eWBL – Making work-based learning work in an online environment
NATIONAL REPORT – GERMANY (WP1)

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Exploring the challenges met and the alternatives found by WBL providers across Europe in their shift from WBL to eWBL.

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Introduction

The importance of Work-based learning (WBL) in developing work-ready graduates has been documented by several EU-funded projects such as HAPHE (2016), WBLIC (2016) and WEXHE (2020). WBL is a powerful pedagogy to foster graduate work-readiness because it is embedded in authentic work environments. As work is increasingly delivered remotely, a new and digital form of WBL has emerged recently – this is what this project calls "eWBL".

The main aim of the project is to upskill educators in HE (lecturers, trainers and administrative staff) on how to design and deliver high-quality eWBL. To reach this goal, the project will explore how 25 high-quality WBL providers across Europe have dealt with the pedagogical and technological challenges associated with the transition from WBL to eWBL and the solutions they have devised. The investigation will result into frameworks and replicable models, a toolkit, open educational resources (OERs), and capacity-building activities and multiplier events that will help train those involved in WBL provision in HE.

Our aim is to boost the work readiness and employability of graduates. The project will specifically focus on how work-based learning competences could be fostered in the absence of a physical environment. As the work environment is increasingly shifting to online and hybrid formats, ways of making work-based learning effective in this new environment has become an urgent need of educators across the EU. The project addresses this specific need by developing frameworks, tools, and guidelines that educators in HE (lecturers, trainers, and administrative staff) could use to deliver high-quality eWBL.

WP1: NEEDS AND CHALLENGES

WBL is well recognised for its capacity to foster work-readiness in students, particularly through the first-hand observation of workplace norms, routines and language, mentorship and relationship building and the development of transversal skills such as communication and collaboration. However, if WBL is to be delivered online, educators and organisations need to envisage ways to foster those same competencies through digital means. This is a crucial yet highly unexplored topic.

This first step of Work Package 1 (WP1) reports the interviews with stakeholders of WBL providers across Europe and different disciplines. The interviews covered how WBL was provided before COVID-19, the challenges encountered in shifting to eWBL and the alternatives or solutions found in response.

Following this, the findings will be summarized in a synthesis report that would outline the main challenges and alternatives identified. The document will serve as a starting point for frameworks and replicable model development on how to provide high-quality eWBL that are useful to a wider audience, the focus of Work Package 2 (WP2).

Methodology

This national report summarises the findings of the six German case studies. The case studies were created starting with desk research on potential cases over one month. In some cases, the students did a dual study program or worked as working students in a company. The case selection ensures a diverse field of study, industrial sectors, and work-based learning arrangements considering different eWBL types representing the eWBL variety in Germany, including internships and dual-study programs.

The research process started with the desk research, after which an Excel file with potential interview candidates was created. Subsequently, the potential partners were contacted via email and phone to schedule a meeting for an interview. Apart from the desk research, the project members used their contacts to find suitable participants. The interviews were conducted online by three German and English interviewers, following standardised interview guidelines. The guidelines were created by the consortium covering the following topics: The transition of WBL to eWBL during the COVID-19 pandemic, the challenges, and drivers of eWBL, pedagogical and technical innovations, the design and delivery of eWBL in the company, and the future implications for eWBL. In total, 19 people were interviewed: eight students, six university representatives, and five company representatives. The interviews were recorded and transcribed with the support of the online software trint. The transcripts formed the basis for the case studies. Each individual case study included the perspective of the three key eWBL stakeholders (student, company representative, and university representative). These case studies summarise the interviews' findings and illustrate the different participants' viewpoints. The case studies are grouped into the following major categories: WBL before COVID-19, challenges in the shift to eWBL and future implications, and solutions found.

Summary – Germany

In Deutschland werden fünf Beispiele für die Einführung von eWBL betrachtet, die sich aus jeweils einem Interview mit einem Studierenden, einer Universität oder Hochschule und einem Unternehmen bilden.

Das erste Beispiel umfasst ein Online-Praktikum im Bereich Prozessmanagement eines Bachelorstudenten einer Fachhochschule. Als Treiber von eWBL werden erhöhte Produktivität, Zeit- und Kostenersparnis und Flexibilität genannt, wobei Hindernisse technischer und kommunikativer Art sind. Durch die Umstellung auf eWBL hat das Unternehmen hybrides Arbeiten eingeführt, was nach der Pandemie beibehalten wird. Weiterhin sind Präsenzphasen, besonders zu Praktikumsbeginn, essenziell. Universität und Studierender sind der Meinung, dass Homeoffice an Bedeutung gewinnt. Weiterhin hat das Unternehmen Schulungen von Praktikanten für Praktikanten eingeführt und Best Practice Beispiele für Praktikanten entwickelt, die Schwierigkeiten im Homeoffice haben. Die Universität zweifelt an dem Verständnis der Unternehmenskultur der Studierenden während des Praktikums, welche unternehmensseitig nicht bestätigt werden.

Das zweite Beispiel umfasst ein duales Studium, das bereits vor der Einführung von eWBL gestartet ist. Dadurch war die Unternehmenskultur für den Studierenden leicht zu adaptieren, während die Anforderungen and die Selbstorganisation stiegen. Für das Unternehmen bestand eine Herausforderung in der Vernetzung der Mitarbeitenden untereinander, weshalb virtuelle Treffen und Kaffeepausen eingeführt wurden. Die Universität hat keine Unterschiede in der Unterstützung der Studierenden und in dem Einfluss von eWBL festgestellt. Zukünftig werden digitales Onboarding, Mitarbeitertrainings für das Homeoffice und hybride Praktika erhalten bleiben.

Das dritte Beispiel umfasst eine Werkstudententätigkeit über sechs Monate im Bereich Business Development und Sales Coordination bei einem Großkonzern. Die Studentin studiert Marketing im Master an einer Universität. Als Treiber von eWBL werden schnelle Ergebnisse, technisches Wissen, erhöhte Aufmerksamkeit, besseres Zeitmanagement und höheres Verantwortungsgefühl genannt. Hindernisse beinhalten eingeschränkte Kommunikation, zum Beispiel mit Kollegen, und (universitätsseitig) eine erschwerte Adaption der Unternehmenskultur. Durch die Umstellung auf eWBL hat das Unternehmen hybrides Arbeiten eingeführt, was nach der Pandemie beibehalten wird. Trotzdem sind Präsenztage im Onboardingprozess essenziell. Weiterhin hat das Unternehmen eine intensivere Zusammenarbeit zwischen Studierenden und Vorgesetzten und Möglichkeiten zum Networking im Homeoffice eingeführt. Zukünftig wird das Einstellungsverfahren im Unternehmen online stattfinden. Die Universität kritisiert Onlinepraktika, da diese bestimmte Gruppen diskriminieren und nicht die Realität der Arbeitswelt abbilden.

Das vierte Beispiel umfasst ein hybrides Praktikum eines Masterstudenten im Bereich Vertrieb und Marketing bei einer Unternehmensberatung. Das Unternehmen setzte bereits vor Corona auf digitale Kollaboration. Als Treiber für eWBL werden Zeitersparnis und Flexibilität genannt, wobei Kommunikationserschwernisse die größten Hindernisse bilden. Durch Corona hat das Unternehmen ein buddy Programm für Praktikanten eingeführt, bei dem diese von einer neutralen Person betreut werden. Die Universität hat ein innovatives Masterprogramm eingeführt, indem die Studierenden mit Onlineaspekten, Fähigkeiten und Tools vertraut gemacht werden. Zukünftig werden hybride Formate favorisiert, durch die Studierende alle Fähigkeiten für den zukünftigen Arbeitsmarkt erlernen.

Das fünfte Beispiel beschreibt ein duales Bachelorstudium in Wirtschaft an einer Fachhochschule in Kooperation mit einem Energieversorgungsunternehmen. Als Treiber von eWBL werden Flexibilität, Konzentration und Selbstmanagement genannt, wobei die Akzeptanz der Mitarbeitenden als größte Barriere gilt. Für das Unternehmenspersonal wurden Schulungen für das Arbeiten im Homeoffice angeboten. Langfristig sehen Unternehmen und Universität technologische Voraussetzungen als essenziell, um hybrides Arbeiten fortzuführen. Von allen Teilnehmenden wird hybrides Arbeiten als wichtige Fähigkeit für Studierende angesehen.

Das sechste Beispiel basiert auf vier zusätzlichen Interviews unterschiedlicher Beteiligter, die nicht in einem zusammenhängenden Beispiel abgebildet werden. Ein Unternehmen hat eine Lernplattform für Praktikanten erstellt. Darüber hinaus sehen die Studierenden hybride Formate als zukünftig relevant an, wobei das Unternehmen diesen kritisch gegenübersteht.

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1. Background

The German educational system is characterised by a strong focus on using the workplace as an environment for learning. As a result, unique kinds of WBL, such as apprenticeships and dual study programs, emerged in Germany over the last decades. In the following, the most significant formats, vocational education training system, internships, dual study programs, and traineeships, are described to improve the understanding of the German WBL environment.

The vocational education and training system is Germany's most traditional kind of WBL. At the upper secondary level, on-the-job training at a company is combined with theoretical education at so-called vocational schools. After a few years, graduates receive a nationally recognised professional certificate (Busemeyer and Trampusch, 2012).

As companies increasingly require more than theoretical knowledge from university graduates, the need for work experience increases (Baaken, et al., 2015). Therefore, dual study programs emerged, combining traditional vocational training with university education. Thereby, vocational academies, cooperative universities, and universities of applied sciences deliver theoretical knowledge to the students, while companies provide on-the-job training (Graf, 2015). Dual study programs are characterised by a high degree of flexibility, leading to different delivery modes (Waldhausen and Werner, 2005). For example, dual study programs integrate an initial vocational education and training certificate, work practice, and accompany an occupation. Due to the limitations of this report, the delivery modes will not be discussed in detail. Nevertheless, all delivery modes are characterised by a university-level degree and work experience at a company over three to four years (Kupfer and Mucke, 2010). Dual study programs are typically initiated by a company in cooperation with a university (Dessinger, 2000), while the state acts as a regulator of the working conditions (Graf, 2015). Regarding subjects, most dual study programs are offered in engineering sciences, informatics, and business sciences (Hesser and Langfeldt, 2016).

Additionally, internships are a common type of WBL in Germany, offering students the opportunity to work at a company over a fixed-term assignment. Like dual study programs, a variety of delivery modes exists. For example, internships can be voluntary by the student or obligatory by the university prior to or during the studies (Cleuvers, 2015). Further, the intensity grade differs, as the internship duration can vary between one day, several months, or a full year. Thereby, HEIs set the duration and termination of obligatory internships. Essential parties to provide internships to students are employment agencies, HEIs, and companies. As internships lack standardisation, some critics state that interns are used as a source of cheap but qualified labour by companies. Due to the criticism and applied changes, the internship today is perceived as a place of learning and working opportunities, as initially planned (Perusso, 2017).

Finally, traineeships are a common type of WBL in Germany. Although literature lacks an academic definition of the term traineeship, some characteristics can be defined. Traineeships are customised to the companies' needs, include job rotation, last for approximately 17 months, often guarantee a permanent contract, are paid, increase international opportunities for the participants, and often provide courses and special training.

2. The WBL pre-COVID-19

The following chapter illustrates the WBL pre-COVID-19 at the companies and the universities, considering the workplace culture of the internship, recruitment process, university support of the students, and the interns' evaluation. Six case studies in Germany explore the eWBL implementation and experience. The four HEIs are public universities and universities of applied sciences, mainly located in northern Germany. In most cases, the WBL experience took place onsite before COVID, and all study programs were offered at the university's campus. Only one company worked online before the pandemic and offered online internships

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before. The recruitment of interns included in-person interviews pre-COVID and changed to online recruitment in most cases. Although, one company stopped recruiting interns during the pandemic. Here, the interviewed interns started working at the company before COVID. Most universities offered little support to students before and during the internships pre-COVID. With the introduction of eWBL, the university's support in finding the internship or during the internship did not change. Before COVID, the intern's evaluation was via a graded or non-graded self-assessment report, and the companies used feedback conversations for evaluation. Despite more feedback conversations in the company, the evaluation of the students did not change with the introduction of eWBL.

In the following description, the six cases are referred to as cases 1-6. The numbers of the cases are randomly selected and do not follow a specific criterion.

Case 1 and 2 work with the same university of applied sciences, one of the largest and highest-performing universities in Lower Saxony, offering 110 Bachelor's and Master's programs to 13,700 students. In case 1, the student did a Bachelor's in operational information management, which requires them to undertake a practical IT project at a company for six months. The student studied from 2018 to 2021, including the internship and one year of online studies. The company is a family-owned business offering catering concepts for communal catering such as companies, kindergartens, hospitals, schools, and retirement homes. It operates in eight countries and has more than 11,000 employees. Pre-COVID, the company offered face-to-face internships to students. The student worked in the department of process management in a team of eight people. The student's task was to model and visualise the existing processes within the company.

In case 2, the student did a dual bachelor's program in business administration. Over seven terms, the Bachelor's program combines business studies with professional commercial training at a company. The company is an international leading manufacturer of high-quality cameras and accessories for applications in factory automation, medicine, traffic, and other markets. It has 1,000 employees at international locations. The student started working onsite at the company before COVID and switched to working from home during the pandemic.

Case 3 includes one of the largest universities in Germany with 15 departments, 120 fields of study, and around 30 scientific centres. The student studied a four-term master's program in business administration with a major in Marketing. The company is a leading cosmetic company in Germany, with over 40 brands in all cosmetic segments and distribution channels. In total, about 2,500 people work at the company's German locations. The student worked at the company for six months as a working student in sales coordination and business development. The student had different persons to report to, but one primary supervisor. The working student position was fulfilled online for the first 3.5 months and in a hybrid format for the last 2.5 months.

The students in cases 4 and 6 studied in one of the largest and most successful German universities of applied sciences, with over 15,000 students and over 100 bachelor's and master's programs. Case 4 deals with a master's student in international marketing and sales, which requires students to either go abroad for one semester or do an internship at a company. The company occupies a leading position in the market for auditing and consultancy and provides support to clients from all sectors. They offer services to regional and global groups and NGOs in three divisions: Assurance, Tax & Legal, and Advisory.

In case 5, the student did a dual study program in business studies as a seven-term bachelor's program at a university of applied sciences, privately funded by the cooperating companies. During the Bachelor's program, an apprenticeship is completed at a company. The student studied from 2017 to 2021, including one year of online studies and work. The company is a regional energy provider in northern Germany, running power plants and employing around 2,000 people. During the apprenticeship, the student worked in several business areas.

Case 6 is an additional case, which includes the findings of student interviews from three different study programs and internship experiences and one company. One student in case 6 participated in a dual degree program in business administration and taxation offered by a non-profit organisation, which promotes professional training of tax consultants. The company develops training events for members of the tax consulting professions. Another student from case 6 was required to fulfil two internships (5 ECTS each)

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during the study program but was free to choose the internship in coordination with the lecturers. The student worked entirely online for six hours per week. Student 3, in case 6, had to do an internship for 20 to 25 weeks related to their field of studies. The internal internship office from the university had to pre-approve the choice, and the student had to upload the internship contract. The internship was in online marketing, and the tasks were related to website content, specifically SEO and social media marketing.

3. The eWBL implementation

This chapter explores the eWBL implementation during the COVID pandemic concerning the university support of the students, the transition to working from home for companies, the management and technological structure of internships, the tasks assignment, and the assessment and evaluation of the students. Due to governmental restrictions in March 2020, companies had to send their employees to work from home within a short preparation period. Simultaneously, HEIs had to switch their face-to-face curricula to an online format.

In most cases, the process of how the university was involved in supporting and organising internships did not change due to COVID. Accordingly, most students did not receive support on how to find internships (e.g., cases 4 and 5). In contrast, the university in case 2 provides a platform where the companies can offer internships, specifying the nature of it (i.e., online, hybrid). However, the students need to search for internships independently. Furthermore, most universities could not specifically support students who did an online internship. However, the university in case 3 offers a program to prepare, guide, and evaluate students during their internships. These workshops were designed in cooperation with companies. Moreover, the universities in cases 1 and 2 offered support to students and staff on how to work with Zoom for interview preparation or presentations. This was offered at the beginning of the pandemic when the shift to online occurred. Finally, one university offers specific support in one study program as the digital component is crucial in the curriculum. In this program, onboarding sessions deal with leading and working with people in a digital environment and using digital project management tools (case 4).

The transition to working from home led to higher demands in the supervision of the onboarding, mentoring, and feedback processes. The supervision by the HEI was perceived as superficial before and after introducing eWBL, as none of the HEIs had a proper supervision system implemented for interns. For example, the internship was mandatory for one student in case 6, but the university did not provide support in finding the internship and only the supervisor knew about the internship. Another student in case 6 found the internship at a university platform where the company advertised (the platform promotes start-ups, specifically those founded by graduates).

At the companies, the amount of coordination and care for the students increased. Some of the following examples illustrate this development. For the employees at the company in case 3, the change from the onsite work to working from home required increased levels of organisation and coordination in the beginning to convert the face-to-face onboarding and regular interaction with the students to the online environment. Thereby, the students needed to feel well looked after.

Generally, the onboarding process was transferred to the online environment but required more structure and supervision by the company. For example, the student got the necessary hardware like a Microsoft Surface and software access to Microsoft teams, Skype, and Outlook, as well as a web-based program essential for fulfilling the tasks at the beginning of the internship or sent to their homes before the internship (case 1 and 4). Additionally, the onboarding process for the student in case 3 included many video calls with the team and individual coffee dates to get to know their colleagues. In some cases, there was a separate welcome and onboarding call for all the working students and interns from the different departments, e.g., a welcome day with information about company values and IT (case 4). Often, the students received a schedule for the first weeks and contacts for their supervisors - for example, the introduction and explanation of the company. In the beginning, the supervisors frequently checked on the students and motivated them to ask for help and

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show them as much as possible.

Before COVID, some companies focused their internships on on-the-job training with less intensive communication, leading to more questions and higher insecurity among the students. They identified intensive communication and teaching of the students to be more effective in the long run and will maintain this practice in the future (case 3). For example, one company scheduled three daily meetings between the intern and the supervisor to check the progress and quality of the student's tasks. Another company increased interns' HR support with regular meetings and contact (case 1). Regular individual or group meetings between the supervisors and the interns about work progress, feedback, and questions were integrated to ensure communication and feedback (e.g., cases 6 and 5). Similarly, in case 3, fixed meetings were arranged several times a week for different purposes with different teams or stakeholders, team meetings, and one-on-one meetings with the supervisor.

Overall, the management and technological structures of the internships did not differ much from those in the eWBL environment; students and companies value the possibility of transferring onsite internships to online environments. At most companies, Microsoft teams was used for meetings and communication between colleagues (e.g., cases 1 and 2)., Zoom, Slack, and Google Meet were commonly used (case 6). For email, Outlook was predominantly used (e.g., cases 3, 5, and 6).

The tasks were assigned online and offline to students. One company used the tool "Clockify.me" to track the interns' working hours and tasks. Later, the supervisors categorised the tasks and could check the time spent per task (case 4). In other examples, the student received the tasks in a weekly meeting with the supervisor (cases 2 and 6).

Apart from supervision, students, companies, and HEIs identified a lack of personal contact with introducing eWBL, leading to lost communication, less group work, less networking among students and colleagues, and fewer questions. Consequently, there were fewer opportunities for the students to generate personal relationships, interactions, and cooperation. As one company is strongly focused on networking among their employees, they counteracted this development by actively encouraging the interns to contact colleagues and start their networking activities on coffee dates (case 3). This development is further illustrated in chapter 4.

Another difference between WBL and eWBL is the organisation of meetings, as they are virtual. Companies report increased coordination and flexibility in scheduling and meeting. Meeting coordination was perceived as less complex online, allowing screen sharing and efficient discussions. Also, the companies identified higher punctuality and commitment to meeting times by the students.

The assessment and evaluation in all cases was based on a graded or non-graded self-assessment report for which students received credits before and after introducing eWBL. The reports usually included a company presentation, a description and comparison of the tasks performed by the student at the beginning and the end of the internship, and a personal internship evaluation (case 6). In some cases, students were additionally required to hand-in statements proving the internships (e.g., case 6). The assessment slightly differed among the HEIs, but none changed their assessment and evaluation format for the internships. For example, one student in case 6 was visited by the supervisor at the office before COVID, where they talked to the student's supervisor about their performance during the internship. The student's assessment and evaluation differed across the companies, but the internal processes and ways of giving feedback did not change when introducing eWBL.

Most HEIs did not identify significant differences between face-to-face and online internships. In contrast, one HEI interprets the online internship as a means of communication, based on information exchange, exchanging tasks and results, whereas a real internship would involve more informal communication.

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Consequently, an internship experience would not be possible online, especially if it were abroad. One difference mentioned by HEIs is the quality of the student's results. While some HEIs identified a lower quality in the results of their students, some HEIs directly linked it to the online environment, while others did not. On the other hand, some HEIs did not observe a different quality of results, which could be linked to changed examination formats. However, these changes were not specific to the internship assessment (case 5).

All companies integrated flexible hybrid work models into the company culture, resulting in employees' working from home and remote working for at least 50% of their working time. Most interns are required to visit the office more frequently at the beginning of the internship to simplify the familiarisation with the company and the tasks. For example, onboarding in case 6 requires two weeks onsite. Later, the students are typically allowed to work from home a few days per week or according to their individual needs and preferences. However, this cannot be generalised as regulations differ between companies and departments. Additionally, some companies did not set up any onsite or remote work regulations, yet the reconciliation occurs between the manager and the employee directly (case 1).

4. Impact of eWBL on learning outcomes
4.1 SOFT-SKILLS DEVELOPMENT

This chapter explores how the introduction of eWBL positively or negatively influenced the development of soft skills. Although most participants recognise that the nature of the work environment (i.e., onsite or online) impacts soft skills development, there are different perceptions of its impact. The following chapter illustrates further insights into communication and presentation skills, productivity, time management, problem-solving, and leadership skills.

Communication skills

In all cases, a high impact of eWBL on the development of communication skills can be identified, including supporting and hindering aspects. For example, students must formulate messages to colleagues properly and get out of their comfort zone when texting unknown colleagues for coffee dates or work, supporting the development of communication skills (case 3). This aspect is supported by students, who developed better writing skills as a form of communication, often via email (case 2). Additionally, the student in case 5 observes a contribution of eWBL to communication skills as online meetings are more intensive and regular, requiring other communication and more small talk among colleagues. The company in case 5 identifies better communication skills of students working online. In contrast to these positive impacts, the company in case 1 reported an adverse impact of the online environment on the communication of interns with their colleagues. They believe communication would have been better face-to-face as interns learn from their colleague's interactions. Additionally, eWBL hinders the development and use of communication, like body language, and a good relationship with the employer (e.g., cases 2 and 4).

Presentation skills

Several cases identify improved presentation skills with the introduction of eWBL. For example, the student in case 4 identifies a learning process in which presentations work better online and offline, adapting the communication style according to the situation.

Productivity

Further, the online environment increased the student's productivity regarding focus time, meeting preparation, and technical and task-related skills like PowerPoint or Excel (e.g., case 3). For example, company meetings had to be prepared more carefully, and the students showed updates on their projects during the meetings via PowerPoint. The students also developed their knowledge of new tools, like Slack and Figma, which might be helpful in the future (e.g., case 6).

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Time management

Additionally, the students report improved time management skills due to the organisation of working from home and flexible working hours. This aspect is supported by the student in case 1, as specific skills and knowledge for working from home were developed throughout their online internship.

Problem-solving and leadership

In some cases, improved problem-solving and leadership skills are identified without further specifying the impact.

Teamwork

Teamwork is more demanding for leaders and supervisors online. For example, the development of teamwork increased as employees must take time to call colleagues, creating communicative barriers (e.g., cases 3 and 5). On the other hand, a lack of teamwork affects students' creativity as their interaction with colleagues suffers.

4.2 ACQUISITION OF PRACTICAL EXPERIENCE

The following chapter explores the influence of eWBL on the student's acquisition of practical experience during their internships. Positive and negative influences will be illustrated.

In most cases, the student's practical knowledge improved during their internship as the university focused more on strategic and theoretical knowledge, while the internship focused more on operational knowledge. Thus, the internship created a link between theoretical knowledge and practice. So, the disciplinary knowledge from the university helped students fulfil their tasks while being enriched by the practical experience (e.g., case 1). For example, the company, in case 3, reported that the interns who virtually learned were their highest-performing interns with the strongest interpersonal skills. However, the different professional experiences may result in a generation of graduates who have not worked onsite at a company (case 5).

On the other hand, process efficiency and productivity are impacted by eWBL as acquiring new skills is more time-consuming. For example, one student believes that the learning experience would have been better onsite because supervisors might have kept better track of the progress and given more tasks and instructions (case 6).

4.3 NETWORKING

The following chapter explores the impact of eWBL on students' networking. All cases identify a high impact of eWBL on the professional network. However, positive and negative impacts illustrate diverse perceptions on the topic. In general, the effect of eWBL on networking seems to be tied to the company culture and its ability to transfer networking events online. Also, the students' initiative is required in eWBL to connect and communicate with their team, which positively impacts their networking opportunities. The students also realise the future importance of networking and personal contacts (case 3). Other cases illustrate that networking cannot be transferred online. Nevertheless, students realise their responsibility in building a network and the effort they must put in.

A positive example of the transfer of the networking activities of the company to an online format is the introduction of monthly online lunches, weekly online team lunches, team events, hello-weekend meetings every Friday, moving breaks, virtual Christmas parties, and coffee dates. These activities supported the student's integration into the team (e.g., cases 3 and 2).

However, some negative effects of developing a professional network have been identified. For example, there are fewer team events, less private interaction with colleagues at work, and less contact with other

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students and colleagues, which are perceived as essential for their future network (e.g., case 5). One company operated completely online, so the student did not meet anyone adequately, including the CEO or other interns. Although the company provided communication channels, there were no informal meetings like coffee dates (case 6).

4.4 COMPANY/ORGANISATIONAL CULTURE

Most participants identify an influence of eWBL on the acquisition of the workplace culture, either positively or negatively. Only students that worked at the companies before eWBL did not perceive changes in their identification with the company (e.g., case 5). All in all, effort on the student's and company's side ensures the student's identification with the company and workplace culture.

As a positive example, some students quickly adapted to the workplace culture, and many companies believe they effectively enacted and instilled their culture in the online environment. In contrast, the students integrated themselves very well (e.g., case 3). Nevertheless, companies understand their employees' behaviour as fundamental in enabling the students to understand and adapt to the company culture.

In contrast, some participants believe that the company culture cannot be transferred via screen as it is lifted and transported non-verbally throughout people's behaviour and, therefore, easier conveyed in person (e.g., case 6). Universities identify missing interactions and observations of the students in eWBL, hindering the identification of and with the company culture and holding companies responsible for acting in this matter. Despite the university, some students had difficulties acquiring the workplace culture due to a lack of communication from the company side (e.g., case 6). The participants did not identify a specific component that was missed in integrating the company culture, and the company took no specific action.

5. Drivers and challenges to EWBL

The following chapter illustrates the main drivers and challenges to eWBL as identified in the case studies. Concerning chapter 4, the various impacts of eWBL on the learning outcomes are part of the main drivers and challenges. As before, variations in the perceptions of positive and negative outcomes and drivers and challenges of eWBL are identified in different cases. Therefore, the diverse answers are acknowledged. The main drivers of eWBL include governmental regulations, flexibility, improved time management, increased productivity, and interconnectivity between students. The main challenges are restricted communication, cultural conflicts, technical issues, and networking. All in all, different working situations seem to prefer a different workplace culture.

First, the drivers of eWBL are discussed. In all cases, the governmental regulations in Germany required students and employees to study and work online.

Flexibility, time management, choice of working location, and increased productivity are the main drivers of eWBL. Further, the team and the student's supervisor influence and drive their eWBL experience (all cases).

Another primary driver is the independence and flexibility in scheduling and structuring working hours and tasks, thus, improving the time management skills of the interns, as mentioned in chapter 4. In contrast, one case examines time management as a barrier to eWBL as it requires discipline. eWBL also offers a choice of location, allowing working in one and living in another city and not having to move for the internship. The flexibility of the location saves travel time and money. Interns also value more time to sleep and flexibility in setting appointments, e.g., in childcare (case 1).

Another driver of eWBL is increased productivity and focus due to fewer distractions by colleagues or noise. In detail, different tasks are identified to be more suitable for an online or an offline environment. For example, individual project work is more productive from home, offering fewer distractions (case 3).

Working in an open office with several people is exhausting when many people talk or have meetings

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simultaneously (e.g., cases 1 and 5).

Moreover, there is higher interconnectivity between colleagues, more work efficiency, and it is easier to organise meetings and transfer knowledge to more people simultaneously in an eWBL environment (case 5).

Despite the drivers to eWBL, challenges include restricted communication, cultural conflicts, technical issues, and networking. One of the main barriers is the socialisation of the companies' interns, especially at the beginning of the internship. Consequently, the onboarding process is more difficult for the companies, as mentioned in chapter 3.

Moreover, communication creates a barrier in various cases. For example, problems and questions cannot be addressed and communicated directly online. Instead, interns must wait for the responses of their supervisors and colleagues. Personal contact with colleagues from other departments is missing. Accordingly, interns miss interesting insights into their colleagues' work or synergies between different departments (case 1). Communicative barriers require a high effort to get to know colleagues and build new relationships. Further, miscommunication in online meetings and inappropriate communication among the interns create barriers for eWBL (case 1). According to case 5, personal contact decreases as the physical work environment and employees are not present for the students, possibly affecting their identification with the company.

This relates to the universities' belief that the company culture cannot be understood or identified by the student in an online environment. Additionally, the employee's lack of acceptance created obstacles to implementing eWBL, as they did not want to train interns anymore. Therefore, the company's employees' missing acceptance of the workplace culture leads to cultural conflicts and may decrease the student's internship experience (case 5). These aspects correlate with a company's perception that the main challenge is conveying implicit aspects, such as roles, processes, and guidelines, which are integrated by looking and copying. The barriers mentioned above could lead to a weakened learning experience, problems in teamwork, loss of personal connection, networking problems, and the interns' overall personal development (all cases).

Technological aspects like a lack of infrastructure in the companies and the students' homes, technical knowledge, or internet speed and reliability create barriers to eWBL (e.g., cases 1 and 3). These mainly occurred in the introduction of eWBL as the companies were forced to move online without preparation time and were solved after a few weeks. Nevertheless, one university perceives the student's internet connection as the main barrier to eWBL as many students live in dorms without a stable internet connection, and libraries and learning areas do not provide the necessary meeting privacy (case 4). More permanent issues include teaching technical knowledge to interns who do not work on administrative tasks but more practical ones.

Other barriers from the student's perspective include task management and self-organisation in an online environment, which require more discipline.

Finally, structural changes take a long time in Germany, and there is much uncertainty, as there is no sufficient data to suggest the need for a change from WBL to eWBL (case 2).

6. Developed solutions

In the following, important pedagogical innovations are listed and contextualised if the solutions existed and gained traction due to the pandemic or were newly implemented. These solutions include intensive communication, training and onboarding sessions for employees and students, buddy systems, remote networking events, and technological communication tools.

Generally, more intensive communication between the supervisors and the students led to higher quality results, delivered faster. The increased care resulted from introducing working from home and was first implemented due to the pandemic (see chapter 4).

Many companies introduced training sessions for their employees on working more efficiently with MS Teams and other digital tools. Interns also designed special training sessions for other interns. In these training sessions, the different departments and functions were presented by interns to new interns. Companies also developed a few best practices for interns who had difficulties structuring their workday at home and discussed

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them with the struggling interns. These training sessions were newly implemented due to COVID (case 1). Another example is the so-called "Academy", an online academy providing training for interns. The academy includes mandatory parts and extra materials according to the internship duration. The company provided materials or videos explaining each learning category (case 6).

Another company implemented a buddy system, a reliable contact person outside the interns' project or department to support their familiarisation with the company, e.g., by passing on knowledge, supporting, introducing the intern to co-workers, or giving feedback (case 2).

Networking events in companies were implemented or moved to the online environment if they already existed. The implementation of digital cafes and online lunches was unsuccessful due to their non-frequency and non-commitment. Christmas parties and team events were adapted, but quality and sufficiency were lower than in-person events. For companies with a networking culture, online breakfasts for interns and working students were introduced, and the employees accepted digital coffee dates and team events well (case 3).

One HEI implemented a pedagogical innovation, namely, onboarding sessions two weeks before the start of the study program to familiarise the students with online aspects, skills, and tools. However, nothing specifically targeted the internships (case 3). HEIs discuss ideas like blended internships, combining onsite and online periods such as an online introduction and reading of important company information, and online modules for reflection and reporting difficulties and have online counselling and support from the HEI during the internship (case 5).

As mentioned in chapter 3, most companies implemented and used Microsoft teams for digital communication before COVID, but its usage increased due to the pandemic. Less often used software included Skype, Outlook, job-specific programs, Google, and SharePoint. One company used the "Clockify.me" tool to track the interns' working hours and tasks. Later, the supervisors categorised the tasks and could check the time spent per task. Regarding the hardware, the students were equipped with laptops, headsets, and other necessary hardware, before starting the internship.

7. Long-term implications of eWBL

The following chapter discusses the long-term implications of eWBL. Thereby, components of WBL that will remain online after COVID, advice from the different interview partners, promising partnerships with a potential to be sustained, initiatives, and experimental projects that emerged from the interviews are stated.

The eWBL experience changed students' expectations towards a future employer regarding working from home options. Thus, increasing flexibility is demanded by many students. Companies also encourage this, as they urgently recommend getting familiar with the topic in the fight for talented employees. As the interns will become part of the talent pool, offering working from home options is crucial to keep their interest in the company as a future employer. For universities, having good contacts with companies and promoting internships from companies operating remotely is one of the future implications (case 3).

For students, working online is an important skill everyone should learn (e.g., case 3 and 5). All companies state that they will adapt at least some of their changes to eWBL after the COVID pandemic. Thereby, opinions between companies and universities differ. While case 3 shows the company's high commitment to providing working from home options to their interns, the organisation in case 6 feels pressured to stay online, especially from the participants' side, because it is more practical, pleasant, and cheaper. According to most students, HEIs, and companies, working from home will become more important in the future, and the freedom of location for interns will gain importance. Most companies favour hybrid formats to find the right balance between online and offline. Companies believe that employees should be able to decide if they want to work in the office or from home, always keeping in mind that some jobs do not allow working from home options. With increasing numbers of people working from home, companies can also reallocate their office space, as

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employees do not need their own office anymore.

In the following, some specific company actions are illustrated. The company in case 1 continues to work in a hybrid model (three days at home and two days at the office). Nevertheless, office days onsite must be ensured at the beginning to provide proper onboarding. Therefore, training courses among the interns have been introduced. Coordination appointments with the HR departments will also stay online in the future to ensure higher flexibility for the interns in their daily work with their departments.

In contrast, the onboarding, organisation, and training in case 4 will be provided online for efficiency reasons. They will keep online and hybrid internships depending on the department and its suitability.

In case 3, the long-term impacts of eWBL and how companies design their recruitment, onboarding, and ongoing work processes are identified. For example, the recruitment at the company will take place entirely online, while the onboarding will be predominantly onsite.

Apart from the companies, the universities offer future implications of eWBL. One university supports students in doing online and offline internships in the future, although they have not set up specific regulations regarding this topic yet (case 1 and 2). Other universities view hybrid formats as the future for the better development of students. Universities point out that they must be more student-centred when developing new/adapted programs and talk to companies to evaluate the market needs post-Covid.

In contrast to the above statements, some companies do not promote or favour online internships (case 3). They favour in-person interaction and internships in the long-term as online internships are seen as a massively restricted and limited experience, which does not push the students to gain experience outside their comfort zone. Thus, strong reasons to opt for an online internship are demanded if it is not the actual working environment of the company. In general, a realistic representation of the working field is crucial. Finally, the threat of excluding certain groups of people in an online environment must be considered. For example, participants stated that people with disabilities or who cannot afford to live in an expensive city might be allowed to stay at home to make it easier for them to do the work, although they have these limitations. These people could become less visible in the workplace and overlooked by society, creating and reinforcing different social classes. This can also be translated to the online lectures at universities, as studies show that people with weaker social and economic backgrounds and first-generation academics have more negative consequences from studying online than people with other conditions (case 3).

HEIs, companies, and students provide some advice and important consideration for implementing eWBL. For example, the technology and the equipment must be up-to-date and reliable to ensure a productive remote workplace (case 5). For companies, proper onboarding with the team and all the colleagues is recommended despite the general company onboarding. Further, there should be the option for a fully remote internship, so the student can decide whether they want to go to the office or not (case 3). In general, companies should be open to students and trust them with the work they are giving them. All in all, the company promotes the opportunity for students to choose whether they want to work at the office or from home to create the best workplace for every employee (case 3). Still, when interns can decide where they want to work, the schedules and plans of their teammates should be kept in mind. Otherwise, the colleagues will likely not be at the office on the same day, and the benefit of personal exchange will be lost (case 1).

Companies and universities encourage others to assess which systems are necessary for which purposes and to understand the environment and the systems to ensure that the IT system works reliably. Employee training is required as part of change management to reduce the fear of working online and enable them to adapt to the situation as quickly as possible (case 5). Still, understanding which methods work best is a continuous learning process.

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Annex

Case study report1: https://www.ewbl-project.com/_files/ugd/6366ae_1792be2056294190b789740ab413586c.pdf

Case study report2: https://www.ewbl-project.com/_files/ugd/6366ae_853c4f6634804ddaac386df1f8d789e0.pdf

Case study report3: https://www.ewbl-project.com/_files/ugd/6366ae_ce0302f6cf104861afa759b9f056de42.pdf

Case study report4: https://www.ewbl-project.com/_files/ugd/6366ae_345c63872ac54084830086d8626c33e1.pdf

Case study report5: https://www.ewbl-project.com/_files/ugd/6366ae_96163949c28d46e6bd8f07a20f22a311.pdf

Case study report6: https://www.ewbl-project.com/_files/ugd/6366ae_9eb65f51e7cb4e3fb99ae3b5645889f3.pdf