences the activities of the clusters. In addition to the professional exchange, this also includes joint publications or the acquisition of new projects - up to the organization of thematic workshops, which also support the goals of the Third Mission of the MZ.

In 2020, the DLSK cluster also received support from state funding within the framework of a project of the E-Learning working group.

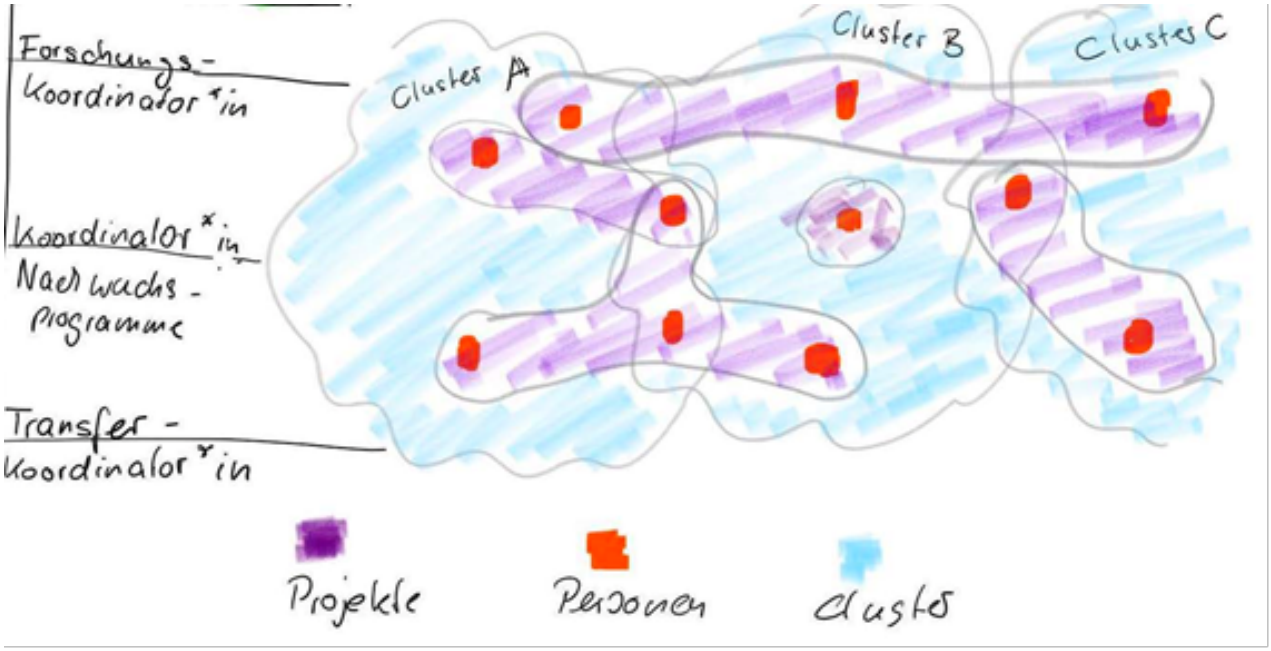


Figure: Cluster structure at the Media Center

Project acquisition

In 2020, project acquisition still took place according to familiar structures. Application groups were formed along the lines of relevant announcements (BMBF, EU, etc.), which developed project ideas and research questions and created project outlines in collaborative work forms. Topics such as "digitization and age", "digitization and environment" and "digitization and education" were addressed at the core.

In 2020, MZ staff worked on about 35 research proposals, of which about 25 were submitted. Among the funding sources addressed was predominantly the BMBF (approx. 50%), but also the EU (approx. 20%) as well as other funding bodies at national or state level.

The figures presented here for 2020 are given with an imprecision ("approx.") because they were not yet systematically recorded at that time. They are based on a retrospective analysis of the minutes of the Steering Committee meeting, where the intermediate status of the application activities was continuously documented. A knowledge management system is currently being developed to record these activities more systematically in the future.

Outlook

The pandemic situation that will continue to prevail in 2021 will continue to present the media center (CODIP) with ever-new challenges, which the staff will meet with creativity, knowledge and commitment. In addition to the start of the projects committed to at the end of 2020, we will be occupied with the further development in the area of young scientists and the systematization of acquisition activities. In addition, the ongoing process to build the Lehmann Center II offers an exciting perspective to rethink and redesign research spaces.

CODIP will continue to pioneer innovative projects in international competition and represent the TU Dresden in relevant research associations and professional societies. As a result, CODIP will act more clearly than before as a mediator of research and development results around the digital transformation to the service institutions in the university and as before with its local, national and international research partners.

CODIP (continues to be) one of the leading institutions in Germany for applied and increasingly basic research in the use of digital media and tools for teaching, learning and research, as well as for work contexts and deployments in everyday society. It offers an attractive environment for national and international research guests as well as for scientific qualification in a rapidly developing research field and shapes the profile of the TU Dresden especially in the research profile lines "Culture and Social Change", "Information Technologies and Microelectronics" and "Energy, Mobility and Environment".

At the same time, CODIP actively and systematically promotes young national and international scientists with the structured graduate program "Education & Technology" established at TU Dresden in cooperation with the departments, faculties and the Graduate Academy as well as DRESDEN-concept. In addition, the research profile shows the center as the carrier of the scientific further development of digital teaching offers and methods around the university teaching as well as in the context of research and development projects also regularly in other educational areas such as e.g. vocational education, further education and school education and thus as an impulse generator for the content-related further development in the areas of digital teaching and digital learning as a whole. For example, the support of the e-learning working group of the State Rectors' Conference, which is anchored as a measure in the digitization strategy of the Free State, and its task of promoting the further consolidation of e-learning is a core task of the central scientific institution.

In the sense of Citizen Science, citizens are informed about research results and involved in research processes. CODIP continuously shapes public participation in central developments in its research fields and helps to intensify reflection on the impact of technological and scientific innovations on society.

Content

Project reports

Agile Publika - Exploiting mobile sensor data for audience research using interactive machine learning techniques.

Summary

In the Big Data age, inexpensive sensors in smartphones continuously generate gigantic amounts of data. From this data, application-specific signatures can be extracted and events can be reconstructed, enabling the observation and analysis of complex dynamics. The project goal in the junior research group Agile Publika is the development of an observation system for complex audience movements, based on sensor and social media data collected in real time. The focus is on continuously observable, small-space complex systems (local public transport, local media and opinion formation). The overall system is generic and transferable to supra-regional issues.

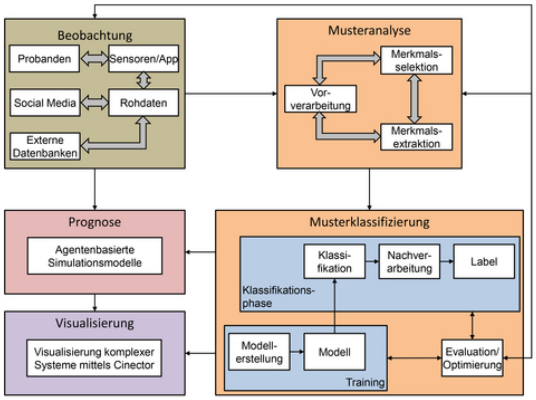
Summary

In the age of Big Data, inexpensive sensors in smartphones continuously generate gigantic amounts of data. From this data, application-specific signatures can be extracted and events reconstructed, enabling the observation and analysis of complex dynamics. Project goal of the junior research group Agile Publika is the development of a monitoring system for complex audience movements, based on sensor and social media data collected in real time. The focus is on continuously observable, small-space complex systems (local public transport, local media and opinion formation). The overall system is generic and transferable to supra-regional issues.

The project

The junior research group Agile Publika is a joint project of the Mittweida University of Applied Sciences (Faculty of Media, Faculty of Applied Computer and Biosciences) and the Dresden University of Technology (Media Centre) under the direction of Prof. Dr.-Ing. Michael Hösel. It comprises six interlinked parts:

1. Sensors
2. System architecture
3. Data optimization through interactive machine learning
4. Empirical network research
5. Audiovisual analysis of social media
6. Nonlinear Social Analytics



The Media Centre was responsible in particular for AP6, non-linear social analytics. The goal was to develop a research exposé on the topic of "Interactive Storytelling Based on the Interests of the Recipients". Based on various preliminary works, a paper entitled "Interactive Storytelling Based on the User's Interest in an Augmented Reality App for Historical Sites" was also written.
As in 2019, the workshop "2nd Interdisciplinary Workshop of Media and Computer Science 2020 - Media Informatics meets Social Sciences" took place at the International Informatics and Meeting Center Saxony in Laubusch. The participating young scientists were offered the opportunity to publish a conference contribution as an article and lecture. Another important topic was the individual plans for further work on the dissertations. The framework with 15 doctoral candidates and nine experienced scientists from different disciplines enabled an intensive exchange.
By integrating junior researchers into the teaching and employing auxiliary staff, it has already been possible to make essential results of the research and investigation accessible to a wider circle. In particular, the practical and resource-saving teaching concept Empirical Studies of Virtual Driving will also be used in the future. Following the very positively received presentation of the 3D traffic model to the Mittweida city council, there was an exploratory discussion about possibilities for continuing the project in cooperation with the city of Mittweida.

Project information

Third-party funding	ESF (European Social Fund)

donors	
Runtime	09/2017 – 12/2020
Tags	Mobility, Social Media, Big data, Sensors
Project partner	Mittweida University (Faculties of Media & Computer and Life Sciences)
Project-coordination	Prof. Dr. Thomas Köhler thomas.koehler@tu-dresden.deProf. Dr.-Ing. Michael Hösel mhoesel@hs-mittweida.de Prof. Klaus Liepelt liepelt@hs-mittweida.de Prof. Dr. rer. nat. habil. Kristan Schneider schneid2@hs-mittweida.de Prof. Dr. rer. nat. Marc Ritter ritter@hs-mittweida.de Prof. Dr.-Ing. Frank Zimmer zimmer@hs-mittweida.de
Project staff	Theresia Zimmermann Tony Rolletschke Manuel Heinzig Richard Bird Kristina Helle Christoph Schulte

Publications and lectures (selection)

Thomanek, R., Roschke, C., Platte, B., Rolletschke, T., Heinzig, M., Vodel, M., Kowerko, D., Zimmer, F., Eibl, M., Ritter, M. (2019): University of Applied Sciences Mittweida and Chemnitz University of Technology at TRECVID Instance Search 2019. In Proceedings of TRECVID 2019, National Institute of Standards and Technologies, Maryland, USA.

Thomanek, R.; Roschke, C.; Platte, B.; Rolletschke, T.; Schlosser, T.; Heinzig, M.; Vodel, M.; Kowerko, D.; Zimmer, F.; Eibl, M.; Ritter, M. (2019) University of Applied Sciences Mittweida and Chemnitz University of Technology at TRECVID ActEv 2019. In Proceedings of TRECVid 2019, Gaithersburg, Maryland, USA.

Thomanek, R.; Rolletschke, T.; Platte, B.; Hösel, C.; Roschke, C.; Manthey, R.; Heinzig, M.; Vogel, M.; Zimmer, F.; Vodel, M.; Eibl, M.; Ritter, M. (2020) Real-Time Activity Detection of Human Movement in Videos via Smartphone Based on Synthetic Training Data. In WACV 2020. Aspen, USA.

Vogel, R. (2020). HDTree - A customizable Decision Tree written in Python: https://medium.com/@webdes87/hdtree-a-customizable-decision-tree-written-in-python-28df514f930f

Arbeitskreis E-Learning - Office of the E-Learning Working Group of the Saxony Rectors' Conference (LRK)

Summary

For almost 15 years, the office has coordinated the activities of the e-learning working group of the LRK Saxony. Under the sign of the COVID-19 pandemic, the strategy update until 2025 as well as the support of the e-learning projects were central fields of work. The cooperation at national level with the other state initiatives was another focus of activity.

Summary

For almost 15 years, the office has coordinated the activities of the e-learning working group of the LRK Saxony. During the time of the COVID-19 pandemic, the main focus was on the strategy update until 2025 as well as the support of the e-learning projects. The cooperation on a national level with the other state initiatives was also a further focus of activity.

The project

Started as a joint project in 2001, the project "Saxony Education Portal" quickly developed into a joint e-learning state initiative of the Saxon universities with the support of the Saxon State Ministry of Science and Art. In order to transfer the project results into a sustainable structure from 2007 onwards, the BPS Bildungsportal Sachsen GmbH (BPS GmbH), founded in 2004 as a university-owned service provider, was supported by the Saxon

Rectors' Conference in the form of a scientific advisory board. As a joint body of all universities, the working group E-Learning of the LRK Saxony has since coordinated the development of e-learning to a decisive extent and ensures the demand-oriented, concentrated and efficient use of the central support resources of the SMWK in the sense of all involved institutions.
For the years 2019 and 2020, the SMWK again provided 1.5 million euros, which were used to finance the collaborative projects as well as the office.
Central in 2020, in view of the effects of the CoViD-19 pandemic, was the implementation of the summer semester and for the working group the updating of the overall strategy. The universities in Saxony currently offer students the most comprehensive digital teaching possible outside of classroom teaching. On this basis, the universities have the opportunity to secure a part of the semester operation to ensure the academic success of the students. Taking into account the current situation, the E-Learning Working Group, in coordination with the Saxony Centre for Higher Education Didactics, supports the Saxon universities in achieving the overarching goals of developing digital university teaching in the Free State of Saxony by 2025. The strategy paper "Teaching and Research in the Digital Age - The Saxon E-Learning State Initiative and the Challenge of a Virtual University of Saxony" focuses in particular on the further development and securing of a state-wide coordinated e-learning infrastructure and service offer for studying, teaching and research - including the Video Campus Saxony. In addition to equal opportunities and digital examinations, didactic innovations are also a topic.
In addition, the office is involved at national level in the KMK working group on interoperability and in the network of state initiatives. Here, a stronger cooperation is currently developing in the areas of Open Educational Resources as well as in general with regard to the exchange of services between the Länder.

Project information

Third-party funding donors	SMWK
Runtime	01.01.2019 - 31.12.2020 (continued)
Project-coordination	Dr. Jörg Neumann ak-elearning@lrk-sachsen.de
Project staff	Nicole felt Jana Riedel Katrin Brennecke Lisa Urban
Website	https://bildungsportal.sachsen.de Twitter: @eLearningSax

Publications and lectures (selection)

AK E-Learning (2020). Teaching and research in the digital age. Strategy paper of the E-Learning Working Group of the Saxony Rectors' Conference in coordination with the Saxony Centre for Higher Education Didactics on strategic fields of action for Saxon universities in the years 2021 to 2025. Online at: https://bildungsportal.sachsen.de/portal/wp-content/uploads/2021/01/Strategie_BPS_2021_25-1.pdf

Ausbilderakademie.Digital - development of an app to support training staff in MSEs

Summary

In the project, an app is being developed with which in-company training personnel can train their own media skills and receive suggestions for using digital media in training in an appropriate and targeted manner. In addition, the app will provide information on topics relevant to training, such as innovations in the training regulations.

Summary

In the project, an App is being developed with which in-company training staff can train their own media skills and get suggestions on how to use digital media in training in an appropriate and targeted way. In addition, the app will provide information on topics relevant to training, such as innovations in the training regulations.

The project

Two large-scale testing phases and two workshops on the technical and content-related design of the app, which formed the basis for further project work, were particularly influential in the reporting year. Just six months after the start of the project, the first trial workshop was held with six company trainers in January 2020 at the Dresden Chamber of Skilled Crafts (HWK). The results of this workshop included the discussion and documentation of thematic interests, which can also be challenges in everyday training, for example.

Fig. 1: Screenshot of the news environment

The results of the first major trial phase in summer 2020 showed on the one hand that the majority of the target group is satisfied with the news area. On the other hand, the numerous feedbacks made it possible to identify improvements for the learning area. Based on this, a workshop on the topic of media competence was offered to the target group in September at the trainers' forum in the HWK. The 2nd major trial phase took place in December 2020. Based on the results, the app with the news section (Figure 1) will be rolled out at the beginning of the 2nd quarter of 2021.

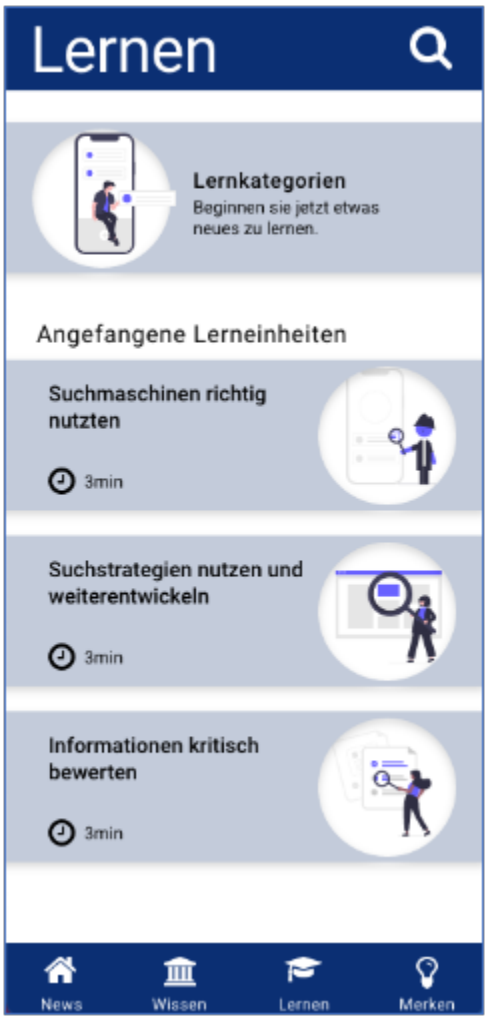


Fig. 2: Here you can select course units that have already been started or new course units from various categories.

For the development of the app area "media competence", a competence matrix (see Figure 3) was compiled on the basis of various competence frameworks, which can be further used for follow-up projects in the area of vocational education and training and in the present project primarily serves as a basis for the creation of the microlearning content. Furthermore, a storyboard was designed for this purpose, taking into account didactic aspects of microlearning, mobile learning and card-based learning. The storyboard also lends itself to further use, especially in the area of mobile learning. The research of learning materials on the basis of the competence matrix focuses primarily on

Open Educational Resources (OER) and the reuse of existing materials (e.g. from the previous project Medienbar).

The app was created using the React Native framework in order to be able to use the latest web technologies for the user experience as well as a wide range of functions. On the other hand, the framework allows for a significant reduction of effort in the parallel development of native apps for different devices and operating systems, especially with limited material and human resources. Technically, the app was designed to dynamically load news articles into the app from an external source. In addition, both the structure and the implementation of the learning area allow further content to be added to the app with little effort, so that it can always be kept at an advanced level.

In addition to the launch of the app with the news section in relevant app stores in the second quarter of 2021, the learning area for the microlearning units will be designed for the next trial phase (Figure 2). Based on this, the learning area will be integrated into the app alongside the news area. Further trials and tests will follow to meet the demands of the target group and ensure successful project completion in 2022.

Project information

Third-party funding donors	ESF
Runtime	01.06.2019 – 30.05.2022
Tags	Vocational training, mobile learning, media competence, app development
Project partner	VHS Zwickau
Project-coordination	Annegret Umlauft Annegret.Umlauft@hwk-dresden.de
Project staff	Franziska Günther Robert Lorenz
Website	http://www.ausbilderakademie-handwerk.de

Publications and lectures (selection)

Günther, F. (2020). Digital media in vocational training: Are messenger services, web seminars and VR/AR technologies the future? Vortrag zum Ausbildernetzwerk-Treff 2020 im Elektrobildungs- und Technologiezentrum e. V. am 04.03.2020. https://zenodo.org/record/4541088

Günther, F. (2020). Change in vocational training through digital media? Fachdiskussion zum Ausbildernetzwerk-Treff 2020 im Elektrobildungs- und Technologiezentrum e. V. am 18.06.2020.

Günther, F., Neumann, J., Lorenz, R., & Umlauft, A. (2020). Fostering media competence and promoting media use - Didactic considerations in the development of a mobile application for in-company training personnel in MSEs. In R. Zender, D. Ifenthaler, T. Leonhardt, & C. Schumacher (Eds.), *DELFI 2020 - The 18th conference on educational technologies of the Gesellschaft für Informatik e.V. - Complete volume* (pp. 199-204). Gesellschaft für Informatik e.V. http://dl.gi.de/handle/20.500.12116/34203

Günther, F. (2020). Medienkompetent on the move - die Mobile Learning App "Ausbilderwissen". *Digital für Alle- Forschungsergebnisse zur Digitalisierung in Bildung, Forschung und Gesellschaft.* https://digitalfueralle.mz.tu-dresden.de/?p=274

Diffusion of digital technologies in vocational education and training through cooperation between learning venues (DiBBLok)

Summary

The joint project Diffusion of digital technologies in vocational education and training through learning location cooperation (DiBBLok) deals with the digitalisation of the learning locations vocational school and training company with a special focus on learning location cooperation in vocational education and training and contributes to a better understanding of digitalisation processes in vocational education and training practice.

Summary

The joint project Diffusion of Digital Technologies in Vocational Education and Training through cooperation between learning locations (DiBBLok) deals with the digitization of the learning locations

vocational school and companies that take on trainees with a special focus on cooperation between learning locations in vocational training and contributes to a better understanding of digitization processes in vocational education practice.

The project

Digitisation in vocational education and training: Factors influencing successful cooperation between learning venues

The dual system of vocational education and training is characterised by the cooperation of different learning locations. The central question of the joint project "DiBBLok" is how the cooperation of different actors in vocational training (learning location cooperation) can succeed in the best possible way.

The online report booklet "BLok" serves as the object of investigation. On the basis of user data on this instrument, the research project aims to find answers to the following questions, among others, on the basis of a specially developed comprehensive research model:

- What is the most important reason for using a digital report card?
- How can the acceptance of such an instrument be improved?
- And what significance do factors such as age, gender or personality have in this context?

The research model developed is based on acceptance research in software development and consumer marketing, which systematically investigate reservations about technological applications[1][2]. In doing so, various factors are taken into account, which are shown in Figure 1 and can influence the intention to use digital applications.

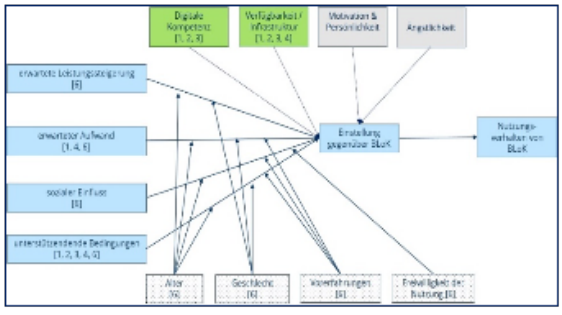


Fig. 1: User Acceptance of Information Technology (UTAUT, own illustrations based on Davis et al. 1989 [1] & Venkatesh et al. 2003 [2].

These factors, shown in Figure 1, were collected in autumn 2020 with the help of a nationwide online survey. The extensive data sets of 783 trainees, trainers and teachers at vocational schools are now being evaluated. A second survey is currently being circulated in order to increase the data sets of vocational school teachers in particular.

The quantitative survey thus explores successful digital transformation processes in vocational education and training, as the digitisation of learning venue cooperation can be seen as an important indicator of an advanced state of digitisation in the participating institutions. The findings of the upcoming evaluation of the quantitative survey can be used to derive conditions for success for functioning learning venue cooperation and thus make an important contribution to the further improvement of processes within vocational education and training.

Project information

Third-party funding donors	Federal Ministry of Education and Research (BMBF)
Runtime	03.2019 – 02.2022
Tags	Learning location cooperation, vocational school and training company, vocational training, digitalisation
Project partner	TU Dresden Educational Technology Fraunhofer IMW Leipzig FH Dresden Media Informatics
Project-coordination	Nadine Schaarschmidt Nadine.Schaarschmidt@tu-dresden.de
Project staff	Kristina Barczik Jenny Schröder Niklas Weinhold Svenja Grabe

[1] Davis, Fred D.; Bagozzi, Richard, P.; Warshaw, Paul. R. (1989): User Acceptance of Computer Technology. A Comparison of two Theoretical Models. In: Management Science Vol. 35 (8), pp. 982-1003.

[2] Venkatesh, Viswanath; Morris, Michael G.; Davis, Gordon B.; Davis, Fred D. (2003): User Acceptance of Information Technology: Toward a Unified View. In: MISQ - Management Information Systems Quarterly (Vol. 27 (3)), pp. 425-478. [15] Kremer, H.-Hugo; Rüsing, Peter (2019 (73)): Digital transformation - Reception from the perspective of stakeholders in vocational college technical schools. In: Berufsbildung 175 (02), pp. 17-19.

Website	https://tu-dresden.de/gsw/ew/DiBBLok

Publications and lectures (selection)

Barczik, Kristina; Weinhold, Niklas; Grabe, Svenja; Schröder, Jenny (2020): Digitalisierung als Treiber der beruflichen Bildung - Entwicklung eines Instruments zur Erfassung von Indikatoren für die Akzeptanz von virtuellen Lernortkooperationen; in: Köhler, Thomas; Schoop, Eric; Kahnwald, Nina (eds.): Communities in new media. From hybrid realities to hybrid communities. Communities in New Media. 23rd Workshop GeNeMe'20 - 07-08.10.20 in Dresden. S. 452-469.

Digital4Social - Digital media formats in education and entrepreneurship

Summary

A German-Belarusian winter school conducted with 25 participants in English on 14.11.-12.12.2020. The project was approved as an offline summer school in Belarus, and due to COVID-19 was transformed into a series of online seminars accompanied by an online course.

Summary

The Project is a German-Belarusian winter school for 25 participants, hold in English at 14.11.-12.12.2020. Originally accepted as an offline summer school, due to COVID-19 it should be implemented as a winter school in form of online-seminars plus supportive online-courses.

The project

The project is a one-time seminar series, and was designed, implemented and completed in 2020.
Under the leitmotif "Study and further education; student initiatives and movements; civil society engagement and social entrepreneurship - how much goes online?" an online exchange took place in the international team. Young social entrepreneurs and project managers from the education sector learned about digital tools that they can then use to further develop their own ideas.
In 4 project modules, participants discovered together where the potential and possible limits of digitalization lie for teamwork, communication with the external world, new international networks and also personally for each individual participant. In weekly online seminars on Tuesday evenings and Saturday mornings with experts from Germany, the United Kingdom and Belarus, the above-mentioned focal points were discussed. In addition, an online course was offered on the LearnDash LMS of a project partner Adukacyja.info, which provided additional information on the topic.

The project had 4 objectives:
- Attraction of qualified foreign students and/or young researchers
- Professional training in current research areas as well as professional and cultural exchange between foreign and German participants
- Insight into German teaching and research practice, intercultural exchange
- Positioning of German universities on the international education market (e.g. integration into the university's own internationalisation strategy)

If there is interest, similar projects can be organised below.
The Winter School also had links to the T3W project and is a possible model for the subsequent dissemination of the results and further positioning of the MOOCs developed in T3W.

Project information

Third-party funding donors	DAAD
Runtime	01.01.-31.12.2020
Tags	Social enterprise, digital media formats, third sector, internationalisation
Project-coordination	Tatsiana Dashuk tatsiana.dashuk@tu-dresden.de
Website	https://adukacyja.info/courses/digital-4-social-course/ - is currently only available to TNs with the valid login, will be adjusted and made available to the public in Spring 2021.

Publications and lectures (selection)

Dresdner Universitätsjournal, 32nd volume, No. 2 of 2 February 2021, p.4
Available online at: https://tu-dresden.de/tu-dresden/newsportal/ressourcen/dateien/universitaetsjournal/uj_pdfs/uj_2021/UJ02_21.pdf?lang=de

DOmIcILE-VR - Digital educational offerings in the real estate industry using virtual reality

Summary

In the project, a digitally supported learning scenario is being developed and tested for trainees and apprentices in the real estate industry. In a role-playing game using a dynamic virtual reality (VR) environment, which is entered using a smartphone cardboard system, they train how to carry out inspections of rented apartments in a professional manner.

Summary

Within the project, we develop and pilot a digitally enhanced learning scenario for trainee real estate specialists. In a role-play using a dynamic virtual reality (VR) environment, which is accessed via a smartphone cardboard system, they practise how to inspect and hand rent apartments over properly.

The project

The qualification of employees for the professional acceptance of rental apartments often poses challenges, especially for small and medium-sized enterprises (SMEs) in the real estate industry. For economic-pragmatic reasons, their trainees can usually only learn this process in theory and can at best observe it in practice, but hardly practice it themselves. In addition, a growing number of lateral entrants and legal innovations in this area result in a high demand for further training. To counter this, the following measures were implemented in the "DOmIcILE-VR" project in 2020:

(1) Development and testing of a digitally supported learning scenario

The needs of the target groups identified in the previous year were transferred into a didactic concept and initially modelled in the form of video mock-ups in an iterative development process. They served as orientation for the technical implementation of the first functional prototypes of the learning scenario. In this scenario, trainees and apprentices from SMEs train in a role-play with experienced learning facilitators or other learners to carry out apartment inspections professionally. They inspect a VR rental apartment using a smartphone cardboard system, assess its condition on the basis of a digital case file and communicate it to the tenants in an appropriate manner - even in the event of a dispute. Its prototypical implementation was tested in a total of ten trial runs with trainee real estate specialists at the Academy for Vocational Training in Dresden and continuously developed further in the process. A test series with trainees is planned for the following year. A current video mock-up and regular updates on the development progress are available online at https://www.domicile-vr.de.

(2) Contributions to educational research

On the scientific level, the project investigates in particular success factors of the didactic design and sustainable implementation of VR-based learning scenarios in formal education. For this purpose, a theoretical framework was derived in 2020, presented at the annual conference of the Society for Media in Science (GMW) in Winterthur, Switzerland, and discussed with relevant researchers. During the testing of the developed learning scenario, initial empirical findings were obtained, which will be published in the following year.

(3) International research cooperation

Within the framework of the GMW annual conference, a scientific collaboration with the Mixed Reality Lab of the ZHAW School of Management and Law in Winterthur was initiated. Since then, regular exchanges have given rise to a wide range of ideas, ranging from the cross-institutional supervision of student theses and joint basic research to the cooperative implementation of courses across learning sites. They will be implemented in the following year. **So it remains exciting!**

Project information

Third-party funding donors	European Social Fund (ESF) and Free State of Saxony
Runtime	01.05.2019 - 30.04.2022
Tags	Education, training, virtual reality, real estate industry, smartphone, application
Project-coordination	Jonathan Dyrna jonathan.dyrna@tu-dresden.de
Website	

Publications and lectures (selection)

Dyrna, J., Liebscher, M., Fischer, H., & Brade, M.. (2020). Implementing VR-based learning environments-Theoretical frame of reference and practical application. In C. Müller Werder & J. Erlemann (Eds.), Seamless learning - enabling lifelong continuous learning (pp. 59-68). Münster: Waxmann. [Open Access.]

E.F.A. - Digital Adaptive Learning Game for Vocational Education and Training

Summary

The E.F.A. project supports the acquisition of competencies in Saxon companies in the social services sector with regard to occupational health and safety. The aim is to develop an adaptive digital learning game that enables employees to carry out a risk assessment.

Summary

The project E.F.A. supports the acquisition of knowledge in the field of workplace health and safety for Saxon social service companies. For this purpose, an adaptive serious game is to be developed, which enables employees to carry out a comprehensive risk assessment.

The project

In the 2020 reporting period, particular attention was paid to the further development of the learning game. Based on the conceptual foundation from the first year of the project, which provides for a division of the learning game into the following four topic areas:

- Occupational health and safety organization
- Risk assessment
- Internal and external contributors
- Transfer of Duties,

graphic and technical implementations as well as further conceptual results could be developed. The goal is to implement each topic area in the educational game as a "temple". On the way through these "temples" of the obligation jungle, the protagonist Efa encounters various puzzles and tasks that convey concrete knowledge content.

In 2020, the first temple of the learning game on the topic of "occupational safety and health organization" was completed both as a paper prototype and as a digital prototype. Through various usability and user experience tests as well as multiple test games of the prototype variants with always different participants from science and practice, the learning game was evaluated throughout the project. Graphic design, user interface design as well as technical functionalities could thus be further optimized. The project year ends with the first digital version of "E.F.A.". (prototype available at: https://game.efa.mz.tu-dresden.de). The second section of the game, "Risk Assessment", which is the core of the game, has also already taken shape. This has resulted in a novel approach to risk analysis in the context of a risk assessment. Corresponding learning content was translated into game mechanics and extensively tested last year. Despite the transfer of the creative work to the home office, it was possible to test and optimise the other game sections, so that the digital implementation can now also start for these. Both game sections can then move on to the next phase - testing with our target group, which is planned for May 2021.

Temple Overview Map

In addition to the development of the educational game, great progress was also made in the area of adaptive design of the educational game in the reporting year 2020. For the implementation of adaptivity - in the sense of adapting the course of the game to the current learning progress of the players - both a content-related and technical concept was created. For this purpose, the required content could already be divided into smallest units (knowledge objects).

In the further course of the project, the focus will be increasingly on testing and evaluating the learning game. Further test partners are to be acquired and a concrete application scenario embedded in a personnel development measure will be developed. In addition, a transfer concept will be developed together with the partners in the project network, which will show possibilities for the permanent implementation of the qualification measure including the learning game in company training and further education.

Project information

Third-party funding donors	European Social Fund / Free State of Saxony
Runtime	01.05.2019 - 30.04.2022
Tags	Occupational health and safety, educational game, further training
Project partner	Saxon State Association for Health Promotion e.V. Trägerwerk Soziale Dienste AG
Project-coordination	Dr. Sandra Schulz sandra.schulz@tu-dresden.deCornelia Pity cornelia.schade@tu-dresden.de
Project-collaborating	Antonia Stagge Nadine Rücker Björn Adelberg Katharina Hammel Anne Schimmeck Sam Toorchi Roodsari (FHK) Aline Adam (SHK) Marek Kretzschmar (SHK)
Website	https://twitter.com/EFA-game

Publications and lectures (selection)

Schade, C. & Stagge, A. (2020). Paper Prototyping as a Method for the Evaluation of Serious game Concepts. In: *European Conference on Games Based Learning* (pp. 515-XIX). Academic Conferences International Limited.

Schulz, S. & Schade, C. (2020). Development and evaluation of digital learning games - Scientific findings beyond entertainment. In *Communities in new media, Proceedings 23rd GeNeMe Conference* (pp. 306-317).

Schade, C. (2020). Stress-Record and E.F.A. - Game-based approaches for teaching health-promoting leadership behaviour. Vortrag im Rahmen des Kongress Armut und Gesundheit, Fachforum Games4Health in Deutschland, am 07.04.2020.

Schulz, S., Stagge, A., Schade, C., Adelberg, B. & Roodsari, S. T. (2020). Challenges in Developing an Adaptive Serious Game and in Creating a Learning Data Model. In: *International Conference on Games and Learning Alliance* (pp. 428-434). Springer, Cham.

Schade, C. (2020). E.F.A. - Development of a digital learning game for occupational health and safety. Vortrag im Rahmen des World Usability Day Dresden 2020, am 12.11.2020.

FIPLOR - Designing lessons

Summary

Fiplor is a digital assistant for teachers at primary, secondary and vocational schools. The application supports them in planning and organizing their lessons. The unique feature: while the teacher is still preparing their upcoming lessons, millions of free educational materials and subject-specific content on the Internet are searched and, if suitable for the current teaching/learning situation,

suggested. This not only significantly minimizes the research effort, but also provides constant new input for the lesson.

Summary

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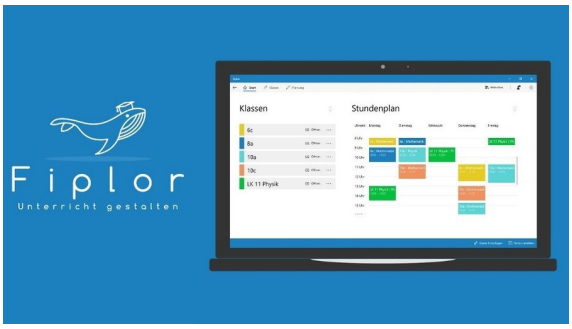


The project

Every day, teachers work to ensure that every student receives the best possible education. Fiplor has made it its mission to provide teachers with the best possible support in their daily work.
Teachers invest a lot of time and effort in planning learning scenarios. Preparing good lessons is time-consuming and requires not only creativity in finding ideas, but also time to search for suitable materials, taking into account subject-specific and didactic aspects as well as individual student perspectives.
In order to reduce the amount of work involved in preparing lessons, it would be ideal to have an assistant at hand who can provide ideas and suitable material. Fiplor is this assistant. It takes care of the time-consuming research, suggests suitable teaching elements and also provides valuable tips on how to use them. With the learning analytics functions, individual suggestions for each class are possible, while at the same time taking into account the profile of the teacher.
Two of the founders studied teaching and know the problem world in schools well. Preliminary work at the Technical University of Dresden allows the development of the digital assistant. The team is complemented by competencies from the areas of marketing and sales.
Initially, the German market with its 800,000 teachers in the general and vocational education sector will be addressed (Statistisches Bundesamt, 2018). In the future, further countries are to be opened up.
Due to the current teacher shortage, we are experiencing a recruitment drive. The states are currently at a peak with over 30,000 new teachers per school year (Kultusminister Konferenz der Länder, 2017), which is expected to continue until 2030. Especially newcomers to the profession suffer from the high effort required to prepare lessons and are open-minded towards digital tools. They represent an ideal target group for market entry.
Once the basic product is established, FIPLOR can be expanded into a comprehensive dataspace for teachers. In the future, an e-learning platform for teachers will be created and the distribution of educational media (textbooks, etc.) will be promoted.

Project information

Third-party funding donors	EXIST start-up grant, ESF
Runtime	1.3.19-31.3.20
Tags	Digital teaching, e-learning, learning analytics, professional development, teacher training
Project-coordination	Tom Adler David Baberowski Andreas Williger Prof. Dr. Thomas Köhler

FRACTION - "Developing future - oriented academic curricula in Teacher Education with innovative methodologies for Next-Gen Asian HEIs (Higher Education Institutions)".

Summary

In India, China and Vietnam, professional qualifications for university teachers and international teacher training programmes are needed to continuously improve the skills of university teachers in teaching, academic research, innovative methods and international exchange. The central aim of the project is to improve the professional development of teachers by developing a postgraduate programme in education. This is enriched by innovative teaching methods to achieve an optimization of pedagogical competences.

Summary

In India, China and Vietnam professional development programs for university teachers and the international teacher training programs at HEIs are required to continuously improve the capabilities of university teachers in education and teaching, academic research, innovative practices, and international exchanges. The central objective of "Fraction" is to deliver a unique opportunity to the education of teachers and gain recognition for high-quality professional practice through developing a postgraduate program in the field of education with innovative teaching methodologies, enhancing pedagogical competencies.

The project

Essential work steps in the joint project "FRACTION" are:

- The conception of a modular training offer (curricula), with innovative course contents to increase the effectiveness and pedagogical competences, in order to promote the professional development of university teachers.
- The use of innovative teaching-learning methods and the development of (digitally supported) teaching materials.
- The increase of human resources at the respective partner universities by training the local teaching staff in the further education programme as well as in the application of innovative teaching-learning methods, using the multiplier approach.
- The provision of a technical infrastructure and necessary resources that enable lifelong learning. Here, the establishment of so-called Centers of Teaching Excellence (CTE) with an ICT-based learning platform is planned as a sustainable solution to support the implementation of the new curricula and to promote innovation in pedagogical practice.

The Media Centre is responsible for work package 2, the objective of which is the development and certification of the further education programme organised as blended learning. First of all, it was necessary to elicit needs regarding the content and the didactic concept of the programme in the project network using a short questionnaire (January 2020). From 24 to 27 February 2020, the results of the needs analysis were presented at the project meeting in Chennai (Sathyabama Institute of Science and Technology) and the desired content was agreed. The possibilities of different international forms of accreditation were also presented and discussed.

By March 2020, the approach of constructive alignment and competency-based alignment and competency-based assessment was transferred to the curricular structure of the continuing education programme and the curriculum structure for the programme was presented to the partners.

Based on the needs analysis, the European partners (University of Wroclaw and Almeria) jointly developed the content of the training programme under the coordination of the Media Centre. By June 2020, the program and its content structure were defined in consultation and discussion with the partners in Asia.

Based on the needs analysis, the European partners (University of Wroclaw and Almeria) jointly developed the content for the training program under the coordination of the Media Centre. By the beginning of the third quarter of 2020, the program and its content structure were defined in consultation and discussion with the partners in Asia.

As the continuing education programme is initially to be established as a blended learning format, a corresponding template for feeding the courses into the Moodle learning management system was prepared at the Media Centre by autumn 2020. Since then, the European partners have been working under the direction of the Media Centre on the development of the teaching content, the methodological-didactic implementation and the conception of the learning materials.

The research for a possible international accreditation of the programme was completed by February 2020. In ongoing consultation with the certification agency focused on by the network partners, talks were held with AQUIN. In October, the essential steps for certification were discussed in a personal meeting with Dr. Rudolph. This was prepared by providing the necessary documentation

for the central award at the TU Dresden until the end of the year.

Project information

Third-party funder	EU Erasmus+ "Capacity Building in the field of Higher Education".
Runtime	01.10.2019 – 30.09.2022
Tags	Capacity Building, Higher Education
Project partner	Wroclaw University of Science and Technology (Poland), University of Almeria (Spain), Sambhram Group of Institutions (India), GLS University (India), University of Engineering & Management (India), Sathyabama Institute of Science and Technology (India), Beihang University (China), Shanghai Polytechnic University (China), University of Transport and Communications (Vietnam), Vietnam Institute of Educational Sciences (Vietnam), Cochin, University of Science and Technology (India)
Project-coordination	Dr. Kristina Barczik
Project staff	Dr. Adisorn Ode-Sri (from March 2021)
Website	https://fraction.pwr.edu.pl

Together into the digital world

Summary

The overall objective of the project is to increase the competence in the use of digital media for older people in the post-acquisition phase in rural areas. Older people should gain confidence in the use and familiarity in dealing with smartphones and tablets. To achieve this goal, a teaching-learning program will be established for older adults in rural areas. Technology-savvy older adults who are motivated to volunteer will be trained as experts. In the role of trained coaches, they are available as contact persons for older people in their communities. They train them in the use of smartphones and tablets and show them how to use the devices in a way that is relevant to everyday life. The continuation of these intragenerational teaching-learning meetings is planned within the framework of regular get-togethers. The project is being implemented in the Zwickau district.

Summary

The overall objective of the project is to increase competence in the use of digital media for older people in the post-acquisition phase in rural areas. Older people are to gain confidence in using and familiarity with smartphones and tablets. To achieve this goal, a teaching-learning program for older adults in rural areas will be established. Technology-savvy elders who are motivated to volunteer will be trained as experts. In the role of trained coaches, they are available to older adults in their communities as contact persons. They train them in the use of smartphones and tablets and show how to use the devices in a way that is relevant to everyday life. The continuation of these intragenerational teaching-learning get-togethers is
regular get-togethers are planned. The project is being implemented in the Zwickau district.

Project information

Third-party funding donors	Saxon State Chancellery
Runtime	01.05.2017–28.02.2019
Tags	Ageing and technology, demography, rural areas, digital technologies, digital sovereignty, digital skills
Project partner	VHS Zwickau
Project coordination	Dr. Kristina Barczik Kristina.Barczik@tu-dresden.de
Project staff	Stefanie Franke
Website	https://tud.link/vc1w

Publications and lectures (selection)

Barczik, Kristina (2020): Stärkung der digitalen Medienkompetenz bei Älteren im ländlichen Raum. Qualification of technology ambassadors and application of peer-to-peer didactics. Report on the project "Together into the digital world" at the VHS Zwickau; article published by the Saxon Adult Education Association. https://www.vhs-sachsen.de/service/publikationen/

Barczik, Kristina (2019): Peer-Groups als Antwort auf die digitale Exklusion - Best Practise Beispiel zur Förderung digitaler Fähigkeiten bei älteren Erwachsenen. In: Thomas Köhler, Eric Schoop and Nina Kahnwald (eds.): Communities in new media. Exploring digital transformation in science, business, education and public administration. Communities in New Media. Researching the Digital Transformation in Science, Business, Education & Public Administration. 22nd Workshop GeNeMe'19. communities in new media; Dresden, 10-11.10.2019, pp. 211-228.

27 November 2018: Contribution by Kristina Barczik "Project: Together into the digital world" to the symposium "Family Education". You can find the contribution to the conference under "News" on the website of the Ev. Aktionsgemeinschaft für Familienfragen at https://www.eaf-sachsen.de.
You can find our contribution to the panel here: Family Education Day Dresden Barczik.pdf

06 June 2018: Contribution by Kristina Barczik "Acceptance of digital media among retired persons in rural areas" to the symposium "Learning and life perspective in old age - challenge for municipalities and districts " of the Landesseniorenvertretung für Sachsen (LSVfS e.V.) in cooperation with the Saxon Adult Education Association and the Bildungswerk Kommunalpolitik Sachsen (BKS). The presentation of the conference can be found here: SymposiumLandesseniorenvertretung Barczik.pdf

18 April 2018: Contribution by Kristina Barczik "Digitally excluded?" - Empirical Findings on Digital Media Use among Older Adults and Discussion of Needs for Action on the Part of Adult Education" for the symposium "Digitalization Meets Adult Education - Extended Learning Worlds" of the State Office for Schools and Education.

HistStadt4D: City history in four dimensions

Brief description

At the heart of the "HistStadt4D" project is an online tool whose objective is to make the contents of an image repository of historical photographs and the associated contextual information accessible to different target groups. This is done with the help of a 4D browser that presents the information in a three-dimensional model with an additional temporal component.

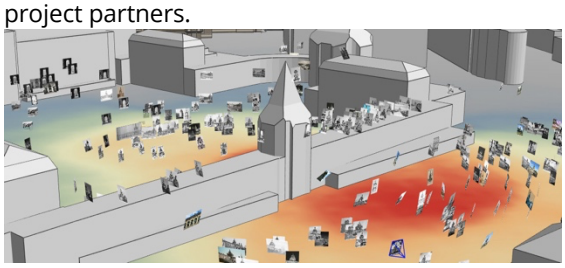
Summary

At the heart of the project "HistStadt4D" stands an online tool which aims to make the contents of extensive repositories of historical photographs and their contextual information accessible to different target groups. This is achieved via a 4D browser, which presents the information in a three-dimensional spatial model with an additional temporal component.

The project

Since 2016, the staff of the BMBF-funded project "HistStadt4D - Multimodal Access to Historical Image Repositories" has been working on making historical and art-historical content such as historical photographs or maps accessible to different target groups using modern methods (such as the online tool at the heart of the project) and providing a modern tool for the development of scientific questions.
In April 2021, the project will already be completed, but at the beginning there was the vision to interactively explore a historical city center with the help of a mobile device or a multidimensional web tool and to obtain detailed background information. This vision finally turned into the objective to develop and explore methods and technologies that allow the transfer of extensive image repositories and the corresponding information into a three-dimensional spatial model that has an additional temporal component (4D). This way of presenting information can function as a research

tool or information database and communicate historical knowledge in a new way.
For this reason, the research activities within "HistStadt4D" also encompass many different disciplines. Since the project is already nearing completion, the core topics of 2020 have often been concerned with the maintenance and use of the tools and methods developed, or optimization possibilities have been evaluated on the basis of studies. The following brief descriptions will now also focus on these topics:
The *work on the 4D Browser* was now mainly concerned with various optimizations after demo sessions and the user studies of the various other areas. However, other main topics were also the visualization methods of statistical information and the workflow optimizations of the researchers.
In the area of *requirements and support options for working with media repositories,* one focus topic was to use usability tests and user surveys to evaluate the research procedure with the help of image repositories in art history and, based on this evaluation, to draw up recommendations for the further development of repositories and digital libraries. Especially the usability activities for the 4D browser of HistStadt4D could of course serve as a basis for optimizations of the tool.
In the area of *art history,* work was also done with user studies. A core topic here was the visual representation and its perception of no longer existing buildings and ruins in 3D reconstructions of historical architecture. In order to evaluate the tools created in the project, user studies were also carried out, which dealt specifically with the needs and requirements of the target group of art and architecture historians. These studies were also used to evaluate necessary optimizations and further possible uses.
In the field of photogrammetry, the focus was on the use and evaluation of various methods for feature detection and feature assignment between image pairs in order to reconstruct exact camera positions of historical photographs, among other things. Based on these applications, the possibility of placing these images in the 4D browser was also specified.
In addition to the 4D browser, a VR environment had already been developed in the area of augmented reality, with the help of which its urban scene could be virtually explored. This has now been further developed and evaluated using gamification methods to convey knowledge about the relationship between the historical object and historical photography.
In the coming months, the main focus of "HistStadt4D" will be on the completion of the project. In particular, the results of the various evaluations will be processed and the future use of the methods and technologies developed will be ensured through the coordination of potential future project partners.



Project information

Third-party funding donors	BMBF
Runtime	1.9.2018 – 31.8.2023
Tags	histstadt4D, urbanhistory, cultural heritage, digital humanities, photography, information science, art history, educational technology, geodetics, photogrammetry, media informatics, computer science, research tool, augmented reality, 3D, 4D
Project-coordination	Dr. rer. nat. Mathias Hofmann mathias.hofmann@tu-dresden.de Prof. Dr. Sander Münster sander.muenster@uni-jena.de Dr.-Ing. Florian Niebling
Project staff	Jonas Bruschke Rebekka Dietz Cindy Kröber Ferdinand Maiwald Dr. Heike Messemer (on parental leave) Anne Schimmeck Richard Joos Sandra Leik
Website	http://www.urbanhistory4d.org/wordpress/

Publications and lectures (selection)

Kröber, C., Messemer, H., Bruschke, J., Maiwald, F., Niebling, F., Münster, S.: A 4D Browser for Historical Photographs: Users between medial mediation and research. In: Bienert, A., Emenlauer-Blömers, E., and Hemsley, J.R. (eds.) EVA Berlin 2019. pp. P. 25-27. arthistoricum.net, Heidelberg (2020).

Kröber, C., Münster, S., Messemer, H.: Image Repositories and Research with Digital Images in the Field of Art History. In: Schöch, C. (ed.) DHd 2020 conference abstracts. pp. 87-90. DHd 2020 Spielräume: Digital Humanities zwischen Modellierung und Interpretation, Paderborn (2020).

Münster, S., Maiwald, F., Hofmann, M., & Perera, W. (2020, July). Introducing an automated pipeline for a browser-based, city-scale mobile 4D VR application based on historical images. DH2020, Ottawa.

Niebling, F., Bruschke, J., Messemer, H., Wacker, M., von Mammen, S.: Analyzing Spatial Distribution of Photographs in Cultural Heritage Applications. In: Liarokapis, F., Voulodimos, A., Doulamis, N., and Doulamis, A. (eds.) Visual Computing for Cultural Heritage. pp. 391-408. Springer, Cham (2020).

Hofmann, M., Münster, S., & Noennig, J. R. (2020). A theoretical framework for the evaluation of massive digital participation systems in urban planning. Journal of Geovisualization and Spatial Analysis, 4, 3, doi: 10/ggd8hh, URL: https://rdcu.be/b48L0.

In Medias Res without borders - development, assessment and recognition of media competences in the age of global communication (MEWB)

Summary

The increasingly networked media offerings with their dynamic worlds of symbols and life open up new spaces of experience for young people, but also have an influence on their personalities.
Therefore, from a professional and content point of view, the young generation needs adequate media education in order to promote the development of their age-appropriate abilities, to reflect critically and constructively on the growing range of media on offer, to select from these offers in a meaningful and needs-oriented way and to use media appropriately, creatively and socially responsibly for the development of their own personality.

Summary

The increasingly networked media offerings with their dynamic worlds of symbols and life open up new spaces of experience and adventure for young people, but they also have an influence on their personalities.
The young generation needs adequate media education from a professional and content point of view in order to promote the development of their age-appropriate abilities, to reflect critically and constructively on the growing range of media, to select from these offerings in a meaningful and needs-oriented way, and to use media appropriately, creatively, and socially responsibly for the development of their own personality.

The project

During the project period, an e-learning training for teachers, trainers, practice supervisors and social workers was developed with the aim of training their media skills. In addition, digital teaching and training materials were developed to provide options for action in their teaching and training environment, thus providing materials that they can use directly. The e-learning modules can be used flexibly as a replacement or supplement to the current curricula or other media-related educational offerings.
By translating the e-learning trainings into four different languages from May to September 2020, the broad dissemination of the online courses is guaranteed and supported by the transnational project partners from Germany, Ireland, Hungary and Spain within their network.
The testing of the e-learning modules and the subsequent evaluation of the e-learning modules ensured the quality of the online self-learning courses. At the end of the year, student teachers and pedagogical staff were invited to participate in the trial. There were 4,110 platform accesses to the German Opal course.
The innovative character of the self-learning courses lies in their holistic approach, which takes into account not only media competence in relation to the use of technical devices, but also critical thinking with the aim of active participation in a democratic society.

The project also relates to the European Commission's Communication which supports the prevention of radicalisation leading to violent extremism by "promoting critical thinking and media literacy, especially in the use of the internet and social media" [3]. Based on the experience and competences of the partners involved as educators, journalists, representatives of broadcasters and researchers, the transnational cooperation with partners from Germany, Ireland, Hungary and Spain contributes to the European priority area for European cooperation in education and training and takes into account key policy areas for the promotion of media literacy, which are mapped in the online self-study course.

Project information

Third-party funding donors	Erasmus +
Runtime	01.09.2018 – 28.02.2021
Tags	Digital teaching, transnational cooperation, global communication, media literacy, e-learning
Project-coordination	Marianne Liebold Mariane.Liebold@tu-dresden.de Dr. Nadine Schaarschmidt
Website:	https://mewb.weebly.com/

LOS - Learning Experience in OPAL through game elements

Summary

The results of the project "Learning Experience in OPAL through Game Elements" (LOS) are to support university lecturers in familiarising themselves with the topics of Game-Based Learning (GBL) and Gamification, to demonstrate the opportunities of these learning paradigms, to create further training and networking structures as well as to expand the central Saxon LMS OPAL with game ideas.

Summary

The results of the project "Learning Experience in OPAL through Game Elements" (LOS) are to support university teachers in familiarizing themselves with the topics of Game-Based Learning (GBL) and Gamification, to point out opportunities, to create training and networking structures as well as to enrich the central Saxon LMS OPAL in this context.

The project

LOS looked at gamification in higher education from different perspectives. The main goal was to use the existing technical infrastructure and to show its potential for Game-Based Learning. For this purpose, a workshop concept for teachers as well as guidelines for the gamification of OPAL courses were developed.

The train-the-trainer workshop concept "Parcours on Gamification (PonG)" addresses the target group of educators, initially in higher education. The focus is on the following:

- To show how the learning motivation (of the students) can be increased by the use of gamification (elements) in courses/online self-study courses and how this can enable an increased learning output as well as an individual learning experience.
- Support through the use of game elements to turn one's own teaching and learning context into a creative play and learning space.

The workshop and its individual stations are gamified in themselves, so that participants discover through various games and game elements which steps are important on the way to gamifying their own teaching-learning scenario. At the same time, variations of (analogue) game possibilities are shown. In connection with the seven phases of Design Thinking, educators are thus taught the "craft" and at the same time referred to methods for independent, creative engagement. The items/contents assigned to the stations are summarised in uniformly structured "fact sheets". The focus is on the reference back to play practice and its possible

[3] Declaration on promoting citizenship and the common values of freedom, tolerance and non-discrimination through education, Paris, 17 March 2015.

application to various teaching-learning scenarios. They can be used as handouts in the workshop and are simultaneously published in the OPAL course "SpielWiese 4 Game-Based Learning in OPAL".

The OPAL-course "SpielWiese 4 Game-Based Learning in OPAL" was set up in the course of the project. Structurally, the open course is based on PonG.

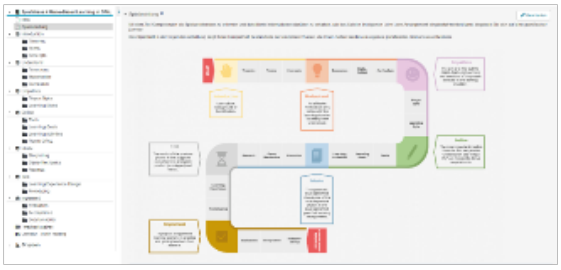


Figure 1: Screenshot "SpielWiese 4 Game-Based Learning in OPAL". [4]

The concept "Playful OPAL" forms the basis for gamifying teaching-learning arrangements in the LMS OPAL. It shows how game mechanics and ideas can be implemented with the available functions and learning tools of the LMS OPAL. For this purpose, Marczewski's "Periodic Table of Gamification Elemtents" is used as a scientific basis, as one of the most comprehensive collections and classifications of user:inside types (Tondello 2018) [5]. In Playful OPAL, the gamification periodic table was applied to the LMS OPAL, validated together with the e-learning support of the TUD, and 43 implementable game elements for teaching-learning contexts were derived from it.

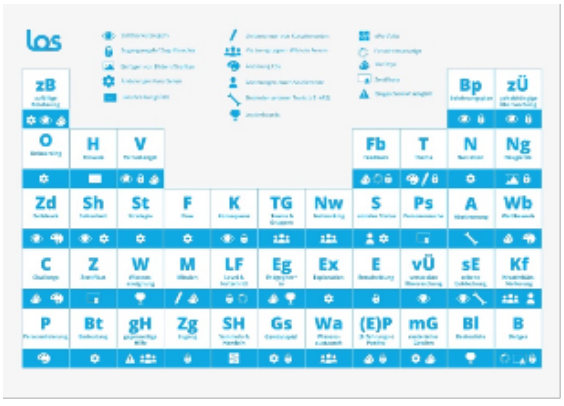


Figure 2: Playful OPAL

Project information

Third-party funding donors	Saxon Ministry of Culture, represented by the E-Learning Working Group
Runtime	01.07.2019 – 31.12.2020
Tags	Game-Based Learning, Gamification, Gamify Learning Management System, Gamification in Higher Education, Playful OPAL
Project-coordination	Dr. Helge Fischer helge.fischer@tu-dresden.deCorinna Lehmann corinna.lehmann3@tu-dresden.de Hélena Gottschalk
Website	https://tud.link/g25ohttps://edludo.mz.tu-dresden.de/

Publications and lectures (selection)

Fischer, H., Lehmann C., Gottschalk, H., Müller, J. & Heinz, M. (2020). Parcours on Gamification - A train-the-trainer concept to increase gamification readiness. In T. Köhler, E. Schoop & N. Kahnwald (Eds.), Communities in new media. From hybrid realities to hybrid communities. 23rd Workshop GeNeMe'20. communities in new media. Dresden, 07.-09.10.2020. Dresden: TUDpress, pp. 258-263.

Lehmann, C., Fischer, H., Gottschalk, H. (2020). Let's go -learning design with Playful OPAL. In: Kawalek, J.; Hering, K. & Schuster, E. (Eds.): 18th Workshop on e-Learning - Conference Proceedings. 24. September 2020, University of Applied Sciences Zittau/Görlitz. Scientific Reports, Issue 134 - 2020, No. 2751- 2766.

Lehmann, C., Fischer, H., Heinz, M. & Müller, J. (2020). Parcours on Gamification. How to get educators gamification-ready. In Proceedings of the

[4] Available at https://bildungsportal.sachsen.de/opal/auth/RepositoryEntry/20799979521/CourseNode/99936970164340

[5] Tondello, G., Mora, A., Marczewski, A., Nacke, L. (2018). Empirical validation of the Gamification User Types Hexad Scale in English and Spanish. International Journal of Human-Computer Studies. 10.1016/j.ijhcs.2018.10.002.

12th International Conference on Computer Supported Education - Volume 1: GonCPL, 687-693, 2020.

Fischer, H., Lehmann, C. & Heinz, M. (2020). Monsters in the Classroom? How to Promote Gamification Readiness of Educators. In C. Busch, M. Steinicke & T. Wendler (Eds.), Proceedings of the19th European Conference on e-Learning. A Virtual Conference hosted by University of Applied Sciences HTW Berlin, Germany 28-30 October 2020, Reading, UK: Academic Conferences International Limited, pp. 603-606 (Poster paper awarded Certificate of Merit, 1st Place).

Fischer, H., Lehmann C. & Heinz, M. (2019). Go for it! Learning experience through gamification. In: Köhler, T., Schoop, E., Kahnwald, N. (Eds.) Communities in new media. Exploring digital transformation in science, business, education and public administration. Dresden: TUDpress.

Mobile Study Assistance System (SAS)

Summary

The digital study assistance system gOPAL serves first-year students in STEM and teaching degree programmes as an interface to the diverse support services at the TUD. It provides gamified knowledge modules on subject content, campus, study processes and strategies to support the precarious initial study phase.

Summary

The digital study assistance system gOPAL serves first-year students in STEM and teaching degree programs as an interface to the wide range of support services at TUD. It provides gamified knowledge stores on subject content, campus, study processes and strategies to support the precarious study onboarding.

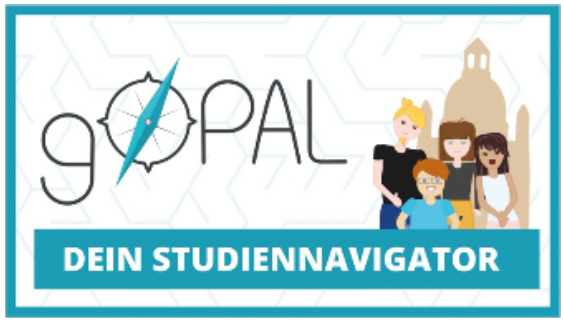
The project

Core activities

- Supervision of the runs of all established instances (gOPAL Electrical Engineering and Information Technology, gOPAL Economics, gOPAL Computer Science, gOPAL Teacher Training, gOPAL Computer Sciences)
- Conception, implementation and release of the new instance (gOPAL Mechanical Engineering) for the Faculty of Mechanical Engineering
- Revision and further development of the graphical user interface, visual aesthetics and narrative design
- Conception and implementation of further education courses on gamification for lecturers at Saxon universities (e.g. LiT.Shortcuts)
- Close cooperation with the LOS project, which served to transfer knowledge from SAS and resulted in a course, publications, lectures, workshops and blog posts.
- Supporting the development of the community for digital learning and gaming cultures and the edludo blog of the same name

Outlook

- Supervision of the new runs of all established instances (gOPAL Electrical Engineering and Information Technology, gOPAL Economics, gOPAL Computer Science, gOPAL Teacher Training, gOPAL Computer Sciences) in the summer semester 2021.
- Finalization and release of the instance gOPAL Mechanical Engineering in the summer semester 2021
- Expansion of the edludo blog and extension of the community of the same name
- Scientific monitoring of the project in the sense of a cohort-spanning evaluation to investigate the acceptance and success factors of gamification of service offers for students.
- Publications and lectures (selection), scientific support of gOPAL and risk categorization of gamification



Project information

Third-party funding donors	Higher Education Pact/ Saxon State Ministry for Science, Culture and Tourism
Runtime	01.01.2019 until 31.12.2021
Tags	Study success, study entry, onboarding, gamification,

	game-based learning, playful design, learning management system.
Project-coordination	Dr. Helge Fischer helge.fischer@tu-dresden.de
Project staff	Matthias Heinz
Website	

Publications and lectures (selection)

Fischer, H., Lehmann, C. & Heinz, M. (2020). Monsters in the Classroom? How to Promote Gamification Readiness of Educators. In C. Busch, M.Steinicke& T. Wendler (Eds.), Proceedings of the19th European Conference on e-Learning.A Virtual Conference hosted by University of Applied Sciences HTW Berlin, Germany 28-30 October 2020, Reading, UK: Academic Conferences International Limited, pp. 603-606. (joint with LOS, OA publication and poster presentation, 1st place).

Heinz, M. & Fischer, H. (2020). Played out? On the risks and side effectsgamification.In T. Köhler, E. Schoop & N.Kahnwald(Eds.), Communities in new media. From hybrid realities to hybrid communities. 23rd Workshop GeNeMe'20. communities in new media. Dresden, 07.-09.10.2020. Dresden:TUDpress, pp. 318-329. (OA publication and lecture).

Heinz, M. & Fischer, H. (2020). Onboarding by Gamification. Design and Evaluation of an Online Service to Support First Year Students. In Proceedings of EdMedia + Innovate Learning (pp. 693-702). Online, The Netherlands: Association for the Advancement of Computing in Education (AACE). (Publication and presentation)

Heinz, M., Fischer, H., Heitz, R., Breitenstein, M. & Köhler, T. (2020). The study assistance systemgOPAL. Supporting students in the study entry phase. In F. Schulze-Stocker, C. Schäfer-Hock & H.Greulich(Eds.),*Ways to study success.Analysis, measures and perspectives at the Technische Universität Dresden 2016-2020 (with the collaboration of AnneJaschan)*(pp. 119-152).Dresden:TUDpress. (OA publication)

Lehmann, C., Fischer, H., Heinz, M. & Mueller, J. (2020). PonG:Parcourson Gamification - How to Get Educators Gamification-readyIn Proceedings of the 12th International Conference on Computer Supported Education, May 2-4, 2020 - Volume 1:GonCPL,Praguepp. 687-693.DOI: 10.5220/0009804406870693 (joint with LOS, publication and presentation).

OLGA - Optimisation of land use along water bodies and on agricultural land for the sustainable development of the Dresden region based on hydrological, forestry, environmental-psychological & economic research and implementation work

Summary

The topic of the project is regional sustainable development in the Dresden area. This must be analysed, expanded and optimised. It is particularly important to promote and structure citizen science projects. These will be optimised and established on the basis of analyses of the motivation for citizen participation in Citizen Science projects. The active participation of civil society will be evaluated during the process.

Summary

The subject of the project is a regional sustainble development in the Dresden area. This must be expanded, optimized and analyzed. It is particularly important to promote and structure citizen science projects. These will be optimized and established by analyzing the motivation for citizen participation in citizen science projects. The active participation of the civil society will be evaluated during the process.

The project

Regional sustainable development pursues the goal of reducing the economic and social distance between rural and urban areas, based on the political goal of equal living conditions in all areas of Germany. Therefore, the project OLGA tries to intensify the integration of the project region Dresden, to strengthen regional economic cycles, to optimize ecosystem functions and to promote mutual understanding within the population. The thematic focus of the project is thus concentrated on the interdependent areas of energy, food and water. These are basic components of human needs. Especially the limited resource of land can lead to

conflicts between actors in view of sustainable and at the same time economically viable land use. Through four interlinked modules (1) flowing waters/wood use, (2) distribution channels/biodiversity, (3) participation/citizen science, (4) integration/project management), approaches to solutions and options for action are to be generated for regional and sustainable development in the Dresden area. In doing so, science, civil society, economy and partners from municipalities work closely together.

Module 3 deals with the conception and evaluation of civil society participation and citizen science measures. Citizens are actively involved in the work of the project. This participation will be systematically researched within Module 3. The aim is to identify and establish potential motivators such as gamification approaches, monetary incentives, training, nudges, etc. in general as well as specifically for regional citizen science activities. This process will also be evaluated within those subprojects of OLGA with citizen science components.

In cooperation with the Umweltzentrum Dresden e. V., a citizen science project has been in the making since mid-2020 and is currently developing methods. Its goal is to make regional value chains as short as possible. The aim is to investigate how well gastronomy and retail (bakeries, butcher shops, restaurants, snack bars, etc.) can supply themselves with regional products and what obstacles and hurdles may exist. In this context, citizen participation will take the form of an app that civil society will use to conduct surveys with staff in the restaurants and retail outlets they visit and use on a daily basis. Within these surveys, the motivational factors and the evaluation of this civic participation will also be collected. The aim is to implement and further develop the results in following Citizen Science projects, also within the OLGA project. The survey is planned for mid-2021.

For 2021, another Citizen Science project in cooperation with the Chair of Biodiversity and Nature Conservation at the TU Dresden is planned. This project is currently in the planning phase.

Networking with existing and implemented Citizen Science projects is also very important for this module. To this end, workshops of the platform *Bürger schaffen Wissen (Citizens Create Knowledge)* and the *Zukunftsforum ländliche Entwicklung (Future Forum for Rural Development)* were attended, and an exchange with other projects of the BMBF funding programme Stadt-Land-Plus (e.g. WertVoll) and currently implemented regional citizen science projects (e.g. SLUB) was established.

Project information

Third-party funding donors	Federal Ministry of Education and Research
Runtime	01.04.2020 – 31.3.2023
Tags	Citizen Science, citizen participation, civil society, active, motivators, evaluation, survey, regional, sustainable, city, countryside
Project-coordination	Mathias Hofmann mathias.hofmann@tu-dresden.de
Project staff	Ramune Pansa
Website	https://www.projekt-olga.de

Online Self-Assessments for prospective engineering students (OSA 3.0)

Summary

In the project OSA 3.0, an online self-assessment offer is being developed that is intended to support a targeted examination of engineering science courses of study prior to graduation. The OSA promotes a conscious decision to study and helps to avoid a confrontation with false expectations in order to counteract later dropouts.

Summary

In OSA 3.0, an online self-assessment is being developed to support focused pre-study engagement with engineering degree programs. The online self-assessment helps to make a conscious choice of studies and prevents students from

starting their degree course with false expectations in order to avoid dropping out later.

The project

The project team consists of employees from the following institutions: The Faculty of Electrical Engineering and Information Technology is primarily responsible for the selection and preparation of the subject content. The Chair of Work and Organizational Psychology is responsible for the development of the module Study Orientation as well as the creation of a requirements profile for the pilot module Engineering Sciences. The task of the media centre in the project is the development of the didactic design as well as the technical implementation of the offer.
In the year under review, this included the following activities in particular:
The finalization of the didactic design as well as the final implementation of the conception for the graphical user interface of the OSAs of the study programs Electrical Engineering and Mechatronics followed. The latter included the revision of the color design based on the corporate design of the TU Dresden as well as an adaptation of the UI elements - here especially icons, information boxes and pop-up menus. Furthermore, the usability testing of the OSAs with the target group was prepared. For this purpose, a rough concept for remote usability testing was developed and tested in initial test runs in order to be able to carry out the testing on a larger scale.
In the following year, usability testing with the target group is scheduled. In addition to a concept for the remote testing, a concept for the long-term evaluation of the OSAs will also be developed, which aims at surveying the satisfaction with the tool as well as the subjective experience of effectiveness. Furthermore, the implementation of the OSA for the field of mechanical engineering is planned.

Project information

Third-party funding donors	Higher Education Pact/Saxon State Ministry for Science, Culture and Tourism
Runtime	01.09.2019 until 31.12.2021
Tags	Study success, study orientation, online self-assessment, self-assessment test, learning management system
Project-coordination	Theresia Zimmermann theresia.zimmermann@tu-dresden.de
Project staff	Regine Thiering Andy Batzdorf
Website	https://tud.de/deinstudienerfolg/osa

Publications and lectures (selection)

Kuß, J., Abdel-Haq, A., Jacob, A., Zimmermann, T. (2020). Development of online self-assessments for engineering courses at the TU Dresden. In F. Schulze-Stocker, C. Schäfer-Hock & H. Greulich (Eds.), *Paths to academic success. Analysis, measures and perspectives at the Technische Universität Dresden 2016-2020 (with the collaboration of Anne Jaschan)* (pp. 241-270). Dresden: TUDpress. (OA publication). Online at: https://nbn-resolving.org/urn:nbn:de:bsz:14-qucosa2-728809

ReGerecht - Regional justice - Integrative development of an equitable balance of interests between the city, urban hinterland and rural areas

Summary

The BMBF project ReGerecht investigates how integrated development between cities, urban areas and rural areas can succeed. In the model region of Schwerin/West Mecklenburg, the focus is on topics such as settlement development, wind energy, ecosystems and digitalization. The digitalization work package examines how the digital transformation can promote a fair balance of interests between urban and rural areas.

Summary

The BMBF project ReGerecht investigates how integrated development between cities, urban areas and rural regions can succeed. In the Schwerin/West Mecklenburg model region, the focus is on topics such as settlement development, wind energy, ecosystems and digitization. The digitalization work package is investigating how the digital transformation can promote a fair balance of interests between urban and rural areas.

The project

The BMBF project ReGerecht explores the question of how integrated development between urban, peri-urban and rural areas can succeed if it is based on the principles of equity and cooperation. The project follows a methodical co-creation approach that involves regional practice partners and, together with local actors, proposes solutions that are applied to concrete problem situations in the model region but can also be transferred to other regions. In the model region of Schwerin and West Mecklenburg, the focus is on topics such as settlement development and open space preservation, wind energy and also digitalization.
In the ReGerecht project, the Media Centre of the TU Dresden has addressed the question of what contribution digitization can make to enabling a fair balance between urban and rural areas. Politically accompanied and socially supported, the digital networking of the region can defuse or even eliminate existing inequalities and the resulting injustices between the city, the surrounding area and rural communities. The prerequisite for this is an orientation towards the reality of life in communities and regions and the involvement of local actors in decisions.
Three major topics have shown particular potential to contribute to a deeper urban-rural interdependence and a fair balance of interests through digitization: (1) digitization as a development engine for the region, (2) digital solutions in services of general interest, and (3) digitization in politics and administration.

(1) Digitisation serves as a development driver for regions

Access to digital infrastructures is a decisive location factor for many citizens when deciding to settle within certain regions. The digital region increases the visibility of rural communities and strengthens joint location policies. The prerequisite for the success of this regional integration is long-term urban-rural partnerships and inter-municipal cooperation that is designed to last and the joint development of regional (digital) strategies that translate social and technological innovations into local contexts. This requires a common legal framework for action and organisation within the region.

(2) Digitisation helps to improve services of general interest on the ground

The safeguarding of public services is still a problem for many rural communities in West Mecklenburg in the face of scarce finances, increasing migration and an ageing population. Compared to urban centers, rural communities are often structurally disadvantaged in various areas of public services such as mobility, culture, education, health and care, and local supply offerings. Digitization can also help to support voluntary (co-)work in the provision of public services, which is often the basis for local self-government, especially in rural communities. Through citizen (co-)administration, public goods and services are co-designed and co-supported by citizens. For example, they can be involved in the procurement of information, e.g. as a defect reporter, can offer citizen advice and relieve offices with e.g. preliminary application checks or be involved in the care of public infrastructures and thus organise e.g. citizen buses or care transport.

(3) Digitalisation improves the efficiency of politics and administration

In the digital region, networked municipalities and new technologies can improve cooperation and reduce inequalities between urban and rural areas, for example by developing new solutions for public services through digital mobility concepts, telemedicine or digital education. Scarce financial and human resources in public administration put small municipalities at a particular disadvantage. The digital region can relieve the burden on rural communities in particular, if resources and competencies can be pooled through jointly used infrastructures. Digitalisation can strengthen rural areas as places of innovation and be a field of experimentation for new developments such as e-government, e-learning, smart technologies or open data in administration and spatial planning.

Project information

Third-party funder	BMBF funding measure "Zukunftsstadt/Stadt-Land-Plus" (city of the future/urban-rural-plus)
Runtime	1.9.2018 – 31.8.2023

Tags	Regional development, digitalisation, urban-rural interdependence, equity
Project coordination	Prof. Thomas Köhler
Project staff	Sabine Barthold
Website	

Publications and lectures (selection)

Weith, T., Köhler, T. (2019) The impact of digitalization on knowledge genesis in the context of sustainable development. Synergy, 7, 70-73.

Barthold, Sabine (2020): Digitalization in changing urban-rural linkages. Blog: Digital for All, https://digitalfueralle.mz.tu-dresden.de/?p=256

Digitalisation in the ReGerecht project. Presentation at the "Digitalisation Working Forum" of the cross-sectional project Zukunftsstadt/Stadt-Land-Plus, 6 February 2020, Federal Environment Agency, Bismarckplatz 1, Berlin, Presentation available online: https://www.zukunftsstadt-stadtlandplus.de/files/zukunftsstadt-statdtlandplus/Statusseminare%20Workshops/Querschnittsthemen%20Workshops/Digitalisierung/20200602_Stadt-Land-Plus_Workshop_Digitalisierung_ReGerecht.pdf

SFG - Designing study programmes flexibly

Summary

The aim of the project is to make study programmes more flexible at course and programme level. One of the aims is to prevent students from dropping out of their studies due to their financial or family situation. Accordingly, various solutions are being developed and tested at the different levels.

Summary

The objective of the project is to make study programs more flexible at the course and program level. One of the aims is to prevent students from dropping out of their studies due to their financial or family situation. Accordingly, various solution approaches are being developed and tested at the different levels.

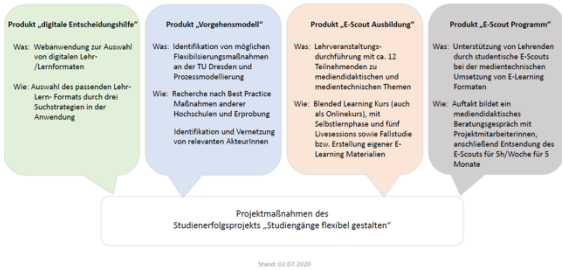


Fig. 1: Project development

The project

Four products will be developed and partially tested within the framework of the project (Figure 1):

(1) E-Scout qualification
The E-Scout Qualification is a seminar that was developed in 2019/20 and conducted in the summer semester 2020 with 9 and in the winter semester 2021 7 students at the TU Dresden. The seminar consists of five live sessions, which are conducted online, as well as a self-study course in OPAL course, through which students can acquire the prepared knowledge. The seminar can be attended via the studium generale and in the supplementary area for teaching and the Faculty of Language, Literature and Cultural Studies. The aim is that students are able to implement e-learning scenarios (e.g. creation and supervision of OPAL courses, creation of e-tests in ONYX, supervision of online workshops, etc.). In addition, after completing the seminar, students can be deployed as e-scouts in the e-scout programme.

(2) E-Scout programme
Within the framework of the E-Scout programme, trained student E-Scouts (see product (1) E-Scout Qualification) are sent to teachers at the TU Dresden for five hours per week for one semester in order to support them in the implementation of e-learning scenarios in terms of media technology. The scope and goals of the assignment are defined in a media-didactic discussion with the project staff. These are then implemented by the e-scout and the university lecturer. The aim is to support teachers in the implementation of e-learning scenarios and to give them impulses to improve their own teaching (Figure 2). In 2020, a total of 16 teachers were supported.

Fig. 2: Flexibilisation in teaching

(3) Digital decision support
The digital decision support is a web application that provides university lecturers at TU Dresden with low-threshold information on various options for making their teaching more flexible through the use of digital teaching/learning formats and media, as well as the corresponding internal university support services (Figure 3). The aim is to provide an initial overview of the didactic and technical possibilities, in order to build on this and make use of the individual advisory services of the corresponding service points at TU Dresden.

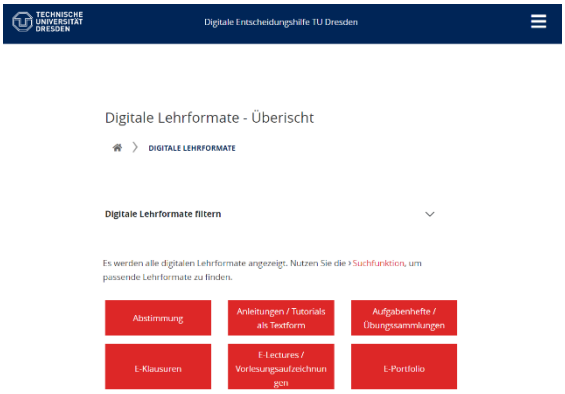


Fig. 3: Current status

(4) Procedure model
Within the framework of a process model, processes at the TU Dresden are mapped that enable teachers and other stakeholders to gain insights into how studying can be made more flexible (e-learning, postponement of courses, part-time study, etc.). The product includes a documentation of the flexibility options for the TU Dresden and an identification of relevant actors.
The project ends on June 30, 2021. The goal is to transfer the digital decision support, the e-scout program and possibly the e-scout qualification to the ZiLL in order to sustainably anchor the developed products at TU Dresden after the end of the project. For this purpose, the application for the follow-up project "Digital Teaching Hand in Hand" is being worked on at the moment. This is to be realized in cooperation with the ZiLL and financed by the SMWK within the framework of funds from the expiring Higher Education Pact 2020 and from the Future Contract.

Project information

Third-party funder	University pact within the framework of the study success concept of the TU Dresden
Runtime	01.07.2016 – 30.06.2021
Tags	Flexibilisation of teaching, e-scouts, e-learning offers, digitisation of teaching
Project coordination	Maria Müller maria.müller@tu-dresden.de
Project staff	Marlen Dubrau Kathrin Möbius Tatsiana Dashuk
Website	https://tud.link/vbvi

Publications and lectures (selection)

Dubrau, M, Riedel, J. & Lehmann, C: Flexibles Studieren an der TU Dresden, In: Wege zum Studienerfolg, F. Schulze-Stocker, C. Schäfer-Hock & H. Greulich (2020). Open Access: https://nbn-resolving.org/urn:nbn:de:bsz:14-qucosa2-728809

STUPS - Urban nature supports psychological well-being

Summary

The aim of the STUPS project is to find out, within the framework of a meta-analysis and a systematic review, how urban nature, including virtual nature in everyday life, can contribute to the mental health of residents. Knowledge about effects and mechanisms of action of urban nature contributes to a targeted implementation.

Summary

The project STUPS aims to provide a sound synthesis of findings regarding urban greenspace and linked mental health of residents, involving both a

meta-analysis and a systematic review. Knowledge about effects and mechanisms of urban nature supports a targeted intervention in real life situations.

The project

A large proportion of people already live in cities, and the trend is rising. The space in cities is limited and the interests of use are varied. The preservation, management and creation of urban green space is therefore always associated with complex decisions that often lack the necessary data. Fortunately, there are now a significantly larger number of methodologically good studies on this topic. In the STUPS project, we summarise these studies in the form of a meta-analysis and a systematic review. In doing so, we look at both the effectiveness of green spaces, but also at more subtle elements of urban nature such as houseplants or virtual nature. We identify the most effective forms and conditions of exposure to nature that promote mental health and that can be implemented in the context of concrete measures to shape living conditions in Germany.

The results help to improve the mental health of the population efficiently and sustainably and to quantify the potential of relieving the German health care system through the preventive use of nature. The project lays the foundations for further studies comparing the effect of real and virtual nature on mental well-being.

Project information

Third-party funding donors	Federal Ministry of Education and Research
Runtime	01.05.2020 – 30.04.2021
Tags	urban nature, mental health, urban, virtual nature
Project coordination	Mathias Hofmann mathias.hofmann@tu-dresden.de
Project staff	Marilisa Herchet Marek Venený Timon Krause

tech4comp - Personalized competence development through scalable mentoring processes

Subproject of the TUD: **WP 4 "Mentoring support tools WP 6 "Organizational implementation**

Summary

The aim of the sub-project is to develop a mentoring workbench (working environment) that offers teachers and students information about individual learning processes. In addition, the necessary personnel and organizational development as well as the piloting of the tools developed in the project will be supervised in a so-called testbed (trial scenario).

Summary

The aim of the subproject is to develop a mentoring workbench (working environment) that offers teachers and students information about individual learning processes. In addition, the required personnel and organizational development as well as the piloting of the tools developed in the project in a so-called testbed is supervised.

The project

The MZ coordinates the work tasks in WP 4 - Mentoring Tools. The goal of the work package is to design, develop, and evaluate digital tools to support mentoring in digital learning environments. To this end, WP 4.1 first analyzed existing educational technologies for their use in mentoring processes. It includes possible technical supports for mentoring tasks in both existing infrastructures and with the help of external technologies. In preparation for the technical conception (WP 4.2) for the integration of various tools, a technical analysis of the university infrastructures and the data processing infrastructures provided by the collaborative partner at RWTH Aachen University was carried out. With regard to the technical implementation of the Mentoring Workbench, a technical concept for the

integration of external mentoring tools into existing learning infrastructures was developed on the basis of the analysis results. This concept provides for the use of Web Components as a modular and flexibly adaptable form of content presentation. The information for generating the content is obtained from the infrastructure of the peer-to-peer network provided by the collaborative partner in WP3. This forms the basis for the mentoring workbench loop defined in WP4. This loop defines how data is exported from proprietary LMSs to external infrastructures (las2peer) so that it can be processed there and then embedded in existing LMSs as external, person-specific content. The first components of the infrastructure have already been implemented and the Mentoring Workbench workflow has been tested for two use cases in the testbed of the MZ.
The MZ also leads WP 6 - Organizational Implementation. The work package aims at the organizational-institutional and technological integration of the developed technologies and usage routines at the application partners. In particular, (data protection) legal requirements must be taken into account. First of all, a literature review on the organisational implementation of mentoring at universities was carried out. This summarises the current literature on organisational requirements for the implementation of mentoring tools and forms the basis for the subsequent requirements analysis. In addition, an intensive examination of the data protection requirements for an organisational implementation of e-mentoring tools took place. In cooperation with the data protection officer of the TU Dresden, a handout was created on how to deal with data protection requirements.
In the testbed (WP 8), two use cases were prepared for evaluation and new teaching content was adapted for this purpose, corresponding elements and materials were created, and the use in teaching conducted completely online due to the pandemic was tested in a fully automated manner. For the evaluation of the application, a study design was developed that allows statements on the effectiveness and usability of the interventions used.

Project information

Third-party funding donors	"Innovation potentials of digital higher education" - Federal Ministry of Education and Research (BMBF)
Runtime	01.10.2018 - 31.03.2022
Tags	Digital Higher Education, Mentoring, Mentoring Workbench
Project management	Prof. Dr. Thomas Köhler thomas.koehler@tu-dresden.de
Project-coordination	Jana Riedel jana.riedel@tu-dresden.de
Project staff	Björn Adelberg Julia Zawidzki
Website	https://tud.link/xxnf

Publications and lectures (selection)

Riedel, J., Schulze-Achatz, S. & Zawidzki, J. (2020). Using Educational Technologies For Supporting Mentoring Processes In Higher Education. *Journal of Educational Multimedia and Hypermedia* (2020) 29(4), pp. 361-379. Retrieved November 10, 2020 from https://www.learntechlib.org/primary/p/217505/.

Riedel, J., Adelberg, B., Zawidzki, J., Schulze-Achatz, S. (2020): Creating an Infrastructure to integrate specialized services to proprietary LMS. In: L. Gómez Chova, A. López Martínez, I. Candel Torres (Eds.). ICERI2020 Proceedings13th International Conference of Education, Research and Innovation November 9th-10th, 2020 (pp. 1846-1854).

Zawidzki, J., Schulze-Achatz, S., & Vu, N. H. (2020). Digital teaching and learning support at German universities - Requirements and framework conditions for the implementation of a mentoring workbench. In T. Köhler, E. Schoop, & N. Kahnwald (Eds.), *Communities in New Media. From hybrid realities to hybrid* communities (pp. 279-288). Dresden: TUDpress

The Third Way (T3W): Development of a new curriculum that supports and promotes Social Enterprise as a destination of choice for European vocational and higher education graduates

Summary

The project The Third Way was developed to improve communication and knowledge exchange between the vocational and higher education sector and social enterprises (the so-called *third sector*). The project focuses on the development of a new curriculum for students from different educational sectors who want to become social entrepreneurs and/or start social enterprises.

Summary

The Third Way is a project devised to improve communication and knowledge sharing between the vocational and higher education sector and social enterprises (The so-called Third Sector). At the heart of the project proposal is the development of a new curriculum pathway for students from different educational domains around vocational and business subjects wishing to become social entrepreneurs and/or create social enterprises.

The project

T3W aims to narrow the gap between traditional business curricula in vocational and higher education and the growing social enterprise sector. As more and more young people across Europe turn to social enterprises, our project aims to support their decision and accompany them on their journey. We are calling on universities with a focus on education and enterprise development to work with European social enterprises to develop a curriculum for business undergraduates in partnership with the third sector.
T3W's primary goal is to create innovative and accessible learning programs that promote understanding and awareness of social enterprise. The aim is to target not only students and graduates, but also lecturers who deliver business-related content at universities.
A key outcome of the project should be the exchange of knowledge and the potential for greater mobility within the EU.

T3W is committed to the Sustainable Development Goals and advocates social inclusion in education and training and Open Education.
The outcome of the project is an integrated pan-European approach to educational support for social business in all its forms. This will be supported by the following five objectives:

1. Identifying and analysing the detailed requirements of relevant stakeholders across Europe to determine their needs
2. The establishment of a platform for communication, cooperation, training and resources
3. Prototyping a social entrepreneurship curriculum for business support, available both online (as a MOOC) and as a face-to-face course.
4. The development of European networks of social entrepreneurs
5. Providing internships and work experience in various European social enterprises.

A special highlight of the past year was also the development of social entrepreneurship online workshops in Belarus together with the social4enterprise project.

Project information

Third-party funding donors	Erasmus +, NA BIBB
Runtime	09/2019 – 02/2022
Tags	Social enterprise, digital media formats, third sector, internationalisation
Project-coordination	Prof. Dr. Thomas Köhler
Website	thethirdway.eu

Publications and lectures (selection)

Köhler, T., Schoop, E. & Kahnwald, N. (2020). Communities in New Media. From hybrid realities to hybrid communities. Proceedings of 23rd Conference GeNeMe 2020. Dresden, TUDPress. https://nbn-resolving.org/urn:nbn:de:bsz:14-qucosa2-728085

Time Machine/ Time Machine Project Center

Summary

What would the world look like if we could access documents from the past as easily as data from the present? Could we use them to derive better forecasts for the future? Would it be possible to more consciously shape climate change and development based on the extensively documented records? Could historical 4D simulations improve our knowledge of European history? What innovative business models will boost tourism, transport and planning? The "Time Machine" is a technology development project and aims at the large-scale digitization, semantic indexing and multimedia accessibility of the past in the sense of a "Google for History".

Summary

What would the world look like if we could access documents from the past as easily as data from the present? Could we use them to derive better forecasts for the future? Would it be possible to more consciously shape climate change and development based on the extensively documented records? Can historical 4D simulations improve our knowledge of European history? What innovative business models will boost tourism, transport and planning? The "Time Machine" is a technology development project and aims at large-scale digitization, semantic indexing and multimedia accessibility of the past in the sense of a "Google for history".

The project

History is already an important economic factor. Europe is the world's most visited continent and the tourism industry is responsible for 10% of GNP. In Saxony, the tourism industry reported EUR 4.3 billion in sales in 2015 alone. As an economic sector, "Silicon Saxony" comprises around 2,300 companies with a total of 60,000 employees, and the creative industry is responsible for 6.8% of the EU GNP. Against this background, the Time Machine initiative promotes the sustainable positioning of a whole range of important economic sectors in Europe and Saxony by combining history-driven and digital innovation. The Time Machine was selected in late 2018 as one of six projects by the EU for a preparatory CSA phase to develop recommendations for a roadmap and work for a research programme in digital cultural heritage for a next decade by March 2020. This includes the development of corresponding roadmaps, activities and governance for the large-scale project. In addition, TU Dresden is responsible for "Human Computer Interaction and Visualisation" in the work package "Technology and Theory".
Through the work of the coordination office, 112 German partner institutions (previously 59) have now been united in the Time Machine - with Saxony representing the strongest participation. Approximately 20 Dresden research and memory institutions as well as companies are now part of the Time Machine - among them, for example, the Dresden publishing house and the Dresden Chamber of Commerce and Industry.
In addition, 5 regional offshoots have already been founded in Germany - in Saxony, in addition to the Dresden Time Machine, a Leipzig Time Machine is currently being founded with the participation of the State Archive and the InfAI, among others. The Dresden Time Machine is a lead project of the city's Capital of Culture 2025 application and will be continued regardless of the failure of the application.

Project information

Third-party funding donors	Horizon 2020 / SMWK
Runtime	1.6.2019-29.2.2020
Tags	4D Simulation, Digital Humanities, Cultural Heritage, Urban History
Project-coordination	Prof. Dr. Thomas Köhler thomas.koehler@tu-dresden.de Prof. Dr. Sander Münster sander.muenster@uni-jena.de
Website:	https://www.timemachine.eu/

TUD-COIIIL - collaborative online international, interdisciplinary, intercultural learning

Summary

TUD-COIIIL is one of 48 projects selected by the DAAD for its "International Virtual Academic Collaboration" programme. The project demonstrates how mobility and exchange succeed despite Corona: In cooperation with Stellenbosch University in South Africa and Shiraz University in Iran, collaborative online teaching at TU Dresden is being expanded.

Summary

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The project

Studies show that digital, collaborative learning arrangements that address higher levels of competence will increase in didactic importance in the future. They also complement traditional mobility and thus meet the Europe-wide demand for more inclusion of target groups that are less mobile by enabling international and intercultural experience in the context of "internationalisation @home". Despite disruptive changes in response to the COVID-19 pandemic, there is a lack of proven, standardised solutions for a sustained deployment of innovative approaches across the board. The reasons for this are:

a) Lack of exchange possibilities on the didactics of digital group learning formats
b) Lack of standards and frameworks for digitisation and internationalisation
c) Inadequate support services based on human and technical resources.

In order to solve these problems, the activities and results of the current funding project TUD-COIIIL will be brought in and the following approaches will be proposed:

a) Establishment of a community of digitisation and internationalisation experts and interested parties at the TUD and its moderation by qualified community managers. The goals are
a. Increasing the visibility of existing offerings,
b. Supporting proactive actors in their actions, and
c. Motivation and facilitation of access for interested parties through broad didactic support and mentoring offers.
b) Provision of an open best practice framework for the digitisation of collaborative, international learning arrangements and partnership work between universities, taking into account interdisciplinarity and interculturality. Interested parties should be involved in a participatory way through innovative formats such as hackathons, open space workshops and barcamps.
c) Expansion of existing learning analytics solutions for didactic support of collaborative, international online formats. Automated access to learner interaction data enables the creation of information dashboards and conversational agents. These can be used to save resources and increase quality.
a. improve the objectivity of the observation of collaborative learning processes and the assessment of learning objectives achieved,
b. promote the personalisation of group and individual support and feedback, and
c. increase intrinsic motivation in learning groups through appropriate gamification elements.

For the summer semester 2021, an interdisciplinary online seminar is being organized with the University of Shiraz, which is aimed at students of engineering and economics. They will be accompanied by student e-tutors whose training includes dealing with intercultural diversity.

Project information

Third-party funding donors	DAAD
Runtime	09.2020 – 09.2021
Tags	Interdisciplinarity, intercultural learning, collaborative learning, mobility
Project-coordination	Prof. Dr. Eric Schoop eric.schoop@tu-dresden.de Prof. Dr. Thomas Köhler thomas.koehler@tu-dresden.de Prof. Dr. Alexander Lasch

alexander.lasch@tu-dresden.de

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Teaching with digital media in Saxony - UndiMeS

Summary

Under the patronage of the Prime Minister of Saxony, scientists from the TU Dresden and the University of Leipzig are jointly developing innovative approaches for teacher training and continuing education in the digital age in "UndiMeS". The focus is on strengthening their media competence and media education.

Summary

Under the patronage of the Prime Minister of Saxony, scientists from the TU Dresden and the University of Leipzig are working together in "UndiMeS" to develop innovative approaches to teacher training and (their) further education in the digital age. Both are focusing on strengthening (future) teachers' media competence and media education.

The project

The first year of the project started with the patronage of the Prime Minister of Saxony, and the increased digitalisation of learning in the context of the Covid 19 pandemic-related school closure underlined the importance of media pedagogical competences of teachers. Designing tailored support services for their development can only succeed in close cooperation between all stakeholders: An initial exchange of experiences took place during a first virtual milestone workshop with over 40 participants from schools and school administration in June 2020. The advisory board, which was constituted in December, will continue and support this exchange throughout the entire project period. The advisory board members include the Vice-Rector for Education and International Affairs of the University of Leipzig, the Managing Director of Dresden International University GmbH, as well as representatives of the Saxon State Ministry of Education and Cultural Affairs, the State Office for Schools and Education, and the Media Education Centre Saxon Switzerland-Eastern Mountains.

In the sub-project of the Technical University of Dresden, an innovative and modern online continuing education at an academic level is being developed under the direction of Prof. Thomas Köhler, which brings together scientific findings on quality characteristics and success factors with the needs of the target group. Conceived as an in-service digital self-learning offer, the continuing education thus responds to modern life plans of the target group and a changing working world. In 2020, the module plan for the online training was completed and presented to the advisory board. The planned web application focuses on the one hand on the development of knowledge and skills, and at the same time also considers the teachers' own media skills and media attitudes. Accompanying processes for organisational integration and for the design of certification possibilities were outlined and conditions for success for teacher training in the digital space were researched. The resulting morphological box enables an initial classification of the online training in "UndiMeS" and underlines its innovative character in this context. This is also emphasised by the development and integration of a community: Borrowing from the concept of smart communities, opportunities for collaborative and cooperative work between teachers are enabled in the product itself. The connection between knowledge acquisition, competence development and joint processing of practical concepts enables a transfer of practice that could also be deepened in digital presence phases in the future. The Technology Enhanced Teaching Labs set up at the Media Centre as part of the project give the project team the opportunity to develop their own learning units with innovative technologies and to test them (virtually) together with the target group.

In 2021, the first modules will be developed as prototypes and tested and adapted with the target group.

Project information

Third-party funding donors	Federal Ministry of Education and Research (BMBF)
Runtime	01.01.2020 – 31.12.2022
Tags	professional development, teacher training, online self-study course, technology enhanced teaching
Project management	Prof. Dr. Thomas Köhler thomas.koehler@tu-dresden.de
Project-coordination	Dr. Sylvia Schulze-Achatz Sylvia.Schulze-Achatz@tu-dresden.de Corinna Lehmann corinna.lehmann3@tu-dresden.de
Project staff	Lydia Drewanz Ines Herrmann Lisette Hoffmann Josefin Müller Dr. Nadine Schaarschmidt
Website	www.undimes.de

Virtual teaching collaborations

Summary

The aim of the joint project was to pilot a cross-university teaching network, taking into account the didactics of collaborative teaching and learning, also for cooperation with international partners. Furthermore, the non-disciplinary qualification of pedagogical staff to strengthen the effectiveness of students' self-direction in online or blended learning scenarios, for example through the acquisition of competences and skills of online tutoring, is to be promoted. Finally, Saxony-wide pre-courses and online self-assessments using and creating OER will be supported in individual cases.

Summary

The aim of the joint project was to pilot a cross-university teaching network, taking into account the didactics of collaborative teaching and learning, also for the cooperation with international partners. Furthermore, the non-disciplinary qualification of pedagogical staff to strengthen the effectiveness of student self-direction in online or blended learning scenarios, for example by acquiring competencies and skills in online tutoring, is to be promoted. Finally, Saxony-wide pre-courses and online self-assessments using and creating OER will be supported in individual cases.

Bildungsportal Sachsen
Die sächsische E-Learning-Landesinitiative

Virtuelle Lehrkooperationen 2019/2020

The project

The joint project "Virtual Teaching Cooperation", which comprised five sub-projects at various Saxon universities, ended in December:

- **Initiative for the development of a multilingual teaching and learning environment** (Prof. Dr. Kirstin Hoffmann, West Saxon University of Applied Sciences Zwickau and Dr. André Matthes, TU Chemnitz)
- **An open, digital learning world for virtual teaching cooperation using Building Information Modeling** (Prof. Dr. Karsten Menzel, TU Dresden and Prof. Dr. Ulrich Möller, HTWK Leipzig)
- **Standardisation in Digitalised Inter-University Study Programmes** (Dr. Jens Schulz and Ruben Wittrin M.A., Mittweida University of Applied Sciences)
- **Cooperative teaching and learning in the age of digital transformation: Establishment of a cross-curricular and cross-location media-didactic concept for the Master's programme "International Management"** (Prof. Dr. Thorsten Claus and Dr. Stefanie Seifert, TU Dresden)
- **A case for two universities: Development and testing of a framework for didactic case study development for cross-university group work in virtual space** (Prof. Dr. Anne-Katrin Haubold and Prof. Dr. Ronny Baierl, HTW Dresden and Prof. Dr. Eric Schoop, TU Dresden)

The Media Centre under Prof. Dr. Thomas Köhler was responsible for the coordination of the project. The experiences from international cooperation in the context of teaching cooperation around doctoral students and also at the interface to so-called eScience, in the form of research-based

teaching cooperation, were valuable for the implementation. The effects on the Saxon university landscape result from the reusability of the design approaches of cross-university teaching networking.
Furthermore, the project aimed to promote the qualification of pedagogical staff in order to strengthen the effectiveness of students' self-direction in online or blended learning scenarios. Finally, Saxony-wide pre-courses and online self-assessments using and creating OER were supported in individual cases.
Surprisingly, each sub-project approached and promoted a different aspect of the development of "virtual teaching cooperation" between different types of higher education institutions. Therefore, the internal communication had to be structured by the MZ to enable the collaboration in the virtual environment, taking into account the needs, conditions and requirements of the main concept. However, communication is not always considered as an important part of the whole process. Most of the time, the focus is on how and with which means and tools the actors have to proceed. In other cases, communication is taken for granted as being fundamental to the way forward. However, it is not always clear what kind of communication stakeholders should have and in what form and structure it should take place in order to be successful. In conclusion, it may be worthwhile to explore how exactly collaboration has been established within methodological projects. This would give a more accurate picture regarding the implementation of the respective concept in practice, furthermore aspects such as collegial (individual) cooperation and adaptability of organisational structures and processes could be identified.

Project information

Third-party funding donors	SMWK
Runtime	01.05.2019 - 31.12.2020
Tags	collaborative teaching and learning, multilingual teaching and learning environments, online tutoring
Project-coordination	Prof. Dr. Thomas Köhler thomas.koehler@tu-dresden.de

Publications and lectures

Paraskevopoulou, K. & Köhler, T. (2020). Organizational models in virtual teaching cooperation - documentation and evaluation of organizational didactics in a collaborative higher education project. In: Köhler, T., Schoop, E. & Kahnwald, N.: Communities in New Media. From hybrid realities to hybrid communities. Proceedings of 23rd Conference GeNeMe; TUDPress, Dresden. Download: https://nbn-resolving.org/urn:nbn:de:bsz:14-qucosa2-728085.

Paraskevopoulou, K., Köhler, T., Haubold, A.-K., Schoop, E., Baierl, R., Clauss, A., Lange, K., Altmann, A. & Dähne, N.. (2020): Organizational models in virtual teaching collaboration. Documentation and evaluation of didactic learning scenarios of a collaborative project. In: Kawalek, J.; Hering, K. & Schuster, E. (Eds.): 18th Workshop on e-Learning - Conference Proceedings. 24. September 2020, University of Applied Sciences Zittau/Görlitz. Scientific Reports, Issue 134 - 2020, No. 2751 - 2766. ISBN: 978-3-941521-29-2. Download: https://zfe.hszg.de/fileadmin/NEU/Redaktion-Zfe/Dateien/wel/wel20/Tagungsband_WeL20.pdf.

Koschtial, C., Köhler, T. & Felden, C. (2021): e-Science. Open, social and virtual technology for research collaboration. Progress in IS Series, Berlin: Springer. https://www.springer.com/gp/book/9783030662615.

VOM_HANDEL: Change Maker - Changing organisational structures through sustainable media education concepts in educational institutions of the retail sector

Subproject of the TUD: **Scientific monitoring and evaluation and effectiveness measurement for the organisational integration of media education concepts.**

Summary

The aim of the sub-project is to collect data in order to develop adapted media education concepts for different target groups and to test the effectiveness of these concepts. Furthermore, a scientific monitoring of the reorganization processes in the participating educational institutions of the trade takes place.

Summary

The aim of the subproject is to collect data in order to develop customized media education concepts for different target groups and to examine the effectiveness of these concepts. In addition, scientific supervision will support the reorganization processes of the participating educational institutions of commerce.

The project

The project period was drawing to a close and the TUD Media Centre was involved in the final work of work packages 2, 4 and 5. This included the revision of documents for a further training concept, a handout for the management level and the measures contained therein for the lecturer level that includes the educational institutions of the trade participating in the project (WP 2). Despite the measures to contain the Corona pandemic, the coaching concept and the media use modules could be tested and subsequently evaluated in 12 different constellations and with different lecturers (lecturer type 1, type 2) and target groups (commercial specialists, BAE/BVB), with time shifts (WP 4). The basis for this was the agreement of the third-party funder to a cost-neutral project extension until 31.12.2020. After each trial, the MZ evaluated the data collected by means of online questionnaires and provided the evaluation results with the help of descriptive statistics promptly to the respective project partner as a so-called interim evaluation. For the final presentation of the results, the results paper "Evaluation - Testing of the Media Use Modules" was produced within the framework of the scientific support (WP 5), which summarises the evaluation results of all testing of media use modules, on the basis of the educational offer "Handelsfachwirt", within the framework of the exemplary implementation of media education concepts developed in the project at the participating educational institutions. For educational institutions that also want to establish media education in their institutions, but were not involved in the project as project partners, the MZ developed a transfer concept. This is a guideline which describes in 5 steps how the transfer can take place. The transfer concept is available for download at http://vom-handel.zbb.de.

Based on a qualitative survey of the project partners, also conducted by the MZ, it can be stated that the project VOM_Handel and its results were important for the educational institutions and their future design, especially the media education concept. In order to advance digitalisation, a further education concept for the entire educational institution is necessary. With the additional result of a model continuing education concept for the entire educational institution, the project has made a proposal here. The project partners agree, the Corona pandemic has pushed the visibility of the project successes for all stakeholders in the educational institution. The conceptual and strategic groundwork served as preparation for the rapid and successful implementation of (digital) teaching and learning under the conditions of the Corona pandemic. The database built up in the project can be used for further research and as comparative material with other research projects.

Project information

Third-party funder	"Digital Media in Vocational Education and Training" by the Federal Ministry of Education and Research (BMBF) and the European Social Fund
Runtime	01.09.2017 – 31.12.2020
Tags	Digitalisation, vocational training, digital learning, e-learning, educational institutions
Project coordination	Dr. Jörg Neumann Joerg.Neumann@tu-dresden.de
Project staff	Lisette Hoffmann Sabrina Autumn Sandra Horeni
Website	http://vom-handel.zbb.de

Publications and lectures (selection)

Herbst, S., Hoffmann, L., Baumgarten, K., Horeni, S., Neumann, J. (2020). How "change makers" develop and implement visions for digital transformation at educational institutions of commerce - a practical example. In T. Köhler, E. Schoop, & N.

Kahnwald (Eds.), Communities in new media. From hybrid realities to hybrid communities (pp. 364-369). Dresden: TUDpress

Weiter.digital - Promoting the participation of micro and small enterprises in continuing education through digital learning scenarios

Summary

The project develops and tests digitally supported learning scenarios for continuing vocational training in small and medium-sized enterprises (SMEs). The scenarios are intended to enable employees to acquire the necessary technical and media skills on demand at the workplace, thereby sustainably strengthening in-company continuing education in SMEs.

Summary

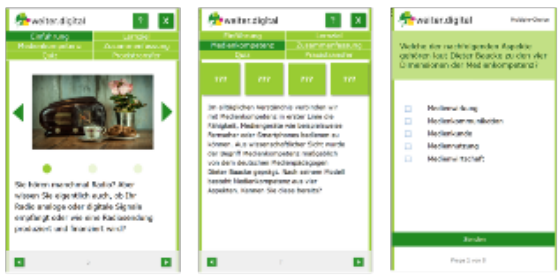
Within the project, we develop digitally enhanced learning scenarios for continuing vocational education, which are implemented and tested in small and medium-sized enterprises (SMEs). The scenarios serve their employees to acquire the necessary technical and media skills on the job, thereby strengthening in-company training in the long term.

The project

Compared to large companies, further training activity in SMEs is significantly more restrained. This is mainly due to the fact that full-day or even multi-day leaves of absence of employees bring these companies to organizational and financial limits. Digitally supported training offers can help to minimise these challenges and trigger digital transformation processes in SMEs that have a positive impact on their competitiveness and innovative capacity. In order to support the companies in this, the following measures were implemented in the "weiter.digital" project in 2020:

Development of modular micro-learning units: Based on a previously conducted inventory analysis, digital learning tools in the form of interactive micro-learning units were developed in 2020. Their compressed and modular design offers the advantage that they can be integrated effectively and flexibly into the work process. In the iterative development with the authoring tool "Adobe Captivate", several prototypes were initially created and evaluated using the mobile-first approach. The preliminary version of a micro-learning unit was presented at the World Usability Day 2020 on 12.11. and thoroughly tested there by usability experts. The agile development of the interactive micro-learning units is partly carried out by the media centre itself and in cooperation with the training providers involved in the project "Akademie für Wirtschaft und Verwaltung GmbH", "AMS Jugend und Bildung GmbH" and "future Training & Consulting GmbH".

Transfer of scientific-practical know-how: In order to sustainably support the transformation processes of education providers, they are gradually guided in the project to independently develop suitable digital learning scenarios for their target groups. To this end, the staff of the Media Centre conducted training courses in the training companies and provided professionally designed media-didactic templates. They then accompanied the training providers throughout the entire development process. In this way, five micro-learning units on various technical and methodological contents were created in 2020, such as on residential and commercial tenancy law and on mobile working. In the following year, at least five more micro-learning units are to be created - including on fire protection in companies - as well as a virtual learning space on the legal basis for holding owners' meetings. In order to pass on the existing scientific-practical know-how, which has been expanded in the project, to as many actors from educational practice as possible, the results and findings of "weiter.digital" to date were discussed at two regional expert meetings on 27 October and 2 December, which were initiated by the project-leading Verband Sächsischer Bildungsinstitute e. V. (VSBI). (VSBI), which is in charge of the project. In this regard, further activities are planned in 2021. All interested parties can keep up to date on the progress of the project at https://weiter.digital.vsbi.de.



Project information

Third-party funding donors	European Social Fund (ESF) and Free State of Saxony
Runtime	01.06.2019 - 31.05.2022
Tags	Micro learning, mobile first, professional development, usability, e-assessment
Project coordination	Nicole felt nicole.filz@tu-dresden.de
Project staff	Julia Zawidzki Jonathan Dyrna
Website	https://weiter.digital.vsbi.de

Publications and lectures

Dyrna, J., Zawidzki, J, & Filz, N. (2020). In-company continuing education in Saxon small and micro enterprises - workplace-integrated and digitally supported? In T. Köhler, E. Schoop, & N. Kahnwald (Eds.). Communities in New Media. From hybrid realities to hybrid communities. Dresden: TUDpress. [Open Access]

ZukunfTAlter - Future technologies for successful old age(s) in rural areas

Summary

The BMBF joint project of the AWO Lausitz gGmbH, the Association of Saxon Housing Cooperatives and the Media Centre of the Technical University of Dresden, is to be realized in the Saxon part of Upper Lusatia. The content of the project will focus on social and technical-digital innovative solutions that offer facilitation and optimisation in the areas of housing, care, living environment and the living and social space in order to make a contribution to a successful ageing process in rural regions. To this end, a broad network of partners is being established in order to establish Upper Lusatia as a model region for technical and social innovations - with the involvement of science, society and business.

Summary

The BMBF joint project of AWO Lausitz gGmbH, the Saxony Association "Verband sächsischer Wohnungsgenossenschaften" and the Media Centre of the Technical University of Dresden, will be realised in the Saxon part of Upper Lusatia. The content will focus on social and technical-digital innovative solutions that offer facilitation and optimisation in the areas of housing, care, living environment and the living and social space in order to contribute to a successful ageing process in rural regions. Therefore, a broad network of partners is being established and will realise different kind of projects to force a model region for technical and social innovations - with the involvement of science, society and business.

The project

The project is currently in the concept phase. The overall objective for the concept phase is to establish a heterogeneous and workable alliance with a large number of local actors and to create the basis for a sustainable alliance cooperation. Essential steps in the concept phase are:

- Publicising the project in the region via various communication channels and networks of the partners in the network
- Acquisition of supporters, multipliers, alliance and transfer partners from the region
- Creation of a broad acceptance for the alliance's work in the region
- Development of a sustainable alliance strategy
- Development of the Alliance's strategic and content-related orientation, underpinned by scientific studies and a strategy consulting service.

The Media Centre supports the Alliance in all five objectives. In particular, the Media Centre is responsible for the planning, implementation and evaluation of scientific studies. On the one hand, these serve to elicit the needs of the elderly population in the context of housing, living environment in the region and the attitude towards innovative technologies. On the other hand, the attitude and acceptance of such technological solutions in the professional field of care are to be analysed.
From September to October 2020, the methodological design of the studies was determined. It was decided to conduct focus group interviews in order to achieve greater coverage for the "ZukunfTAlter" project. Starting in 2021, guidelines will be used to determine the needs for a "good life

in old age" in the area of housing and living environment at the place of residence.
Furthermore, it seemed necessary to evaluate the use of digital applications in care facilities on site in order to generate trend-setting tendencies for the content-related focus of the Alliance's work and possible innovative implementation projects. From October to December, an online survey was planned on the topic of "The spread of digital technologies in inpatient and outpatient care facilities". The questionnaire of the East Bavarian Technical Universities Regensburg at the Institute for Social Research and Technology Assessment was adapted. The survey was to be directed at employees in care facilities. The aim was to find out how digital technologies are used in care facilities.
Organized an initial informational meeting for future advisory boards on 10/12/2020:

- Prof. Dr. Ulrich Klemm, V-Professorship for Adult Education and Continuing Education TU
- Mr. Norman Bartusch, SmartHomeInitiative Deutschland e. V.
- Prof. Dr. Michael Doh, Catholic University of Applied Sciences Freiburg, Professor for Digital Transformation in Social and Healthcare Services
- Mrs. Christiane Schifferdecker, Head of Department Saxon State Ministry for Social Affairs and Consumer Protection
- Mrs. Dr. Rotraut Sawatzki, State Seniors' Representative for Saxony e.V.
- Ms Eva Brackelmann, Ev. action group for family issues eaf Sachsen e.V.
- Dr. Romy Reinisch, Sächs. Struktur- u. Entwicklungsgesellschaft

By December 2020, the following partners had been made aware of the project through bilateral talks and information events and won over to the alliance:

- Bank für Sozialwirtschaft AG
- Brandenburg University of Technology Cottbus - Senftenberg
- Research Group Geriatrics - Charité - Universitätsmedizin Berlin
- Research Institute Health, Ageing and Technology (GAT) at the University of Applied Sciences Zittau/Görlitz
- Large district town of Radeberg
- HUM Systems
- KOMMWOHNEN Görlitz
- Landfrauen Sachsen - Saxonian Landwomen Association e.V.
- Loesernet.com GmbH
- spectos GmbH
- Digital Opportunities Foundation
- VHS Dreiländereck - Görlitz

The Media Centre also played a major role in organising the online information events, preparing the presentations, moderating them and methodically promoting networking among those present.

Project information

Third-party funding donors	BMBF
Runtime	01.09.2020 – 31.05.2021
Tags	Ageing in rural areas, technology and ageing, digital transformation in care, gerotechnology
Project partner	AWO Lausitz gGmbH Association of Saxon Housing Cooperatives Professorship for Software Technology, TUD
Project-coordination	Dr. Kristina Barczik Kristina.Barczik@tu-dresden.de
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tu-dresden.de/mz